

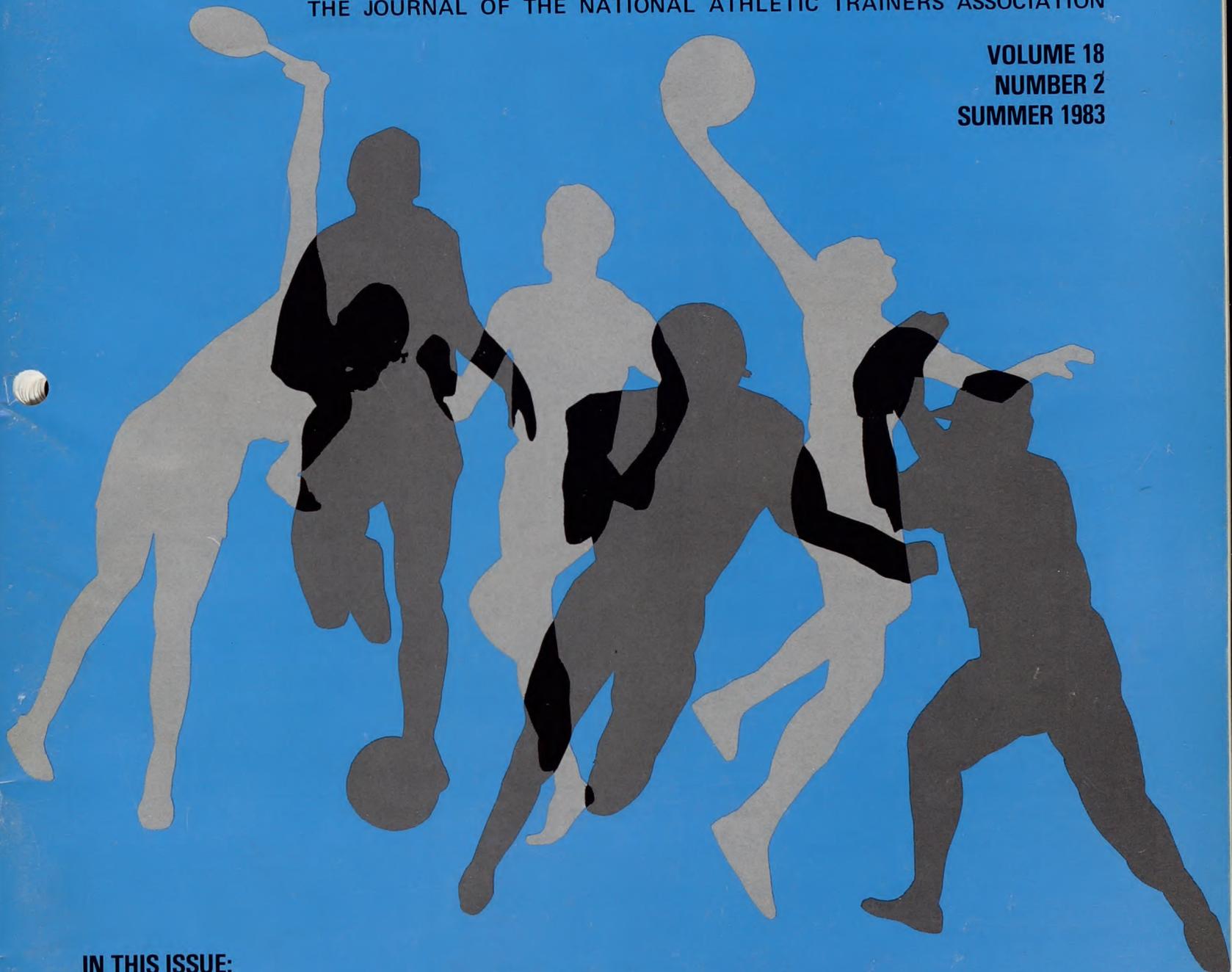


# ATHLETIC

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THE JOURNAL OF THE NATIONAL ATHLETIC TRAINERS ASSOCIATION

VOLUME 18  
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## IN THIS ISSUE:

- CEU QUIZ: Arthroscopic Update — Diagnosis and Treatment
- Exercise-Induced Anaphylaxis
- The Diabetic Athlete
- Anorexia Nervosa and Bulimia in Athletes

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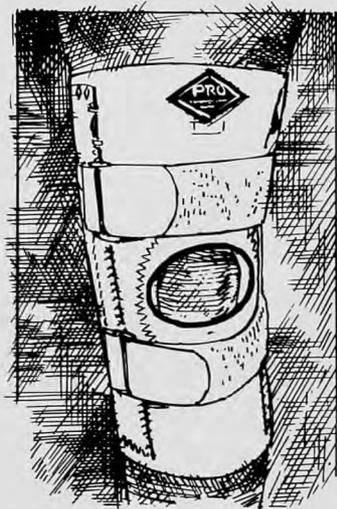


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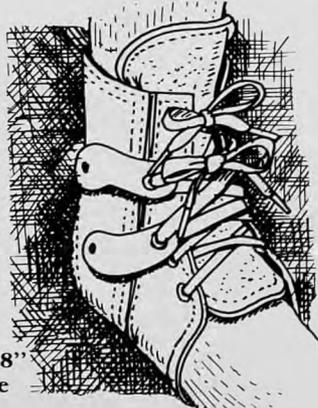


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**Editor in Chief  
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Ken Wolfert  
1010 Marilyn Drive  
Oxford, Ohio 45056

**Editor**

Clint Thompson  
Michigan State University  
East Lansing, Michigan 48824

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P.O. Box 1865  
Greenville, North Carolina 27834  
919-752-1725

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# ATHLETIC TRAINING

THE JOURNAL OF  
THE NATIONAL ATHLETIC TRAINERS ASSOCIATION

Volume 18, Number 2, Summer 1983

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# President's Message



Dear NATA Members:

At the 1983 Winter Meeting of the Board of Directors I was asked to prepare a summary of objectives for our Association for the next five years. I have enlisted the assistance of each Committee Chairperson, our national officers and our professional financial consultant in completing this important task. You will be briefed on this project at your next District Meeting. As in any long range planning assignment, financial considerations are very significant. I must again emphasize that a dues increase is imperative in order to accomplish many of the already submitted subjectives.

It has been my pleasure to attend the 1983 meetings of Districts 1, 2, 3 and 5. These meetings have been excellent and have been a great source of encouragement to me. I hope to have an opportunity to attend one meeting in each District during my two year term of office. I would like to publicly thank the membership of these Districts for making my visits both memorable and productive.

A great deal of interest has been expressed regarding private sector employment of certified athletic trainers. I hope this summer will produce a solution that is agreeable to each of our members.

Hope to see you in Denver.

Sincerely,

A handwritten signature in cursive script that reads "Bobby".

Bobby Barton, ATC  
President

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# Guide to Contributors

*Athletic Training*, The Journal of the National Athletic Trainers Association, welcomes the submission of manuscripts which may be of interest to persons engaged in or concerned with the progress of the athletic training profession.

The following recommendations are offered to those submitting manuscripts:

1. Seven copies of the manuscript should be forwarded to the editor and each page typewritten on one side of 8½ x 11 inch plain paper, triple spaced with one inch margins.
2. Good quality color photography is acceptable for accompanying graphics but glossy black and white prints are preferred. Graphs, charts, or figures should be of good quality and clearly presented on white paper with black ink in a form which will be legible if reduced for publication. Tables must be typed, not hand written. Personal photographs are encouraged.

All art work to be reproduced should be submitted as black and white line art (either drawn with a Rapidograph [technical fountain pen] or a velox stat or PMT process) with NO tonal values, shading, washes, Zip-a-tone — type screen effects, etc. used.

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3. The list of references and citations should be in the following form: a) books: author, title, publisher with city and state of publication, year; b) articles: family names, initials and titles of all authors, title of article, journal title, with abbreviations accepted as per Index Medicus, volume, page, year. Citations in the text of the manuscript will take the form of a number in parentheses. (7), directly after the reference or name of author being cited, indicating the number assigned to the citation bibliography. Example of references to a journal, book, chapter in an edited

book, and presentation at a meeting are illustrated below:

- a. Knight K: Preparation of manuscripts for publication. *Athletic Training* 11 (3):127-129, 1976.
  - b. Klafs CE, Arnheim DD: *Modern Principles of Athletic Training*. 4th edition. St. Louis, CV Mosby Co. 1977 p. 61.
  - c. Albohm M: Common injuries in womens volleyball. *Relevant Topics in Athletic Training*. Edited by Scriber K, Burke EJ, Ithaca NY: Monument Publications, 1978, pp. 79-81.
  - d. Behnke R: Licensure for athletic trainers: problems and solutions. Presented at the 29th Annual Meeting and Clinical Symposium of the National Athletic Trainers Association. Las Vegas, Nev, June 15, 1978.
4. In view of *The Copyright Revision Act of 1976*, effective January 1, 1978, all transmittal letters to the editor must contain the following language before manuscripts can be reviewed for possible publication: "In consideration of the NATA taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns or otherwise conveys all copyright ownership, to the NATA in the event that such work is published by the NATA." We regret that transmittal letters not containing the foregoing language signed by all authors of the manuscript will necessitate return of the manuscript.

Manuscripts are accepted for publication with the understanding that they are original and have been submitted solely to *Athletic Training*. Materials taken from other sources, including text, illustrations, or tables, must be accompanied by a written statement from both the author and publisher giving *Athletic Training* permission to reproduce the material. Photographs must be accompanied by a signed photograph release form.

Accepted manuscripts become the property of the Journal. For permission to reproduce an article published in *Athletic Training*, send requests to the Editor-in-Chief.

5. Manuscripts are reviewed and edited to improve the effectiveness of communication between the author and the readers and to assist the author in a presentation com-

patible with the accepted style of *Athletic Training*. The initial review process takes from six to eight weeks. The time required to process a manuscript through all phases of review, revision, and editing, to final publication is usually six to eight months depending on the timeliness of the subject. The author accepts responsibility for any major corrections of the manuscript as suggested by the editor.

If time permits, galley proofs of accepted papers will be sent to the author for corrections prior to publication. Reprints of the article may be ordered by the author at this time.

6. It is requested that submitting authors include a brief biographical sketch and acceptable black and white glossy photograph of themselves. **Please refrain from putting paper clips on any photograph.**
7. Unused manuscripts will be returned, when accompanied by a stamped, self-addressed envelope.

Address all manuscripts to:

Clint Thompson  
Department of Athletics  
Michigan State University  
East Lansing, Michigan 48824

The following recommendations are offered to those submitting CASE HISTORIES:

1. The above recommendations for submitting manuscripts apply to case studies as well but only two copies of the report need be sent to the Editor-in-Chief.
2. All titles should be brief within descriptive limits. The name of the disability treated should be included in the title if it is the relevant factor; if the technique or kind of treatment used is the principal reason for the report, this should be in the title. Often both should appear. Use of subtitles is recommended. Headings and Subheadings are required in the involved report but they are unnecessary in the very short report. Names of patients are not to be used, only first or third person pronouns.
3. An outline of the report should include the following components:
  - a. Personal data (age, sex, race, marital status, and occupation when relevant)
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  - c. History of present complaint (including symptoms)
  - d. Results of physical examination (Example: "Physical findings relevant to the physical therapy program were...")
  - e. Medical history — surgery, laboratory, exam, etc.
  - f. Diagnosis
  - g. Treatment and clinical course (rehabilitation until and after return to competition) use charts, graphs when possible
  - h. Criteria for return to competition
  - i. Deviation from the expected
  - j. Results — days missed
4. **Release Form**  
It is mandatory that *Athletic Training* receives along with the submitted case a signed release form by the individual being discussed in the case study injury situation. Case studies will be returned if the release is not included.

The following recommendations are offered to those submitting material to be considered as a TIP FROM THE FIELD:

1. The above recommendations for submitting manuscripts apply to tips from the field but only two copies of the paper need be submitted.
2. Copy should be typewritten, brief, concise, in the first or third person, and using high quality illustrations and/or black and white glossy prints.

## Journal Deadlines

In order to avoid confusion and delays for any contributions to the Journal the deadlines for various sections of the Journal are provided below.

Send all materials for any section of the Journal other than formal articles, "Calendar of Events", and "Tips From the Field" to:

Ken Wolfert  
1010 Marilyn Drive  
Oxford, OH 45056

This includes sections such as "Announcements", "Case Studies", "Letters to the Editor", etc.

Information on upcoming events for the "Calendar of Events" section should be sent to:

Jeff Fair, ATC  
Athletic Department  
Oklahoma State University  
Stillwater, OK 74074

Manuscripts must be sent to:

Clint Thompson  
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East Lansing, MI 48824  
(517)353-4412

"Tips From the Field" should be sent to:

Dave Burton  
Duncanville High School  
Duncanville, TX 75116

The Editorial Board will then review each paper and work with authors to help prepare the papers for publication. Each is handled on an individual basis.

The deadlines are:

Journal	Deadline
Spring Issue	December 15
Summer Issue	March 15
Fall Issue	June 15
Winter Issue	September 15



## Editor's Remarks

Ken Wolfert, ATC

### Winter Issue Delay . . .

We apologize for the long delay in receiving the Winter issue of *Athletic Training*. Steps have been taken that should prevent this from occurring in the future. We appreciate your understanding.

### Possible Expansion . . .

The time has come to seriously consider what to do with the large amount of materials we have available for publication. There is more copy to print than ever before. Actually we are very pleased with so much participation in the Journal by our membership. Because of this interest, we have every reason to expect that the increased contribution will continue. The size of the Journal we publish now is about as large as possible without major increase in cost. There is beginning to be much material backed up because of limited space in keeping within the budget. The alternatives vary and we would like your input on the following possibilities, as well as any other suggestions you may have.

Leaving things alone would continue to increase the stockpiling of copy material and cause many manuscripts to become outdated as they wait to be used. Also contributing to the overcrowded conditions are the memorial pages. We have tried to honor our deceased members by allowing a full page memorial tribute for each. This policy, however, uses more and more valuable space because as the Association grows and becomes older we have an increasing number of deaths within our membership each year. How much space is appropriate for our deceased? We might be able to save some pages if, for example, this was reduced to one-half or one-third page notices.

Another space increasing possibility is to consider expanding from a quarterly to a bimonthly publication. This would give us two extra issues each year in which to include more material. It would also shorten the time between each Journal. The only problem with this is whether the Journal Committee would be able to meet the extra deadlines and handle the additional material. Most committee members do not have much, if any more, time to give.

Maybe an extra issue just prior to our Annual Meeting and Clinical Symposium would relieve this problem. Even so, this measure would seem to be temporary at best. Before long we would be faced with the same dilemma to expand.

Possibly the most reasonable solution to this problem would be to create a national "Newsletter" that would contain all announcements, messages, calendar items and non-literary material. This could be sent out between each of the quarterly issues of *Athletic Training*. The Journal would have only manuscripts, Tips from the Field, Case Studies, Schering Papers and CEU Quizzes included in it. Presently we are very close to being included in *Index Medicus* and making a change like this might almost

assure acceptance.

If you have any strong feelings about this concern, please direct them to your District Director making sure it will be discussed when the Board meets.

### Staff Changes . . .

The Journal Committee has added a new position to the Editorial Review Board in order to help ease the load of editing the increasing number of manuscripts we have been receiving. In addition, this new committee member will have the responsibility to review all material submitted to the Journal as "Tips From the Field." All such papers are encouraged and should be sent to Dave Burton, Duncanville High School, 900 West Camp Road, Duncanville, Texas 75116. The Journal Committee, by the way, is now represented by at least one member from each NATA District.

A word of gratitude should be extended to Ken Knight and Ed Christman who are leaving the Journal Committee after many years of service. Replacing Dr. Knight on the Editorial Review Board is Deloss "Bru" Brubaker who will also assume the role of coordinating the Student Writing Contest. Stepping in for Mr. Christman is Paul Concialdi who, as well as Mr. Brubaker, has been a regular contributor to our Journal in recent times.

### Farewell . . .

On this same note I must, rather sadly, say that this is my last issue too. It is time for a change so that new enthusiasm can propel the momentum necessary to bring the Journal along to greater achievements and higher professional standards. It has been a great honor and privilege to have been Editor-in-Chief of *Athletic Training* and Journal Committee Chair for the past four years. The experience has made me very aware of the unselfish and untiring efforts of so many dedicated members of our Association. This is particularly important to understand when Association activities are not always to our liking. In most cases, I have observed those put in a leadership role give much more than they were ever asked to do and far more than they could barely make time for. I found, and you can be sure, that a sense of loyalty overcomes those thrust into various NATA roles. This purposefulness compels these, oft times thankless, individuals to always try and do the very best job possible even though they realize their decisions and actions will never please everyone.

Finally, I wish to thank everyone who has ever given me their support, patience, understanding and contribution while I tried to continue to make our Journal a very worthwhile reflection of our profession.

Do it and keep it safe . . . (KW)+

## Letters to the Editor

To the Editor:

The Schering Symposium article in the winter issue of *Athletic Training* tends to misinform the reader concerning rehabilitation of specific knee problems primarily because the authors are dealing with football players. The discussion section at the end of the article also does not indicate that other sports such as swimming, where patellar dislocation is common, may be contraindicated for rehabilitation of this problem.

Of particular concern in the author's rehabilitation regime is the initiation of a freestyle swimming program of 30-45 minutes at the onset of week two. According to Fowler (1), Richardson (2), and Hall (3) knee problems can

account for as much as 30% of the injuries in swimming with patellar dislocations comprising a large portion of these. Furthermore, Richardson (2), Nicol and Kruger (4), and Takahashi, et al (5) report that the push from the wall into a glide from the standard 52°-59° knee flexion position can produce two to three times the body weight pressure between the patella and femur as the swimmer exerts 960N to 1390N of peak force off the wall.

It must also be remembered that the majority of swimmers push from the wall in freestyle with a dominant leg. The turning motion about the fixed lower leg on a flexed knee causes a medial femoral torque that is continuous until the knee achieves full extension. There is no doubt that much of the valgus force associated with the knee torque in swimming is quite similar to the valgus force that the authors state to be a cause of patellar dislocation in the terrestrial athlete.

The need for cardiovascular conditioning, prevention of atrophy, and maintenance of joint range of motion is undisputable. However, the athletic trainer must realize that there are no less than six types of freestyle kicking patterns (Counsilman:1977) where varying degrees of strength are exerted in the effort, and where the knee flexion angle associated with each style may exceed the normal downstroke angle of 45°-50° (Richardson:1979). Furthermore, the upstroke can, and often does, stress the knee into hyperextension which may further aggravate the previously injured capsule, vastus medialis tendon, and medial collateral ligament.

The aquatic medium does indeed allow the terrestrial athlete the opportunity for enhanced rehabilitation, but it can be equally deleterious if the mechanics of the freestyle stroke are not dealt with appropriately. The trainer should advise the athlete of the swimming effort required to effect cardiovascular fitness, the hazards of pull bouy use, and the shoulder joint dysfunction that poor mechanics can produce.

An alternative to swimming that may prove satisfactory is running in water with a supportive vest and belt. This provides the athlete with limb range of motion activity, a bouyant yet resistive medium, cardiovascular conditioning, and the elimination of potentially harmful patello-femoral joint stress that freestyle swimming may cause.

While I fully agree with the authors that the rehabilitation program which focuses on early functional treatment is important in the treatment of patellar dislocations, swimming should be looked at as adjunctive therapy both for its potentially beneficial and deleterious effects.

- 1) Fowler P: "Swimming Injuries". Paper presented at the 5th International Congress on Swimming Biomechanics and Medicine, Amsterdam, June, 1982.
- 2) Richardson A: "The Knee in Swimming". *Swimming World*, 20(10):36-37, 1979.
- 3) Hall G: "Swimming Injuries". Unpublished Manuscript, University of Cincinnati, 1977.
- 4) Nicol K, Kruger F: Impulses Exerted in Performing Several Kinds of Swimming Turns. In J.P. Clarys & L. Lewillie (Eds.), *Swimming III*. Baltimore: University Park Press, 1979.
- 5) Takahashi G, and others: "The Propulsive Force Generated by the Swimmer During a Turning Motion". Paper presented at the 5th International Congress on Swimming Biomechanics and Medicine, Amsterdam, June, 1982.
- 6) Counsilman, James E: *Competitive Swimming Manual for Coaches and Swimmers*. Counsilman Co., Inc., Bloomington, Ind., 1977.

Thank you for your time in considering this aspect of the knee rehabilitation program.

*Ted Becker, PhD, RPT, ATC  
Dallas, Texas*

To the Editor:

I would like to comment on Mr. Slagle's article "The Bar Roll" in *Tips from the Field*, Volume 18, Number 1, Spring 1983.

Mr. Slagle presents information regarding catastrophic head and neck injuries based on the report of Torg, Blyth and Meuller. Dr. Torg's research along with others has proven that cervical spine fractures and dislocations are most often caused by the axial loading mechanism. The "Bar Roll" that is pictured and described may pose significant risk to the wearer because it appears to prevent normal extension of the cervical spine. Indirectly this may cause the wearer to have his neck slightly flexed, a position in which the cervical spine is straight. The most vulnerable position in an axial loading mechanism.

I would recommend that an appropriate biomechanical evaluation of this device be performed before it is used. In today's climate of equipment safety and product liability it would be wise for athletic trainers to be sure that they understand what role "special pads" and equipment modification may play in causing injuries as well as preventing them.

*Joseph J. Vegso, ATC  
Philadelphia, PA*

To the Editor:

In regard to Mr. Vegso's response to the Bar Roll:

The author fully understands the mechanism and risk of injury in which Mr. Vegso describes.

The Bar Roll is used to prevent extreme limits of hyperextension of the neck for those athletes in which the neck roll (collar) can not be built up. This device, if properly fitted, does not affect normal range of motion of the neck in extension, but only in complete hyperextension. The Bar Roll should never prevent the range of motion of the neck in extension and degrees of hyperextension.

The materials used in making this device also allows for deceleration of motion. Orthoplast, ensulite/sponge rubber are not completely rigid and allows for some "play".

The author appreciates Mr. Vegso's concern in this particular area as well as all people in sports medicine.

*Gerald W. Slagle, ATC  
Penn State University*

To the Editor:

I want to express my appreciation to the NATA for making the Conference and Clinical Symposium cassettes available, and this option for receiving CEU credits. As a consultant, my work location may be anywhere from the Atlantic to Pacific coasts. Perhaps others face the same difficulty in attending professional development conferences as I.

The cassettes provide the current knowledge and practices required to maintain my professional standing. While the job market forced me from active participation, interest and need for continuing development has not ceased. I appreciate the ability to increase knowledge and maintain my certified membership in the NATA.

Equally appreciated is the secondary function of the cassettes following my study completion. My decision is to donate the cassettes to my alma mater, Gustavus Adolphus College, St. Peter, Minnesota. This athletic training audio library will be beneficial not only to my education, but to students of athletic training, physical therapy, and to athletes who can personally relate to the topics of the cassette. Optimum utilization of each cassette is my objective, and to express my gratitude and support of GAC and the NATA organization. +

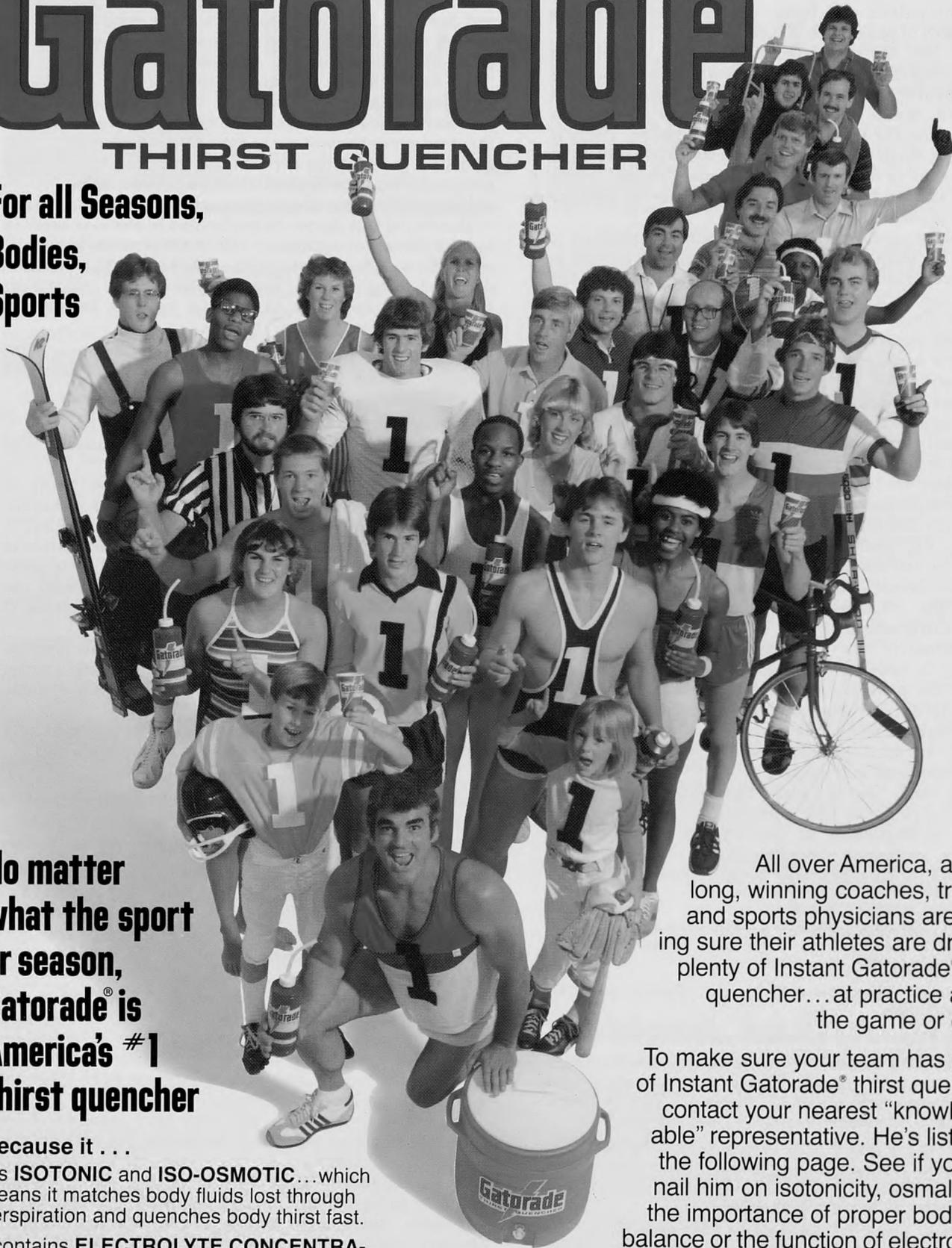
*Terry D. Morse, ATC  
Wayzata, Minnesota*

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# Calendar of Events



Jeff Fair, ATC, MS  
Oklahoma State University

## June 1983

**1-3** Second Annual Sports Medicine Conference, Provo. Contact The Sports Medicine Conference, BUY Conference Center, Provo, UT 84602.

**3-5** Second Annual Babson College Sports Medicine Conference, Wellesley. Contact Chris Troyanos, Athletic Department, Babson College, Wellesley, MA 02157.

**12-15** National Athletic Trainers Association 34th Annual Convention, Denver. Contact NATA, P.O. Box 1865, Greenville, NC 27834.

**20-24** Fourth Annual Boston Sports Medicine Institute, University of Massachusetts at Boston, Boston. Contact Alfred Roncarati, University of Massachusetts at Boston, Division of Continuing Education, 625 Huntington Avenue, Boston, MA 02115.

**20-24** "The Use of Cybex/Isokinetics in Clinical Practice" Workshop, LaCrosse. Contact George J. Davies, Extended Education, University of Wisconsin at LaCrosse, LaCrosse, WI 54601.

**17-25** Diagnostic Imaging Seminar at Wimbledon, Wimbledon, England. Contact Diagnostic Imaging Seminar at Wimbledon, P.O. Box A-156, Kiawah, SC 29455.

**22-25** Tenth Annual Art and Science of Sports Medicine, Charlottesville. Contact Sue Halstead, Coordinator, Sports Medicine Conference, University Hall, P.O. Box 3785, Charlottesville, VA 22903.

**24-26** Second Annual Conference on the Prevention and Management of Sports Injuries, Buffalo. Contact Gil Etheridge, 209 Clark Hall, State University of New York at Buffalo, Buffalo, NY 14214.

**26-29** Annual Athletic Training Camp, Charlotte. Contact Ken Wright, Health and Physical Education Department, University of North Carolina at Charlotte, UNCC Station, Charlotte, NC 28223.

**27-July 1** Sports Injury Seminar for Coaches, Teachers and Nurses, Indianapolis. Contact Marge Albohm, Sports Medicine and Joint Surgery, Inc., 1815 N. Capitol, Suite 214, Indianapolis, IN 46202.

**27-July 1** Student Athletic Training Workshop, Indianapolis. Contact Marge Albohm, Sports Medicine and Joint Surgery, Inc., 1815 N. Capitol, Suite 214, Indianapolis, IN 46202.

## July 1983

**7-9** NATA District 9 Meeting, Suwanee, Georgia. Contact Charles Kimmel, Austin Peay State University, Clarksville, TN 37040.

**10-13** Second Annual Athletic Training Workshop, Corvallis. Contact Lisa A. Kelleher, Assistant Athletic Trainer, 103 Gill Coliseum, Oregon State University, Corvallis, OR 97331.

**11-15** 36th Annual American Corrective Therapy Association Conference, Houston. Contact Bill Gaddis, 7310 Roswell, Houston, TX 77022.

**15** Today's Concepts in Isokinetics, Chicago. Contact Debbie Granner-Nemeth, 1100 Woodfield Road, Suite 109, Schaumburg, IL 60195.

**17-21** Third Annual DePauw University Athletic Training Workshop, Greencastle. Contact Rex Call, Head Trainer, DePauw University, Greencastle, IN 46135.

**22-24** Cybex/Isokinetic Clinical Workshop, LaCrosse. Contact George J. Davies, Orthopaedic and Sports Physical Therapy, S.C., 2501 Shelby Road, LaCrosse, WI 54601.

**25-29** 7th Annual Sports Medicine Workshop, Orlando. Contact Ronald Ribaric, Head Athletic Trainer, University of Central Florida, Orlando, FL 32816.

**28-29** The Louisiana Athletic Trainers Association Annual Clinic, Lafayette. Contact Bob Goodwin, Southeastern Louisiana University Athletic Department, Hammond, LA 70401.

## August 1983

**5-6** 6th Annual Sports Medicine Symposium, Waunakee, Wisconsin. Contact Sarah Z. Aslakson, Continuing Medical Education, 465B WARF Building, 610 Walnut Street, Madison, WI 53705.

*Athletic Training* will be happy to list events of interest to persons involved in sports medicine, providing we receive the information at least two months in advance of publication. Please include all pertinent information and the name and address of the person to contact for further information. This information should be sent to: Jeff Fair, Head Athletic Trainer, Athletic Department, Oklahoma State University, Stillwater, OK 74078. +

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## 1983 Cramer Athletic Trainer Workshops

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### STUDENT WORKSHOPS

June 5-8 Oklahoma State University Stillwater, OK	June 26-29 University of Southern Colorado Pueblo, CO	July 24-27 Fresno State University Fresno, CA
June 12-15 Louisiana State University Baton Rouge, LA	July 10-13 Memphis State University Memphis, TN	July 24-27 Maryville-St. Louis Creve Coeur, MO
June 19-22 Arizona State University Tempe, AZ	July 10-13 Northern Illinois University DeKalb, IL	July 24-27 Samford University Birmingham, AL
June 19-22 Emporia State University Emporia, KS	July 10-13 University of Texas-Arlington Arlington, TX	July 31-August 3 Grand Valley State College Allendale, MI
June 19-22 Florida State University Tallahassee, FL	July 10-13 University of Virginia Charlottesville, VA	July 31-August 3 Gustavus Adolphus College St. Peter, MN
June 26-29 University of Idaho Moscow, ID	July 17-20 Bloomsburg State College Bloomsburg, PA	July 31-August 3 North Adams State College North Adams, MA
June 26-29 Kent State University Kent, OH	July 17-20 Clemson University Clemson, SC	August 7-10 Seattle Pacific University Seattle, WA
	July 17-20 Eastern Kentucky University Richmond, KY	

### ADVANCED STUDENT ATHLETIC TRAINER WORKSHOPS

June 29-July 2 University of Southern Colorado Pueblo, CO	July 10-13 Wichita State University Wichita, KS	July 17-20 Eastern Kentucky University Richmond, KY	July 17-20 Clemson University Clemson, SC
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### COACHES WORKSHOPS

May 29-June 2 University of New Mexico Albuquerque, NM	June 19-23 Pacific Lutheran University Tacoma, WA	July 10-14 Central Connecticut State New Britain, CT
June 6-10 University of Wisconsin-Eau Claire Eau Claire, WI	June 26-30 Bowling Green State Bowling Green, OH	July 10-14 North Texas State Denton, TX
June 15-19 University of Oregon Eugene, OR	June 26-30 Calif. State Polytechnic Univ.-Pomona Pomona, CA	July 10-14 Towson State University Towson, MD
June 19-23 University of Florida Gainesville, FL	June 26-30 Montclair State College Upper Montclair, NJ	July 11-15 Northeast Louisiana University Monroe, LA
June 19-23 Montana Tech Butte, MT	June 26-30 Syracuse University Syracuse, NY	July 17-21 University of Pittsburgh Pittsburgh, PA
	June 26-30 University of Tennessee Chattanooga, TN	

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# Get Rocky Mountain High

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# Abstracts



John Wells, ATC, PT, PhD  
Mars Hill College

**STREP THROAT: How Much Treatment Is Necessary?**, Alice Kahn, R.N.P., *Medical Self Care Magazine*, No. 17, 42-44, Summer 1982.

What's reddish-purple with white spots accompanied by swollen glands and fever? It's probably a throat attacked by streptococcus bacteria — more commonly known as "strep," though infections caused by other organisms, primarily viruses, might cause the same symptoms. The only way to be reasonably sure is to get a throat culture — a throat swabbing rubbed on a growth medium and incubated for one to two days. A laboratory performs tests on the culture to determine if the organisms growing in the throat are specifically "Group A Beta Hemolytic Strep" (GABHS). If you have GABHS, the health worker will probably advise you to take penicillin (or erythromycin if you are allergic to penicillin) — either injections or 250-milligram tablets, four times a day for a week to 10 days. The main problem is that occasionally, these organisms don't stop at the throat but go on to affect other parts of the body, for example, the ears, the sinuses, the skin (impetigo) and the kidneys (post-streptococcal glomerulonephritis). The most serious consequence of an untreated strep throat infection is rheumatic fever, an illness that can occur one to three weeks following the strep throat. Get a throat culture if you have a sore throat and any one of the following: \*fever greater than 101°F, \*white or yellow spots or discharge on tonsils or back of the throat, \*tender, swollen glands in the neck, \*recent exposure to someone with known strep, \*history of rheumatic fever or kidney disease. If you pay careful attention to your symptoms and initiate self-care early, however, you have a much better chance to prevent unnecessary and costly doctor visits and antibiotic prescriptions.

Debbie Suggs

\* \* \*

"Effects of the Neuroprobe in the Treatment of Second-Degree Ankle Inversion Sprains," David L. Paris, Frank Baynes, and Barbara Gucker, *Physical Therapy: The Journal of the American Physical Therapy Association*, 63:35-40, January 1983.

In recent years the use of acupuncture in North America has increased. Little research has been carried out in the application of noninvasive acupuncture, such as electroacupuncture, for the treatment of athletic injuries;

therefore, a great need exists for scientific study in this area. This study compared the effects of standard physical therapy plus Neuroprobe Systems II NP200 treatments with the effects of standard physical therapy treatments alone on second-degree ankle inversion sprains of 16 patients. The comparison was based on differences in the following variables: length of rehabilitation time, ankle range of motion (plantar flexion-dorsiflexion and inversion-eversion), edema, and pain. Rehabilitation therapy commenced immediately after the initial screening procedures and was administered to each patient for a maximum of 17 calendar days. Initial treatment included cryotherapy, elevation of the extremity when sitting or reclining, and nonweight bearing (crutch walking) for the first 48 hours after trauma. Neuroprobe treatments were administered bilaterally on 6 acupuncture points on each ear and 6 on each ankle, making a total of 24 points. The following data were collected: release day from treatment and measurements for both ankles over a 17-day period for plantar flexion-dorsiflexion and inversion-eversion range of motion, edema, and pain. The criteria for release were that the patient attain in the injured ankle a level of 90 percent of the measures of the uninjured ankle in the areas of range of motion and edema. When compared with the standard physical therapy treatments, the group that underwent Neuroprobe treatments showed significant differences in release day from treatment, range of motion for plantar flexion-dorsiflexion and inversion-eversion. Neuroprobe treatments will shorten the rehabilitation time of second-degree ankle inversion sprains. Similarly, posttrauma plantar flexion, dorsiflexion, inversion, and eversion ranges of motion are normalized sooner with use of this modality. With these findings, it is suggested that studies be carried out on use of Neuroprobe on other joint injuries.

Lois Howard

\* \* \*

"Initial Management of Acute Ankle Sprains with Rapid Pulsed Pneumatic Compression and Cold," William S. Quillen and Leon H. Rouillier, *The Journal of Orthopedic and Sports Physical Therapy*, 4:39-43, Summer, 1982.

Injuries to the lateral ligaments of the ankle comprise approximately 85% of all ankle injuries. Pneumatic compression is a safe, noninvasive form of treatment. During inflation, excess fluid from interstitial spaces is forced to vascular and lymphatic compartments, where it is perfused by blood passing from superficial to deep veins. During deflation normal arterial flow returns to the skin and superficial tissues. Improved circulation and decreased interstitial fluids result in a reduction of pain, increased active range of motion, and potentially, more rapid healing. The simultaneous application of cold reduces the metabolic demands of the tissues while this pumping action occurs. Active range of motion and volumetric measures of ankle edema were made before and after 20 minute compression treatments on a series of 19 acute grade 1 lateral ankle ligament sprains. The volumetric displacement of the foot/ankle was measured via a lucite tank with runoff collected in a graduated cylinder. Utilizing Archimedes principle, edema changes as a function of displacement could be objectively measured. Patients were continued on this acute treatment protocol until volumetric changes stabilized, dorsiflexion acute range of motion approached normal limits, and there was minimal to no pain upon weight bearing. At that time, patients were begun on isokinetic

rehabilitation, surgical tubing for peroneal evertors, and a functional progression of walking, jogging, running, and agility, with ultimate weaning from tape or stirrup support. Rapid pulsed pneumatic compression along with cold is a safe and therapeutically sound method of controlling pain, loss of motion, and edema associated with this common injury. Sports medicine practitioners must be prepared to aggressively treat musculoskeletal trauma with both therapeutically sound and time efficient regimens. Thorough early treatment is essential for prevention of further trauma, for an expedient recovery, and for the earliest possible return to activity.

Lois Howard

\* \* \*

"Cyriax's Friction Massage: A Review." Chamberlain, GJ, *The Journal of Orthopedic and Sports Physical Therapy*, 4:16-22.

Massage has been part of many cultures over the last several centuries. In its various forms, massage remains as one of the oldest forms of therapy used for many ailments. Cyriax and Russell have employed a technique called deep friction massage to reach the musculoskeletal structures of ligament, tendon, and muscle and provide therapeutic movement over a small area. The purpose of this paper is to present Cyriax's rationale and principles for the use of friction massage in treatment regimens along with additional substantiation based upon the development, orientation, and repair process of connective tissue. The purpose of friction massage is to maintain the mobility within the soft tissue structures of ligament, tendon, and muscle and prevent adherent scars from forming. The massage must also be given the most effective way by following basic principles. (1) The proper location must be found through proper evaluation procedures and palpation of the specific tendon, ligament, or muscle. (2) Friction massage must be given across the affected fibers. (3) The therapist's fingers and patient's skin move as one. (4) The friction massage must have sufficient sweep and be deep enough. (5) The patient must be in a comfortable position. The frequency and duration of treatment varies with the severity and type of injury. With deep friction massage, the treatment will last 10-15 minutes. Cyriax's goals are two-fold: to provide movement to the tissue itself and to produce traumatic hyperemia. The movement encourages realignment and lengthening of these fibers. The second goal results in the enhancement of blood supply to the area. The rationale Cyriax proposes for the use of movement in the treatment of soft tissue injuries is based upon the work of Stearns. She observed the fibroblastic activity in the healing of connective tissue as well as possible scar formation, as related to the effect of movement. Her conclusions were that fibrils form almost immediately and that external factors were responsible for the development of an orderly arrangement of the fibrils. Cyriax and Russell contend that "gentle passive movements do not detach fibrils from their proper formation at the healing breach, but prevent their continued adherence at abnormal sites."

D.A. "BRU" Brubaker

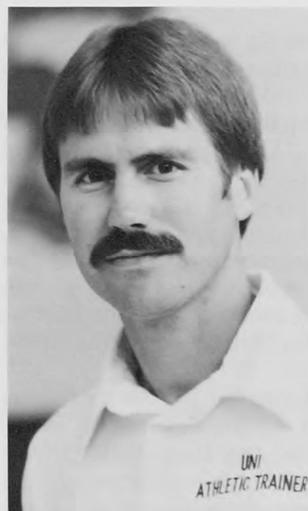
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"The effects of electrical stimulation of normal quadriceps on strength and girth," John A. Romero, et. al. *Medicine and Science in Sports and Exercise*, 14:194-197, 1982

Eighteen female volunteers consented to participate in

the experiment. Subjects were randomly assigned to control and experimental groups. The experimental group (N=9) received a series of electrical stimulation treatments, while the control group (N=9) did not. Strength and girth measurements were made on all subjects before and after the experimental period. The experimental group was treated with faradic stimulation twice weekly for a total of 5 weeks. Treatments consisted of 15 minutes of surging intermittent faradic electrical stimulation. Knee extension strength was tested isometrically and isokinetically using a Cybex II isokinetic dynamometer. Subjects were positioned as they were for the electrical stimulation treatments except that the axis of the knee joint was aligned with the axis of the Cybex. To minimize the effects of fatigue, a 3-minute rest period was allowed between the isometric and each isokinetic test. All tests were conducted in the same order and at the same time of day. The isometric test was administered first, the 30°/s isokinetic test was second, and the 60°/s isokinetic test was third. The isokinetic tests were performed at 30°/s and 60°/s, and consisted of five repetitions at each speed. Because of the limited protocol and the long rest periods between tests, subjects could exert maximum effort at each speed. The four strongest contractions were averaged to produce one score at each speed for each testing session. The girth measurements were taken with a Dietzin steel tape. With the knee extended, a black felt pen was used to mark the thigh at levels 10 and 20 cm from the proximal border of the patella. Results showed that both dominant and non-dominant isometric knee extension strength improved more in the experimental than the control group. Also, there was a significant difference in improvement in the non-dominant leg at 30°/s. These results indicate that faradic electrical stimulation can produce a significant increase in isometric strength and perhaps strength at slow speeds of motion in young, untrained females. However, this modality seems to have little applicability in developing power that is required in many activities. It may be useful when the performance of normal voluntary motion is hampered. +

Rob and Kathy Doyle



Steve Marti

### Correction...

In the last issue, Volume 18, Number 1, figure 1 on page 29 and figure 4 on page 30 should be reversed. We regret this printing error and thank the author, Steve Marti for his understanding. (Editor's Note)

CEU Credit Quiz**Arthroscopic Update —  
Diagnosis and Treatment**

Peter Fowler, MD

Edited by: Don Kaverman, ATC

**I**n the management of knee problems arthroscopic techniques are well into their second decade of use in North America. Arthroscopic surgical techniques have added a new dimension to the management of knee maladies and those involving other joints as well. In evaluating knee dysfunction, arthroscopic procedures can be extremely valuable. However, such procedures are not a necessity most of the time. The history of onset and course of the problem continues to provide the most valuable information. Physical examination done expertly on one occasion may need repeating. When arthroscopy is indicated the inquiring arthroscopist finds diagnosis and treatment are not totally separable terms.

**Acute Hemarthrosis of the Knee**

In the diagnosis and treatment of an acute hemarthrosis of the knee arthroscopy is an extremely valuable adjunct. A hemarthrosis may result from anterior or posterior cruciate ligament disruptions, capsular ligament tears with or without meniscal separations, acute patellofemoral derangements or fractures of the chondral or osteochondral variety.

Noyes et al (4) and DeHaven (1) noted independently that approximately 75 percent of such hemarthroses are at least, in part, the result of an anterior cruciate ligament injury. In many there is a fresh partial or complete tear of the anterior cruciate ligament. This may be an isolated lesion or associated with other damage in the knee such as partial or complete meniscal tears, partial or complete meniscal separations, chondral or osteochondral lesions, or other capsular and/or ligamentous disruptions. The chronic anterior cruciate deficient knee may present with an acute hemarthrosis following an episode of instability. In such cases meniscal or chondral derangements are most often present.

The history and physical examination should direct the examiner toward the correct diagnosis in the acute hemarthrosis. Examination under anesthesia prior to the arthroscopy is extremely helpful. During arthroscopy the examiner can assess the amount of damage and plan a course of treatment. If a surgical procedure is indicated the arthroscopic examination will aid in this decision. When the indicated surgical treatment involves removal of chondral or osteochondral fragments, partial meniscectomy or meniscal suturing the procedure may be amendable to endoscopic techniques at the time of arthroscopy.

Arthroscopy should be initiated with extreme care if, at the time of examination under anesthesia, there is evidence of significant acute collateral instability. Complications of fluid extravasation include significant vascular impairment to the limb.

**Meniscal Lesions**

It is essential to regard the meniscus and its function in the overall mechanics of the knee when dealing with its lesions. The meniscus provides (2):

- 1) stability to the knee joint, particularly in the anterior cruciate deficient knee
- 2) load transmission minimizing articular cartilage stress
- 3) contact between articular surfaces, important for articular cartilage nutrition.

Considering these functional characteristics of the meniscus it behooves the operating surgeon to be conservative in the treatment of meniscal lesions whether this treatment is by arthroscopic or traditional open techniques. Only significant lesions should be repaired. Such a tear results in a loose segment which produces a block to movement thereby increasing the friction on the articular surfaces. These lesions may be amenable to repair by suture if located within 3 mm. of their synovial attachment (3). If irreparable, partial meniscectomy of only the unstable segment is recommended.

The treatment of associated pathology that may be causing the meniscal derangement should be carried out when possible. Particular reference is made to the ligamentous deficient knees. Meniscal lesions may be treated as follows:

- 1) Insignificant lesions such as small radial tears, small stable cleavage tears and minor tears in a discoid meniscus are better left alone. They should be accurately assessed and can be reassessed at another date if symptoms warrant.
- 2) Partial excision is usually indicated for insubstance meniscal tears with unstable segments. This may include removal of the central segment of a bucket handle tear, excision of the unstable segment of a flap tear or saucerization of a degenerative cleavage or cystic lesion. When this can be performed by arthroscopic techniques the rehabilitation process is usually shortened. If, due to the position of the lesion or the surgeon's experience, the procedure

would be better accomplished by open means one should proceed this way. The end result should be the same.

- 3) If the meniscus is torn at the periphery or within 3 mm. of its synovial attachment, and the unstable segment appears healthy, it is worthwhile to attempt a repair. Frequently this is accomplished by open techniques but closed methods are available for some lesions.

### Patellofemoral Derangement

Patellofemoral derangement continues to be the most common knee problem in the athlete. In resistant cases arthroscopic evaluation is indicated to totally assess the position of the patella through a functional range of motion. When indicated chondrectomy and patellar retinacular release are techniques that can be performed via arthroscopy. Non-operative treatment or more radical surgical treatment, such as patellar stabilization, may be indicated after arthroscopic assessment and its correlation with the clinical information.

### Other Knee Problems

Osteochondral lesions, such as osteochondritis dissecans, can be assessed and often treated arthroscopically. This may include removal of the lesion, if not in situ, drilling, or fixation of the lesion.

Synovitis, including the septic variety, can be evaluated by an arthroscopic examination and most often treated. Irrigation and drainage, joint debridement, and synovectomy are all within the armamentarium of the arthroscopic surgeon.

Treatment programs, surgical or non-surgical, can be objectively evaluated with the help of an arthroscopic examination. Meniscal repair as a feasible procedure, fibro-cartilage replacement of debrided chondral lesions, and revascularization of intra-articular ligamentous grafts have been documented via arthroscopy.

### Other Joints

Other joints amenable to arthroscopic evaluation and

surgical techniques include the shoulder, elbow and ankle.

In the shoulder excision of labral detachments, partial or complete synovectomies and debridement of rotator cuff tears have demonstrated increased clinical promise. Loose body removal, debridement of osteochondral lesions and sub-total synovectomy are being carried out with more regularity in the elbow and ankle.

### Summary

Arthroscopy and arthroscopic techniques are continually being refined. Such techniques are becoming increasingly useful to all those concerned with the management of the injured athlete. However, simply because the procedure is available is not an absolute indication for its use. Many of the procedures are demanding and experience is a requisite. The associated rehabilitation of accompanying lesions following arthroscopy is just as important as when they are repaired by open methods. The return to activity time may be lessened significantly but is not totally eliminated.

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Peter Fowler, MD

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### Questions

1. In the diagnosis of knee maladies, the most valuable information is provided by
  - a. arthroscopic evaluation
  - b. the history of onset and course of the problem
  - c. physical examination

a	b	c	d	e

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continued on next page

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	a	b	c	d	e
2. An acute hemarthrosis of the knee may result from 1. posterior cruciate ligament disruptions 2. capsular ligament tears without meniscal separations 3. acute patellofemoral derangements 4. chondral fractures					
	a. 1, 2, 3	b. 1, 3	c. 2, 4	d. 4 only	e. 1, 2, 3, 4
3. In some instances, endoscopic techniques may be indicated at the time of arthroscopy. a. True b. False					
4. Functions of the meniscus include a. it provides stability to the knee joint b. it minimizes articular cartilage stress c. it plays a role in articular cartilage nutrition d. a and b above e. all of the above					
5. All tears in a discoid meniscus should be treated surgically. a. True b. False					
6. It is worthwhile to attempt a repair of a torn meniscus if the a. meniscus is torn at the periphery b. unstable segment appears healthy c. a and b above d. none of the above					
7. Patellar retinacular release may be performed via arthroscopy when a patient presents with a resistant patellofemoral derangement. a. True b. False					
8. Procedures which may be performed on the patient with a synovitis by means of arthroscopy include a. irrigation and drainage b. joint debridement c. synovectomy d. a and b above e. all of the above					

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# Acromioclavicular Protection For Ice Hockey Players

Scott A. Biron, ATC

Acromioclavicular injuries are commonplace in ice hockey. This is due to the minimal amount of protection the player's equipment offers. Many injuries occur due to a blow directly to the A/C joint or due to a lateral blow to the shoulder. The athlete is most often hit into the boards resulting in a direct blow to the A/C area. Many times, the athlete is hit in open ice from the side, and frequently, this type of contact results in an injury to the A/C joint.

Without using bulky football shoulder pads which would give maximum protection to the area, you can achieve basic protection to the A/C area by combining two types of pads together. Take a foam pad insert, Figure 1, and combine it with a lacrosse shoulder pad. This can be done by placing the lacrosse pad over the foam pad and simply taping the two pads together, see Figure 2. You will provide protection to the A/C area without any cumbersome bulk, see Figures 3 and 4.

The foam insert will sit on top of the A/C joint and become a foundation for the lacrosse pads. The lacrosse pads will act in a similar manner as the shoulder cap on football shoulder pads. It will protect the A/C joint directly and will extend further laterally than conventional ice hockey shoulder pads. This small amount of extension will provide protection from the lateral blow. The foam insert will lift the pad off the A/C joint and will distribute any direct blow to the A/C joint. By adding football upper arm pads to this unit, you will achieve protection from injury to the biceps and triceps area. If the athlete feels he needs sternum protection, you can use an old chest protector and cut it to the desired dimension to meet your athlete's needs.

### Summary

Many ice hockey players like the combination pad for its light weight and most like it for its protection to the A/C area. At the University of New Hampshire, we have had no recurrence of injury to the A/C area with the athletes wearing this pad. +

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*Editor's Note: Anyone wishing to have an idea, technique, etc. considered for this section should send one copy to **Dave Burton, Duncanville High School, Duncanville, TX 75116**. Copy should be typewritten, brief, and concise, using high quality illustrations and/or black and white glossy prints.*

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Figure 1

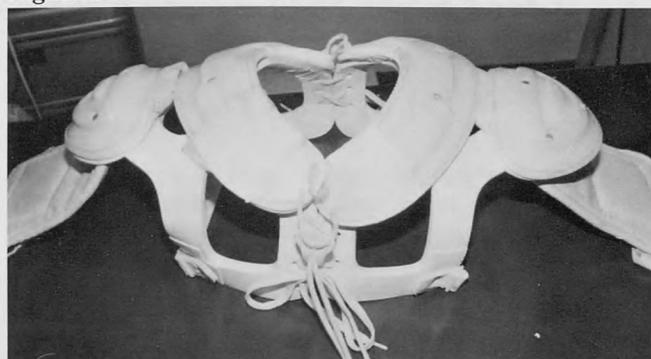


Figure 2

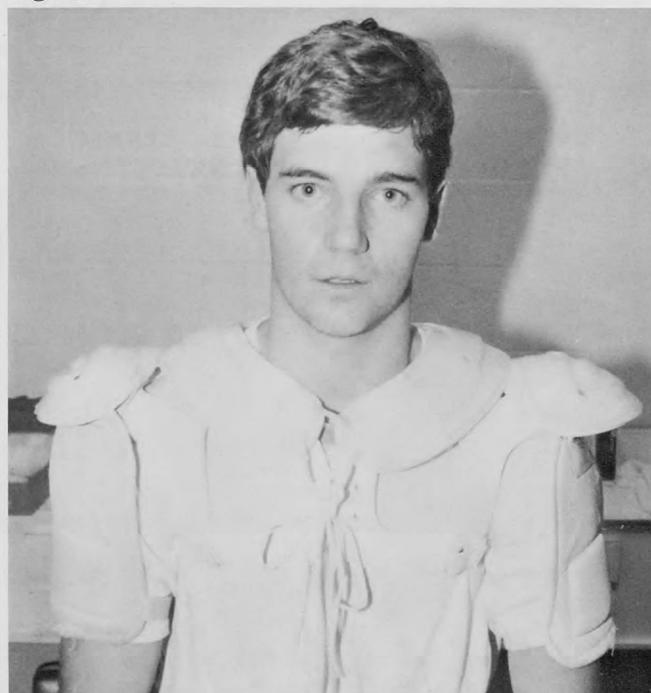


Figure 3



Mr. Biron is Head Athletic Trainer at the University of New Hampshire, Durham, NH 03824.

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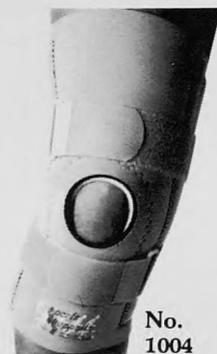
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# Stretch Evoked EMG Activity by Isometric Contraction and Submaximal Concentric Contraction

William L. Cornelius, PhD

The importance of exercises designed to increase joint range of motion has been a significant part of therapeutic and recreational activity. Although a number of investigations such as Cornelius and Hinson (5), Holt, Travis, and Okita (9), and Tanigawa (18) have studied methods for improving joint range of motion, there have been few studies dealing with the EMG activity elicited from the muscle while subjected to various flexibility maneuvers.

Many of the effective, current flexibility exercises utilize both passive and static maneuvers in the exercise sequence. Sage (15) and Walker (19) have reported the advantages of using a static stretch technique. They indicated that a static stretch promotes the relaxation of tissues around and within the muscle bundle. Additional evidence of the effectiveness of passive motion was suggested by Bierman and Ralston (4) in reporting an absence of detectable electromyographic activity. Furthermore, literature suggests that effective flexibility procedures rely on the establishment of an environment conducive to reduced sensory activity. Markos (11), Sage (15), and Steinhaus (17), concur that for a muscle to be stretched effectively, sensory activity of the stretch receptors should be kept to a minimum.

Gordon, Huxley, and Julian (6) indicated that the emergence of the sliding filament theory allowed investigators new avenues in the interpretation of the changes in the relationship between muscle lengths and tensions. They also suggested that tension was small when a muscle fiber with uniform striation spacing was stretched to a length where overlap of the filaments did not occur. In this case, tension was no more than 3-5% of that found at optimum length.

Tanigawa (18) suggested that the isometric contraction of a muscle on a slight stretch is followed by relaxation. He concluded the explanation for this phenomenon on a neurophysiological basis stems from autogenic inhibition. According to Ruch and Patton (14) autogenic inhibition is related to constraint in afferent nerve impulses flowing from a muscle placed on a static stretch. He indicated that the inhibition of afferent nerve impulses mediated from the stretched muscle acted on the associated motoneurons and caused the stretched muscle to relax.

Astrand and Rodahl (2) noted that Golgi tendon organs were stimulated during both a passive stretch and an active contraction of the muscle. Tanigawa (18) concluded the combined tension created by a maximum isometric

contraction and the lengthened soft tissue added to the ability of the Golgi tendon organs to be stimulated. According to Astrand and Rodahl (2), Beaulieu (3), and Tanigawa (18), the Golgi tendon organs initiated afferent nerve impulses when stimulated causing reflex inhibition of the agonist.

## Purpose of the Study

The purpose of the study was to determine through electromyography instrumentation the influence of maximum voluntary isometric contraction (MVIC) of the agonist and submaximal concentric contraction of the antagonist on subsequent stretch of the biceps femoris. An effort was made to examine the influence of three- and six-second MVIC of the hip extensors (agonist) as well as submaximal concentric contraction of the hip flexors (antagonist) on changes in integrated electromyographic (IEMG) data during a passive-static-flexibility maneuver (PSFM) at the hip joint. The PSFM consisted of a partner-assisted static stretch of the agonist in which the subject was in a supine position. An effort was made to allow the subject to relax without active involvement. The investigation was part of a larger study (5) where the relationship between isometric contractions and subsequent stretching maneuvers was reported. The hypothesis of the study was that there would be a reduction in IEMG measures elicited from the biceps femoris muscle during a PSFM with the influence of contract-relax techniques as well as contract-relax techniques and subsequent concentric contraction techniques.

## METHOD

### Subjects

The investigation was comprised of 30 male undergraduate university subjects, ages 17 to 26 years. The mean age was 20.30 years. Subjects were selected who had not declared physical education as a major or minor field of study and were free from any known injuries or disabilities to the hip and legs. From the defined sample of 644 men enrolled in activity classes with the North Texas State University Physical Education Division, 30 subjects were selected through a table of random numbers. All subjects fulfilled the characteristics delineated by the investigation. Subjects were invited to participate in the study on a voluntary basis and were given the opportunity to withdraw from the study at any time. Informed consent was procured.

### Measurements

The subject assumed a supine position before each

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*Dr. Cornelius is an Associate Professor of Physical Education at North Texas State University in Denton, Texas 76203.*

treatment with the preferred leg position at a 180 degree angle at the hip. Leg preference was determined by noting the leg with which the subject kicked a ball. Quantitative IEMG data were recorded from the biceps femoris muscle on a subject during a PSFM following each of the six treatments. The treatment "S" consisted solely of the PSFM of the agonist. All remaining flexibility treatments included a PSFM as both the initial and terminal maneuver. Treatment "AC" involved a submaximal concentric contraction of the agonist. Treatment "3-CR" consisted of a six-second contract-relax of the agonist. A "3-CR" treatment included a three-second contract-relax of the agonist. The "3-CRAC" treatment included a three-second contract-relax of the agonist with subsequent submaximal concentric contraction of the agonist. The "6-CRAC" treatment included a six-second contract-relax of the agonist with subsequent submaximal concentric contraction of the agonist. Figures 1 through 6 represent the sequential parts of the six flexibility treatments utilized in the study.

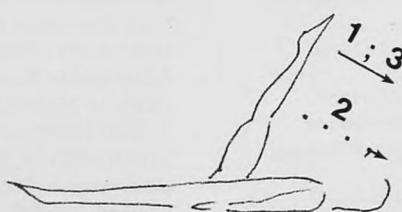
An EMG integrator was used to measure the area within the curve of the action potential above and below

Santomier (16) concerning rest between exercises in EMG studies, each subject was given three trials for each treatment with a two-minute rest between maneuvers. Three one-second measures were recorded per trial for the quantitative IEMG data during the final position of the PSFM.

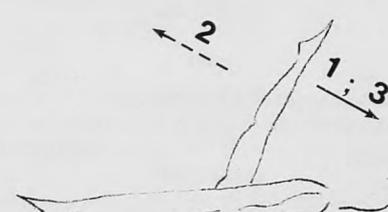
The IEMG instrumentation was calibrated and thoroughly checked before the subjects arrived in the laboratory. After the instrumentation had been determined operational, the impedance for each subject was ascertained. An ohmmeter and oscilloscope were used to assure the skin was properly prepared and that the electrodes were correctly attached. The oscilloscope also checked for artifacts by assuring a square of slightly rounded pattern with vertical line scope. Hinson (8) established 5000 ohms as a maximum acceptable resistance in order to minimize error because of electrical resistance. The amount of skin resistance was monitored with a voltohmmeter after the surface electrodes were in position. In accordance with recommendations by the equipment manual (10), bipolar surface electrodes were used with a three electrode configuration, one for ground and two for signal. The technique suggested by Adrian



**Figure 1.** Static (s), straight line \_\_\_\_\_ passive static flexibility maneuver with partner assisting part one.



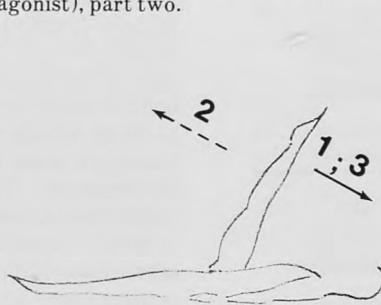
**Figure 2.** Antagonist concentric contraction (AC), straight line \_\_\_\_\_ passive static flexibility maneuver with partner assisting, part one and three; dotted line . . . concentric contraction without partner assisting, hip flexor muscles contracting (antagonist), part two.



**Figure 3.** 3-sec contract-relax (3-CR), straight line \_\_\_\_\_ passive static flexibility maneuver with partner assisting, part one and three; interrupted line - - - MVIC with partner assisting, hip extensor muscles contracting (agonist), part two.



**Figure 4.** 3-sec contract-relax with antagonist concentric contraction (3-CRAC), straight line \_\_\_\_\_ passive static flexibility maneuver with partner assisting, part one and four; interrupted line - - - MVIC with partner assisting, hip extensor muscles contracting (agonist), part two; dotted line . . . concentric contraction without partner assisting, hip flexor muscles contracting (antagonist), part three.



**Figure 5.** 6-sec contract-relax (6-CR), straight line \_\_\_\_\_ passive static flexibility maneuver with partner assisting, part one and three; interrupted line - - - MVIC with partner assisting, hip extensor muscles contracting (agonist), part two.



**Figure 6.** 6-sec contract-relax with antagonist concentric contraction (6-CRAC), straight line \_\_\_\_\_ passive static flexibility maneuver with partner assisting, part one and four; interrupted line - - - MVIC with partner assisting, hip extensor muscles contracting (agonist), part two; dotted line . . . concentric contraction without partner assisting, hip flexor muscles contracting (antagonist), part three.

the baseline. A Newport Laboratories Integrating Bioelectric Monitor Model 100 capable of measuring to the one microvolt-second level was utilized to quantify the data. The reliability credentials for the IEMG instrumentation used in this study were determined by Wilcott and Beenen (20) and were found to be 0.86 to 0.95 for various isometric muscle tensions and the integrated scores.

Based on recommendations by Gutin and Lipetz (7) and

(1), Hinson (8), and O'Connell and Gardner (13) for placing electrodes on the skin was employed. Recommendations of Hinson (8) were incorporated with a one centimeter interelectrode distance. All testing was done inside a grounded Faraday copper screened cage to reduce environmental interference.

#### Procedure

To control for order effects of the six treatments, ran-

domization was applied. An attempt was made to keep movement of the preferred leg uniplanar and in line with the hip joint. Throughout this movement pattern, the preferred leg was held straight by the investigator. Data were recorded for each trial during positions of flexion from the long head of the biceps femoris during PSFM. The subject was asked to notify the investigator when tension was perceived behind the knee at the popliteal fossa at which point motion ceased. The average of the three IEMG measures per trial was used in the analysis. IEMG data were then analyzed by a one-way ANOVA with repeated measures.

**Table 1**

Descriptive Data of IEMG Scores<sup>a</sup> Depicting Area Within Action Potential Curve for Biceps Femoris Muscle During a Passive-Static-Flexibility Maneuver<sup>b</sup>

N = 30

Treatments	Range	Mean	SD	S.E.M.
S	0.518 (0.029-0.548)	0.141	0.117	0.022
AC	0.824 (0.022-0.846)	0.136	0.161	0.030
3-CR	0.375 (0.020-0.395)	0.151	0.106	0.020
3-CRAC	0.497 (0.041-0.538)	0.154	0.106	0.020
6-CR	0.738 (0.026-0.764)	0.155	0.147	0.027
6-CRAC	0.612 (0.023-0.635)	0.160	0.144	0.027

<sup>a</sup> Scores were reported in milli-volt seconds.

<sup>b</sup> Each PSFM, represented in milli-volt seconds was recorded for one second while holding the maximum position available.

**Table 2**

Summary Table for a One-Way ANOVA with Repeated Measures for IEMG Data on the Biceps Femoris Muscles During a Flexibility Maneuver

Source	df	SS	MS	F*	P
Between Subjects	29	2.14621			
Between Treatments	5	0.01268	0.00254	0.41540	.83745
Residual	145	0.88541	0.00611		
Total	179	3.04430			

\*F 5, 29 (.05) = 2.53.

## Results

IEMG measures were collected during a PSFM following each treatment. Table 1 reports measures depicting IEMG action potentials for the biceps femoris muscle. Table 2 reveals that there were no significant differences

among treatments in IEMG action potentials of the biceps femoris muscle during a PSFM. The level of significance was set at .05; an F ratio of 0.415 was obtained. A table value of 2.53 was necessary for significance with the degrees of freedom set at 5, 20. Because significance was not obtained, it was necessary to prove the assumption of compound symmetry.

## Discussion

The clinical literature in physical therapy has given considerable attention to joint range of motion and to specific techniques which appear to reduce neurological constraints. Emphasis has been placed on maximum usage of techniques which inhibit neural impulses to the motoneurons of the stretched muscle. Limited literature is available, however, concerning the EMG activity elicited from the muscle during a stretching maneuver.

The findings in this study are in conflict with predicted outcomes because IEMG activity reductions do not result when using modified PNF techniques. Findings appear to be in concert, however, with an investigation by Moore and Hutton (12) who indicated that for a maximal hip flexion to occur hamstring muscle relaxation was not necessarily requisite. Furthermore, Cornelius and Hinson (5) reported significant changes ( $p < .05$ ) in hip flexion with the same modified PNF flexibility treatments used in this study. Further research is needed if clinicians are to fully understand reflex probing procedures in the intact subject while the muscle is subjected to stretch.

The three- and six- second MVIC time intervals chosen for this investigation were relevant because of their practical value in a clinical setting. Longer MVIC time intervals would require longer flexibility sessions as well as increased patient interest in the improvement of joint range of motion. The higher MVIC time intervals would also increase the probability of the valsalva maneuver which elevates systolic blood pressure and has obvious implications for hypertensive individuals.

A finding of primary importance was that a maximum voluntary isometric contraction used in this investigation prior to a passive-static-flexibility maneuver does not influence IEMG measures. Both the three- and six- second MVIC did not change IEMG measures. These findings appear to agree with Moore and Hutton (12) by indicating a lack of association between stretch techniques and EMG activity levels. They suggest, however, therapeutic advantages with PNF procedures to accompany the stretched muscle. The preceding MVIC assists in reflexively inhibiting the muscle, allowing further stretch.

Active muscle function as evidenced in the passive-static-flexibility maneuver, maximum voluntary isometric contraction of the agonist, passive-static-flexibility maneuver (CR) and passive-static-flexibility maneuver, maximum voluntary isometric contraction of the agonist with subsequent submaximal concentric contraction of the agonist, passive-static-flexibility maneuver (CRAC) flexibility techniques provide the patient additional value and are therapeutically preferred to the passive-static-flexibility maneuver (S) technique. Moore and Hutton (12) agree that the CRAC technique is preferred but suggest the need for a well-motivated individual with additional time for training. Beaulieu (3) reports that an "S" technique appears to be safest for the individual unsupervised and not in a clinical setting. Modified PNF procedures need to be closely monitored if the chance of soft tissue injury is to be minimized.

Gordon, et al (6) indicate that low IEMG measures were obtained in an isometrically contracted muscle fiber while it was stretched to the extent that the actin and myosin filaments did not overlap in the sarcomere. It was concluded this had the result of making the muscle less

resistant to continued stretch. Astrand and Rodahl (2) and Gordon et al (6) suggest a large amount of IEMG activity develops when both ends of a tendon are fixed and no stretch occurs before the MVIC. They reported that additional IEMG measures occur during an isometric contraction because striation spacing and overlap of the filaments in the sarcomere exists. Because these studies reported data from a single muscle fiber, in-vitro, there is insufficient evidence to substantiate that treatments used in this study with intact subjects effectively manipulate the filaments in the sarcomere to a length where no overlap occurs resulting in low IEMG measures. This conflict, therefore, suggests an additional research question that may have significant influence in clinical application and suggests the need to further study the relationship between stretch techniques and related IEMG measures.

There was also a lack of significant change in IEMG data following the passive-static-flexibility maneuver, submaximal concentric contraction of the agonist, passive-static-flexibility maneuver (AC) treatment. The AC treatment does not utilize a MVIC, but does incorporate a submaximal concentric contraction of the agonist. The lack of IEMG data increase resulting from the AC treatment may be attributed to reciprocal inhibition taking place with the contraction of the hip flexors and subsequent relaxation of the biceps femoris.

All treatment used in this study incorporated both a passive maneuver as well as a static stretch. Bierman and Ralston (4) concluded that passive motion did not result in a measureable increase in IEMG data. Beulieu (3) and Walker (19) reported low IEMG measures from the muscle when a static stretch technique invokes an inverse myotatic reflex. Sage (15) suggested that the slow, non-percussive stretch prevents the stretch reflex by only stimulating a few muscle spindle receptors at one time. It appears, therefore, that the PSFM used in this study possesses these positive inhibitive characteristics because it is a slow, passive maneuver which terminates with the static flexibility technique. Because each integral part of the six flexibility treatments appears to promote low IEMG measures, the lack of a significant difference among treatments in IEMG data was therefore possible.

### Conclusion

Based on the findings of this investigation, it was concluded that biceps femoris IEMG measures did not increase during hip flexion for college males when an initial passive flexibility maneuver was followed by either a three- or six- second maximum voluntary isometric contraction (MVIC) of the hip extensor muscle group (agonist) or the three- or six- second MVIC and subsequent concentric contraction of the hip flexor muscle group (antagonist). A concentric contraction was also ineffective at changing IEMG data when used with no prior maximum voluntary isometric contraction.

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# Isokinetic Evaluation of Quadriceps and Hamstrings Function: Normative Data Concerning Body Weight and Sport

James M. Rankin, ATC and Clinton B. Thompson, ATC

The concept of isokinetic exercise was introduced by Perrine (16) and validated by Moffroid and co-workers (24) in the late 1960's. The use of isokinetic dynamometers has been increasing in recent years with most of the data having been gathered either in the area of rehabilitation (7,15,17,28,32) or research assessment of various strength parameters (1,8,10,12,14,18,22,30,33-37). From a clinical standpoint few studies have attempted to set normative data for quadriceps and hamstring strength that have practical application (9,13). The mechanical representation of the isokinetic concept has had little criticism, although this may be changing (25,38).

Since strength has been shown to be closely related to size (11) and height (2), it was concluded that to establish normative results based solely on raw scores would not account for the variations attributed to the size differentials that occur in athletes. College wrestlers weighing 112 lbs. would be at the bottom of the strength scale and heavy-weights would be at the top, primarily because of height and weight. For this reason, relating strength to body weight as a ratio was proposed and has since been done by Davies, *et al.* (10), Parker, *et al.* (29) and Beam, *et al.* (3). Data concerning hamstring to quadriceps ratios seem to be derived from Klein (20) who has suggested a ratio of 1:2 for male high school seniors and 6:10 for college football players. Most studies done to date have either dealt with a small group of athletes in one sport or have not mentioned sports at all, other than to group athletes as endurance or non-endurance. Clarkson and co-workers (6) have stated that examination of percent fast twitch (%FT) muscle fibers compared to sport shows that %FT compared to peak torque differs by sport.

A number of studies have compared torque values at various speeds and %FT fibers (8,14,18,33-36). Coyle and co-workers (8) noted that subjects with predominantly FT fiber composition in the vastus lateralis produced 11%, 16%, 23% and 47% more torque than subjects with predominantly slow twitch (ST) fibers as isokinetic velocity increased from 115°/sec to 200°/sec to 287°/sec to 400°/sec. The correlation between %FT and torque increased from .44 to .75 across these velocities. Ivy, *et al.* (18) found that subjects classified as predominantly FT demonstrated significantly greater peak power, rate of power production and work at velocities of 120°, 180°, 240°,

and 300°/sec as compared to the group classified as predominantly ST. Gregor and co-workers (14) concluded the rate of decline in power production as velocity increased was greatest in distance runners and least in sprinters. Thorstensson, *et al.* (36) found that the group studied with the lowest %FT fibers (orienteers) had the lowest torque production at the highest speed tested. They concluded %FT fibers is important for force production during high speed contraction. Thorstensson, *et al.* (34), Thorstensson and Karlsson (35) and Tesch *et al.* (33) all confirm these results.

In the research literature these findings are virtually uncontested. However, in the lay press they have been questioned. Pipes and Wilmore (30) published a study in the research literature concluding that high speed isokinetic training produced significantly greater strength gains than low speed training. The conclusions were challenged based on the data and Pipes (31) retracted the study in the lay press, admitting the conclusions are not supported by his data. He further suggested that since it could not be supported that high speed conditioning caused significant strength gains, that the opposite conclusion was therefore proven, that low speed, high intensity exercise was the best modality. In contrast to the data above dealing with %FT fibers and strength at high isokinetic speeds, Kalas (19) has stated in the coaching literature that there is simply no difference in fiber type functionally, and in fact, fast flying birds have red breast muscles and white leg muscles. However, there are at least three major fiber types in humans (6,15,33) and animals, including fast-twitch red. Kalas' article (19) has also been reprinted as a part of an advertisement for an equipment manufacturer specializing in weight trainer machines that the manufacturer states are only to be used at slow contraction speeds.

## Methods

This study was begun in the 1976-77 school year and continued to the present. All incoming athletes, freshmen and transfers, male and female, in all sports at Michigan State University were routinely tested on an isokinetic dynamometer (Cybex II-Lumex, New York) as part of the preseason physical examination. Quadriceps and hamstrings torque were obtained at angular velocities of 60°/sec, 180°/sec for the entire study (n=1519) and at 300°/sec commencing with the 1979-80 school year (n=602). Testing was administered by the athletic trainer assigned to the sport. All trainers had been familiarized with the dynamometer in advance. All subjects were

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Mr. Rankin is completing his doctorate at Michigan State University and Mr. Thompson is the Head Athletic Trainer at Michigan State University, East Lansing, MI 48824.

seated, upright, and restrained at the waist and thigh. They were allowed to warm up from one to three contractions and then were tested. Torques were recorded on a stripchart recorder and interpreted with a standard nomogram provided by Lumex. The score was the highest sustained peak over five contractions. Verbal coaching was done at all times. Body weight and knee/thigh injury history were also recorded.

Data was card-coded and fed through a CDC 6500 computer utilizing the SPSS program (26). Data was analyzed by the ONEWAY subprogram by sport. Any significant variables were then tested by the Duncan New Multiple Range (DMRT) procedure ( $p < .05$ ). DMRT subset values are indicated on Figures 1 thru 9 where there is statistical significance between sport. Additionally, data was also analyzed by the BREAKDOWN subprogram by sex by sport.

## Results and Discussion

Figures 1 thru 9 represent quadriceps to body weight ratio (Q/BW), hamstring to body weight ratio (H/BW), and hamstrings to quadriceps ratio (H/Q) for 60°/sec, 180°/sec and 300°/sec. ANOVA of the differences between sports is presented as Table I. It was expected that there would be significant differences between sports for all variables at all test velocities, however, the hamstrings/quadriceps ratio at 300°/sec was not significant. Perhaps the differences in sample sizes between 300°/sec ( $n=602$ ) and the other two groups ( $n=1519$ ) have some bearing on the results, although this seems unlikely. Possibly a better explanation would be fatigue, since the 300°/sec velocity was always tested last of the three velocities. Systematic measurement error is also a possibility.

## Quadriceps to Body Weight Ratios

Quadriceps to body weight ratios are seen as Figures 1 (60°/sec), 2 (180°/sec) and 3 (300°/sec). Comparison with data already in the literature is limited to two sports, soccer and football (1,8). Agre and Baxter (1) found quadriceps to body weight ratios for college soccer players at an unspecified isokinetic velocity to be 0.96 for the right leg and 1.02 for the left leg. While slightly greater than the value reported in the present study at 60°/sec (.92), the results of the DMRT show their value to be within the subset continuing .92, thereby showing no significant difference. Davies and co-workers (9), in a study of 91 professional football players, found at 45°/sec that Q/BW ratios differed by a position with a high of 1.13 in defensive linemen and a low of .94 in offensive linemen (overall  $\bar{x} = 1.07$ ). At 300°/sec they found the low group was offensive linemen at .30 (overall  $\bar{x} = .35$ ). The present

FIGURE 1  
RATIO OF AVERAGE QUADRICEPS STRENGTH TO BODY WEIGHT  
60°/SECOND (VALUES ARE MEAN ± S.D.)

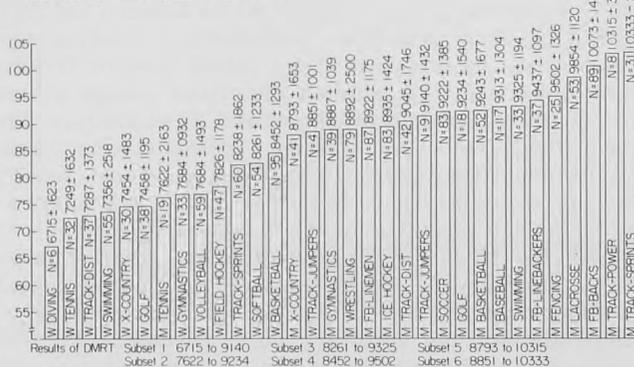


FIGURE 2  
RATIO OF AVERAGE QUADRICEPS STRENGTH TO BODY WEIGHT  
180°/SECOND (VALUES ARE MEAN ± S.D.)

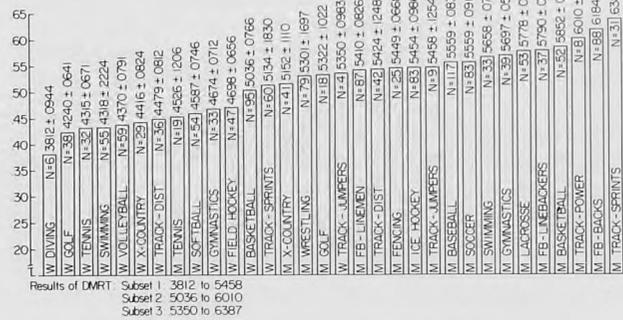


FIGURE 3  
RATIO OF AVERAGE QUADRICEPS STRENGTH TO BODY WEIGHT  
300°/SECOND (VALUES ARE MEAN ± S.D.)



FIGURE 4  
RATIO OF AVERAGE HAMSTRINGS STRENGTH TO BODY WEIGHT  
60°/SECOND (VALUES ARE MEAN ± S.D.)

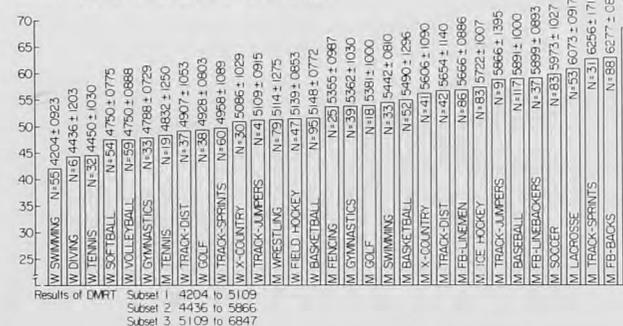


FIGURE 5  
RATIO OF AVERAGE HAMSTRING STRENGTH TO BODY WEIGHT  
180°/SECOND (VALUES ARE MEAN ± S.D.)

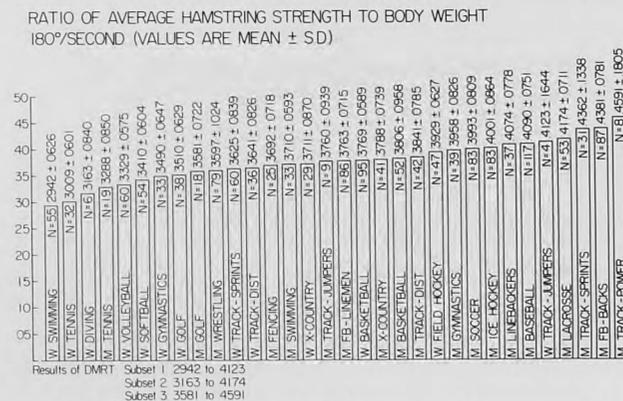


FIGURE 6  
RATIO OF AVERAGE HAMSTRINGS STRENGTH TO BODY WEIGHT  
300°/SECOND (VALUES ARE MEAN ± S.D.)



FIGURE 7  
RATIO OF AVERAGE HAMSTRINGS TO AVERAGE QUADRICEPS  
60°/SECOND (VALUES ARE MEAN ± S.D.)

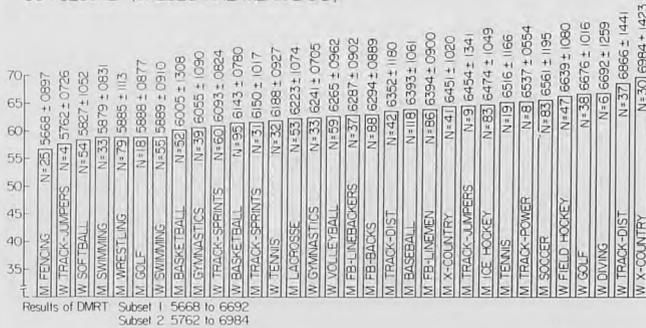
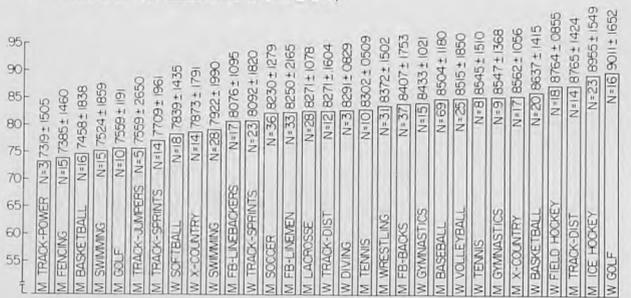


FIGURE 8  
RATIO OF AVERAGE HAMSTRINGS TO AVERAGE QUADRICEPS  
180°/SECOND (VALUES ARE MEAN ± S.D.)



FIGURE 9  
RATIO OF AVERAGE HAMSTRINGS TO AVERAGE QUADRICEPS  
300°/SECOND (VALUES ARE MEAN ± S.D.)



study, primarily on college freshmen showed a lower mean for linemen (offensive and defensive were grouped together in the present study) at both velocities.

### Hamstrings to Body Weight Ratios

Hamstrings to body weight ratios are seen as figures 4 (60°/sec, 5 (180°/sec) and 6 (300°/sec). Agre and Baxter (1) found hamstrings to body weight ratios at an unspecified velocity to be 0.60 for the right leg and 0.61 for the left leg in college soccer players. This is very comparable to the data presented in the present study at 60°/sec where the mean is 0.597. Davies and co-workers (9) demonstrated at 45°/sec H/BW differed similarly to Q/BW ratios with defensive linemen again high at .74 and offensive linemen low at .57 (overall  $\bar{x}$  = .65). At 300°/sec they showed a low of .25 for defensive linemen (overall  $\bar{x}$  = .30). This data is in agreement with the present study at 60°/sec, but is somewhat higher at 300°/sec.

Other investigators (3,5,29) have attempted to relate hamstrings and/or quadriceps torque to body weight to see if body weight would enable prediction of torque or if there were sexual differences. Beam, *et al.* (3) found high correlation ( $p < .001$ ) between quadriceps torque and body weight at 60°/sec, 180°/sec and 300°/sec in undefined "athletes". Parker and co-workers (29), however, found correlations between body weight and right quadriceps ( $r = .68$ ), left quadriceps ( $r = .74$ ), right hamstrings ( $r = .56$ ) and left hamstrings ( $r = .55$ ) to be low enough that use of body weight as a measure of quadriceps and hamstrings torque could be liable to considerable error. Present data shows significant differences between sports and supports Parker's conclusions. Christensen (5), using cable tensiometer data, compared leg strength to body weight and found a significant difference between males and females.

### Hamstrings to Quadriceps Ratios

Hamstrings to quadriceps ratios are presented as figures 7 (60°/sec), 8 (180°/sec) and 9 (300°/sec). There is much greater discussion in the literature of this variable (4,9,12,13,21,23,27,29,37). Parker and co-workers (29) studied 84 high school football players at an unspecified velocity on an isokinetic dynamometer and found H/Q ratios of 0.56 and 0.57 for the left and right legs, respectively. Davies, *et al.* (9) found H/Q ratios of 60.9 at 45°/sec and 80.4 at 300°/sec in their study of professional football players. Wilkerson and co-workers (37) found H/Q ratios of .714 at 30°/sec and 1.53 at 300°/sec in 13 elite marathon runners. Goslin and Charteris (13) studied 60 untrained men and women at 30°/sec and found a H/Q ratio of .44. That study was an attempt to set some norms for quadriceps and hamstrings strength. The authors concluded they could not set a norm based on a standard score for H/Q ratio as the values at the top and bottom of the scale would be pathological, not extremes or normal. Gilliam, *et al.* (12) studied high school football players at 30°/sec and found a H/Q ratio of .65 for linemen and .59 for backs and receivers. They concluded the flexor/extensor ratio varies by position in high school football. Osternig and co-workers (27) studied undefined college athletes and found ratios of .57 at 50°/sec and .77 at 400°/sec. They concluded that at speeds approximating actual performance the H/Q ratio was closer to unity. At these speeds it seems the hamstrings can exert a greater proportion of their strength than can the quadriceps.

Burkett (4), in a study of professional football players and high school sprinters using cable tensiometer (isometric), data found H/Q ratios for the football players .5053 and for the sprinters .6555. Liemohn (23) found sprinters and jumpers tested isometrically had H/Q ratios of .578 and .591 for the right and left legs, respectively.

Laird (21) testing soccer players on a universal knee machine at 1RM found H/Q ratios of .524 and .516 for the right and left leg respectively.

Data from the present study showed football players to have H/Q ratios of .6287, .6294 and .6394 for linebackers, backs and linemen respectively at 60°/sec. This confirms previous data and reinforces the conclusion of Gilliam, *et al.* (12) that the ratio varies by position. Track distance runners had H/Q ratios of .6352 at 60°/sec and .8765 at 300°/sec. These data follow the trend of Wilkerson, *et al.* (37), but perhaps the better quality runners they tested influenced the differences. Data taken across all sports at the three speeds supports the conclusion of Osternig, *et al.* (27) that at higher speeds the hamstrings exert proportionally greater force. Data also support the

**Table 1**

ANOVA of the differences between sports for Q/BW, H/BW and H/Q

	SPEED	MEAN	F	P
Q/BW	300°/sec	.28	3.31	.0001
	180°/sec	.52	13.17	.0001
	60°/sec	.87	12.77	.0001
H/BW	300°/sec	.23	3.92	.0001
	180°/sec	.38	8.75	.0001
	60°/sec	.54	12.99	.0001
H/Q	300°/sec	.83	1.29	NS (.1372)
	180°/sec	.73	6.84	.0001
	60°/sec	.63	3.39	.0001

**Table 2**

ANOVA of the differences between means of all males and all females

	SPEED	MEAN	F	P
Q/BW	300°/sec	M .2958 F .2607	21.26	.0001
	180°/sec	M .5598 F .4673	240.55	.0001
	60°/sec	M .9262 F .7897	241.53	.0001
H/BW	300°/sec	M .2398 F .2132	23.98	.0001
	180°/sec	M .3948 F .3499	105.54	.0001
	60°/sec	M .5736 F .4832	254.85	.0001
H/Q	300°/sec	M .8247 F .8329	0.37	NS
	180°/sec	M .7116 F .7630	62.77	.0001
	60°/sec	M .6264 F .6225	0.44	NS

**Table 3**

Rank order correlations for sport

	60°/sec • 180°/sec	60°/sec • 300°/sec	180°/sec • 300°/sec
Q/BW	.99	.97	.98
H/BW	.99	.96	.98
H/Q	.93	.89	.91

contention of other investigators (14,18,34,36) concerning speed of contraction and force output. While at 60°/sec female sprinters were near the bottom of the Q/BW ratios, at 300°/sec they were near the top while male sprinters were consistently at the top.

Christensen (5) had hypothesized that while gross strength values between males and females were obviously different, if body weight was factored out they might not be different. The present study began with similar expectations, however, they were not confirmed, as at all speeds in Q/BW and H/BW ratios there were significant differences between males and females (table 2). Similarly it was expected that there would be no significant difference in the H/Q ratios, rather the differences would be between endurance activities and speed and power activities. This was confirmed at 60°/sec and 300°/sec but, surprisingly, at 180°/sec there is a significant difference between male and female.

Finally, it was of interest to see what the rank order correlations between sports at different speeds were. It was assumed the correlations should be high because of the relationship between sport and power or endurance. This was confirmed (table 3).

### Summary and Conclusions

Normative data has been presented, by sport, for isokinetic evaluation at velocities of 60°/sec, 180°/sec and 300°/sec for incoming athletes (freshmen and transfers). Data tends to support the data found in the literature regarding Q/BW and H/BW ratios. Data suggests that Klein's absolutes (20) are subject to revisions based on sport and speed of contraction. Statistically significant DMRT subsets delineate which sports are different from each other. It is hoped this study will continue to expand its data base on which these norms are set.

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# Exercise-Induced Asthma and the Athlete: A Review For the Athletic Trainer

Patricia A. Aronson, ATC

**B**ronchial asthma has limited the physical activity of many asthmatic children and adolescents. Over-protective parents, overcautious physical educators, and misinformed teachers have contributed to this limitation (4,9,20). Asthmatic children may restrict themselves from activity if previously experienced distress has created fear and anxiety toward exercise (14,20). This is a medical-sociological consideration expressed by Linquist and Ahmad who state that children or young adults with EIA (exercise-induced asthma) should not be discouraged by parents or physicians from participating in sports and athletic events because of a past history of EIA, as the condition, once recognized, is often easily preventable with a proper prophylactic therapeutic program (16). The issue of asthma and exercise poses three considerations: (1) the ways in which parents, teachers, and coaches can be informed on the factors involved in EIA, (2) how an asthmatic attack is recognized, and (3) what can be done to aid a child during an attack. These three considerations will be the focus of this report on the implications of exercise-induced bronchial asthma to the athletic trainer.

## Athletic Trainers: Be Aware of Asthma

Bronchial asthma is a prevalent respiratory disease (4,5,9,14). It is the most chronic disease affecting children and it is approximated that 3% of children aged 6-16 years of age have asthma (9). The onset occurs before the age of 15 in 80% of male asthmatics and 40% of female asthmatics (4). Too many of these children are restricted from physical activity. This can be remedied by information sessions and programs conducted by school health personnel and/or the athletic trainer. By developing training sessions for parents and their children, teachers, and coaches, athletic trainers can educate those who directly affect asthmatics (that is, those who limit or restrict essential physical activity). This requires the trainer to be aware of and review the mechanics, symptoms, causes, and prevention of exercise-induced asthma as well as the treatment and care of the asthmatic child or adolescent.

Secondly, the athletic trainer should be informed on these asthma-related issues because many asthmatic adolescents do not allow this condition to restrict their activity in physical education classes or athletics (14). For many, medication controls their disease and reduces EIA incidents. Thirdly, some asthmatics are unaware of their condition because the manifestations of the disease have never presented themselves. In other words, they have never experienced a symptomatic attack. Trainers, especially those at the junior and senior high school setting, must be aware of the possibility of late-onset asthma.

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*Ms. Aronson is an Athletic Trainer at the Federal Law Enforcement Training Center at Glynco, Georgia 31520.*

## BRONCHIAL ASTHMA

Bronchial asthma is subdivided into two categories: the extrinsic type and the intrinsic type. Extrinsic asthma, which is more prevalent in children and adolescents, is caused by an allergen such as dust, air pollution, pollen, specific foods, and, of particular interest to athletic trainers, exercise (4,5,13,19). Intrinsic asthma, which is more chronic and continuous in middleaged adults, has no determined cause. The asthmatic with extrinsic asthma usually will have a personal or family history of asthma. Those with intrinsic or late-onset asthma, often will not present a history of their condition (4,5,19). Once initiated, the asthmatic attack will continue with the same mechanical effects to the respiratory system where it is of the extrinsic or the intrinsic type of asthma.

## Mechanics

According to Stedman (21), the specific mechanical result of a bronchial asthma attack is a widespread narrowing of airways in the lungs. The narrowing is due in varying degrees to contraction (spasm) of smooth muscle, edema of the mucosa, and mucus in the lumen of the bronchi and bronchioles. This narrowing occurs for short periods of time either spontaneously or as a result of treatment. These changes are caused by the local release of spasmogens and vasoactive substances (that is, histamine or the slow-reacting substances of anaphylaxis) in the course of an allergic process. The described spasms of the smooth muscle lining the bronchi are an obstruction to the exchange of air and results in overinflation of the lungs and incomplete expiration. This mechanical reaction in the lungs produces the symptoms commonly experienced in an asthmatic attack.

## Symptoms

Incomplete expiration will create an audible, low pitched, wheeze and labored breathing, the two most common and frequently occurring symptoms of an asthmatic attack. These two symptoms can be accompanied by chest pain, rhoncus heard over the chest and at the mouth, and breathlessness and coughing due to increased mucus production.

Severe attacks compound these symptoms: a stridor (a harsh, high pitched sound) may be heard if the larynx is in spasm, wheezing may stop if constriction is severe (4,5) and choking may be caused by sputum discharge (22). Complications are also created if a respiratory tract infection is present at the onset of an attack (4,14). The inability to maintain the adequate oxygen level in circulation can lead to cyanosis. Anxiety or emotional stress during an attack can lead to further hyperventilation (4,16,20). Tachycardia is a dangerous complication of severe attacks (4,13). All of these symptoms will cause fatigue during and after the attack.

## EXERCISE-INDUCED ASTHMA (EIA)

### Mechanics

The two most discussed inducers of asthmatic attacks are allergens and exercise (17). Allergens affect only some asthmatics while EIA is a potential factor in all asthmatics whether they have the extrinsic or the intrinsic type of asthma (14,17). While the effects of allergens on the pulmonary mechanics are well established, the mechanical effects on the pulmonary system caused by exercise are still unsubstantiated and controversial theories (4,5,7,16,17,19). The mechanical changes in the bronchi are the same for both types of asthma but their cause is still in question.

### Symptoms

The symptoms specific to EIA usually occur after eight minutes of continuous exertion and within five minutes after completion of the exercise (4,5,16). Allergen-induced asthma will have a later reaction in the patient than EIA attacks (6). While breathlessness is a common occurrence during exercise, it is mild and constant in the healthy athlete. Breathlessness will be severe in the asthmatic both before and after exercise (16). An asthmatic will suffer chest pain or tightness with labored breathing. Wheezing will be audible. The posture of the athlete suffering from an attack will be a visible sign since sitting or leaning forward with fixed shoulders will aid the thoracic muscles in respiration. Another sign that athletic trainers can easily detect is the obvious protrusion of the veins in the neck and the heart pounding as the victim's heart rate increases (5,10-12).

With severe attacks, other difficulties can inhibit the athlete. Fractured ribs and respiratory complications may result from violent traumatic attacks. The chronic asthmatic child may experience stunted growth from frequent and severe attacks (4,5).

### First Aid

Parents, teachers, coaches, and athletic trainers should be aware of the emergency treatment for asthmatic attacks. Grant (10) offers the following instructions for the first-aider: asthmatic patients under a physician's care know what to do when an attack occurs. Thus, the EMT or athletic trainer should assist the patient in following his own instructions. The patient is helped in assuming a comfortable position, usually a seated or semi-seated position is best. Then help in taking whatever medication has been prescribed for the asthmatic is given. This will usually be an inhalant, pills, or a syrup. Administer oxygen if the patient is cyanotic. Comfort and reassurance for the patient is always recommended since tension and apprehension only worsen the asthmatic's condition.

Hafen (11) adds that keeping the victim warm, administering cough syrup to control the cough, and protecting the patient from emotional excitement will also be helpful first aid. Oxygen is available at many athletic events and should be administered to the athlete through the attack. In every case, it is emphasized that resting and calming the athlete is the essential treatment.

Not all asthmatics are under a physician's care. The late-onset type of asthma may become symptomatic at any time. For this reason, an asthmatic athlete's first attack may be in the athletic setting and physical educators, coaches, and athletic trainers must be aware of first aid treatments to help the athlete through this stressful and anxious experience.

### Prevention

Avoiding exercise is a preventative measure taken by

many asthmatics. Exercise does not have to be avoided. Recently it has been proven to aid asthmatics in the reduction of attacks occurring in their every day activities (18). There are many preventative measures that EIA sufferers can employ aside from the abstention from exercise.

The cause of an asthmatic attack will suggest its prevention. If a specific allergy induces attacks, then the antigen is to be avoided. In the sports realm this may indicate that swimming should be avoided if chlorine initiates attacks, or avoiding dusty and smokey areas (22). Since EIA is usually initiated after eight minutes of exertion, frequent rest periods during intermittent activities will be a preventative measure (11,21). Avoiding exercise when fatigued and/or ill is a preventative measure. Medication taken before activity has proven to be very effective in preventing EIA attacks. Selner summarizes that each asthmatic child must pick his activities carefully, avoiding those that easily provoke significant wheezing episodes. Asthmatics must recognize their own individual tolerance and limit for exercise, pace themselves properly, and rest when necessary (20).

Picking their activities suggests that certain sports induce EIA attacks more than other activities. Intermittent sports such as baseball, softball, ice hockey, sprints, and golf are less likely to affect an asthmatic. Endurance sports such as jogging, rowing, tennis, and soccer will predispose many asthmatics to an attack (1,8,14,16). Sports such as football, field hockey, and basketball vary in required aerobic activity according to the situation and position being played and will have varied affects.

Free running has the highest incidence of EIA while swimming has very few incidences. A theory becoming popular applies the temperature and humidity effects on the bronchi to explain the incidence factors in exercising (1-3,18). Cold air has an adverse effect on asthmatics during exercise. Due to variations in temperature and humidity in outdoor endurance sports, EIA attacks are more frequent in these conditions. Swimming, however, presents a warm and humid environment and is less likely to trigger an attack. Avoiding cold, dry, outdoor air is a common preventative measure. Many asthmatic runners and skiers have found that using a surgical mask or face covering (2,8,15) will prevent cold air from reaching the bronchi and triggering a reaction. The athletic trainer's kit should include a large bandanna or cloth to aid an EIA-susceptible athlete who is exposed to cold weather events.

### A Review of Medications

It is important for athletic trainers to be aware of medications that their athletes may be taking during their season of participation. Reviewing the effects of medications should be a routine practice for all trainers. It is common for asthmatics under a physician's care to use preventative medication. This may be in pill or aerosol form. Many pharmacological agents are not approved under doping tests (3,18). These are not common concerns for the athletic trainer in the high school setting but may be for the college trainer.

An asthmatic athlete's family physician will prescribe the patient's medication. However, the athletic trainer can administer an over-the-counter aerosol to a suffering athlete or aid the athlete who is under medication to take the medication. It is recommended that an aerosol approved by the team physician is carried in the athletic trainer's kit.

### Summary

Bronchial asthma is prevalent among children and adolescents, but the fear of EIA should not limit their

physical activity. Teachers, coaches, parents, and affected patients need to be aware of the pertinent information for the safety of the young asthmatic athlete. The athletic trainer in the junior and senior high school setting, in conjunction with the school's physician and health department, can provide this information.

Many asthmatics are participating in athletics today and may experience an EIA attack during activity. A background knowledge in the mechanics of bronchial disease, along with frequent reviewing of the signs and symptoms elicited during an attack, will aid the trainer in helping the athlete assist himself through the experience. Only by being aware of and reviewing the preventative measures, treatments, and other pertinent issues can the athletic trainer advise and aid the asthmatic athlete.

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# Exercise-Induced Anaphylaxis

Nancy E. Scott ATC, MED

**E**xercise-induced anaphylaxis is a relatively obscure cause of dyspnea in athletes. It is a life-threatening physical allergy whose only consistent causative factor is exercise. Athletes at any level of fitness can be susceptible to this malady, which is characterized by generalized urticaria (hives), pruritis (itching), and the threat of airway obstruction (10). This paper will attempt to clarify the physiology of exercise-induced anaphylaxis, describe the sequelae of the attack, define the disorder in terms of other types of exercise-induced dyspnea and prescribe treatment with specific relevance to on-the-field management by the sports medicine staff.

## Pathophysiology

In lay terms, exercise-induced anaphylaxis is referred to as "allergy to exercise" (1). It is similar, in systemic reaction, to other types of anaphylactic shock caused by insect sting and food. The difference lies in the cause. The insect sting/food allergy anaphylaxis is caused by antigen introduction into the body. However, in exercise-induced anaphylaxis, no known antigen is introduced into the body to cause the systemic reaction (10). Both types of anaphylaxis cause the release of cell mediators such as histamine and slow-reacting substance of anaphylaxis (SRS-A) from lung tissue (6). Histamine, found in most cells and basophils, causes vasodilation, constriction of bronchioles and increased capillary permeability (5). SRS-A is thought to be released from mast cells and basophils as well. It stimulates contraction of smooth muscle in bronchioles (5,6). These reactions cause generalized anaphylactic shock. Research by Sheffer and Austen (10) reveals normal ranges of immunoglobulin, blood chemistries and relevant proteins. Also, IgE antibody concentrations, often associated with non-exercise-induced anaphylactic syndromes, are normal. Therefore, no specific antigen has been found and the exact mechanism of this syndrome is unknown.

## Sequelae

Sheffer and Austen (10), in their study of sixteen athletes ages twelve to fifty-four with this condition, have defined the symptomology and sequelae of exercise-induced anaphylaxis. The entire group exercised regularly; fourteen exercised daily, one exercised three times a week and the other athlete exercised once weekly. Reactions were caused by a variety of activities; including tennis, dancing, sprinting, jogging, basketball, and soccer.

There are four stages of the anaphylactic reaction. The *prodromal* stage is characterized by erythematous (red) skin, pruritis, body warmth and fatigue (10). A female intercollegiate lacrosse player, not in the Sheffer and Austen study, described this stage as an aura, giving her warning of the impending attack (2). If activity is

interrupted at this stage, a full anaphylactic reaction may be avoided. In the *early* stage, generalized urticaria and pruritis are prominent (10). Urticaria are elevated, pruritic skin lesions (7) approximately one centimeter in diameter (10). The *full* stage is the major phase of the attack, characterized by a variety of symptoms, "in decreasing frequency, generalized itching, hives and giant hives, cutaneous angioedema, collapse, choking with respiratory distress, gastrointestinal colic, headaches, and wheezing" (10). Urticaria is recognized as the most important symptom. Sheffer and Austen (10) explain that hives often progress to angioedema, defined as a swelling of tissues deeper than urticaria and with less symmetry (7). Angioedema was found most commonly on the face, palms of the hands and soles of the feet. These first three stages lasted from thirty minutes to four hours. The *recovery* stage consisted of headaches for the next two to three days (10).

The frequency and timing of attacks is unpredictable. As mentioned, not every athletic endeavor produces an anaphylactic reaction. No single variable associated with the activity has been linked to the episodes. Sheffer and Austen (10) found few predisposing agents held in common by all sixteen cases, despite skin tests and detailed history taking. One common finding was a family history of atopy. Also, fifty percent of the subjects stated that the condition was more pronounced in the summer months. In summary, the basic progression of symptomology was similar among attacks and individuals. The sequelae was also similar to other types of anaphylaxis. The only consistent variable among the sixteen cases was exercise.

## Differential Diagnosis

The general topic of exercise-induced allergies and similar problems is a controversial one because the causes of many of the syndromes are not fully understood. Other causes of exercise-induced dyspnea are exercise-induced asthma and exercise-induced cholinergic urticaria. Exercise-induced asthma differs from exercise-induced anaphylaxis in a few ways. Asthma does not produce a true anaphylactic reaction. Second, wheezing is the dominant characteristic of asthma and asthma lacks the "muco-cutaneous" manifestations that are the main features of exercise-induced anaphylaxis (10). Exercise-induced cholinergic urticaria is an allergy producing wheals and, rarely, fainting, gastrointestinal pain and wheezing (10). It occurs not only after athletic endeavors but also in response to baths and showers and is associated with fever. Sheffer and Austen (10) believe that this syndrome differs from exercise-induced anaphylaxis in three ways. Wheals, rather than hives, are major manifestations. Second, none of the athletes in their study experienced problems with baths or showers. Third, very few people with cholinergic urticaria experience syncope, unlike most of those with exercise-induced anaphylaxis. There is, however, an overlap of

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Ms. Scott is currently the assistant athletic trainer for women at The College of William and Mary in Williamsburg, VA. 23185

symptoms within these two maladies. Controversy still exists as to whether these two allergies are indeed separate or are two varieties of one syndrome. However, Siegel (11) believes that the occurrence of facial edema and syncope simultaneously are the key diagnostic signs of exercise-induced anaphylaxis. Because of the threat of airway compromise, exercise-induced anaphylaxis must be regarded as an important syndrome in its own right.

### Treatment

No matter what the cause, systemic anaphylaxis is a medical emergency. The chief dangers of exercise-induced anaphylaxis are similar to other types of anaphylaxis (10). Closure of the airway due to edema has not been documented as a cause of death in this syndrome, although the potential for it certainly exists. Hypotension is also a danger if untreated (10). The administration of epinephrine is the treatment of choice (9). Epinephrine reverses the cardiovascular and pulmonary responses of the attack by combating bronchial constriction and hypotension. It also causes an increase in levels of cyclic AMP, which may inhibit the release of histamine and SRS-A (6). Kelly and Patterson (5) state that with less severe reactions, subcutaneous epinephrine will cause prompt relief. If the symptoms are advanced and blood pressure is low, epinephrine administered intramuscularly is the treatment of choice. Usually a dosage of 0.3 to 0.5 ml is sufficient for adults (0.01 for children) (11). Skin lesions may be quickly relieved with the administration of antihistamine (10).

At the initial attack, the athlete will not know what is happening to his/her body. He/she will probably ignore the prodromal signs and will continue to exercise until respiratory distress or severe pruritis forces the athlete to the sidelines. Prompt recognition of the symptoms will enable the athletic trainer to send for the rescue squad or transport the athlete to the nearest hospital. During the interim, the trainer should ask the athlete to sit or lie down, whichever better facilitates breathing. The trainer must anticipate syncope at all times and follow procedures to prevent shock. If the athlete becomes unconscious, the trainer's major responsibility is the maintenance of a patent airway. Manual methods will not prevent edema from occluding the airway, but the trainer should use the head tilt/neck lift or the head tilt/chin lift to aid breathing as much as possible. An oral airway may be inserted to keep the tongue from causing additional obstruction. The athlete must be completely unconscious or the oral airway will initiate a gag reflex. Rescue breathing may be required. Another responsibility is the prevention of shock. Maintenance of normal body temperature is vital since many of those with the syndrome reported more problems in the summer months. The trainer should treat the elevation of body temperature by removing the athlete from direct sun exposure and offering cold, wet towels and cool drinks. Elevation of the lower extremities will also help prevent shock. If the athlete complains of gastrointestinal upset, be prepared to turn his head to the side to help clear vomitus from the airway. Vital signs must be monitored during the entire episode. Heart rate and blood pressure are especially important as they will aid the trainer in determining the status of shock. A weakening and quickening of the heart rate and a drop in blood pressure indicate a turn for the worse. Transport to the nearest hospital is a vital necessity, as epinephrine is needed to reverse the attack (3).

The management of the athlete already diagnosed as having exercise-induced anaphylaxis is based on a cooperative team effort between the athlete, the parents, the attending physician, the team physician and the athletic trainer. The key member of this team is the

athlete, who must be informed of the risks involved and must initiate the treatment by quick reaction to prodromal manifestations. In all likelihood, the athlete will carry an epinephrine syringe kit with him/her at all times and will be able to self-administer the drug in times of crisis (7). Open discussion between the attending physician, the team physician and the athletic trainer is required to develop emergency management protocol. It would be wise for the athletic trainer to carry a spare kit in the training bag. The trainer should learn how to prepare the syringe in case the athlete becomes unconscious before he/she can self-administer or in the situation where the athlete is conscious but unable to control fine motor movements due to involuntary shaking (8). Some states do not allow the athletic trainer to administer the shot directly (4). The trainer is advised to check with the physician in this regard.

### Return to Activity

It has been suggested that an athlete should not resume activity following epinephrine injection until the next day's practice. If an attack was mild and did not require injection, an athlete may return after a rest period. The specific criteria for return will vary with each athlete; therefore, the trainer is advised to consult with the attending physician (4). After an initial attack, the athlete should not return until a complete analysis by an allergist is done. Decisions regarding the return of a chronic sufferer require an honest dialogue between the athlete and athletic trainer.

### Prevention

The obvious preventive measure is to limit or cease physical activity. Since this is usually disagreeable to the athlete, the physician should suggest decreasing the level and intensity of activity at the first prodromal signs to ward off the full attack (10). The athlete should avoid any variables which have precipitated previous attacks. The athletic trainer can also help by reinforcing this awareness. Prompt management of the prodromal stage by the athlete, with the aid of the athletic trainer, can prevent serious, life threatening situations.

### Summary

1. Although rare, exercise-induced anaphylaxis is a potentially deadly syndrome, affecting athletes of all calibers.
2. No specific antigen-like substance has been identified as a cause of exercise-induced anaphylaxis. The development of the response is similar to other types of anaphylaxis.
3. Exercise-induced anaphylaxis progresses through a fairly consistent sequelae with a myriad of symptoms and signs. The prominent characteristic is urticaria.
4. The occurrence of attacks is unpredictable. Attacks do not occur at every exercise endeavor.
5. Anaphylaxis is a medical emergency. Prompt airway maintenance, prevention of shock and administration of epinephrine are vital.
6. The management of the allergic athlete requires a cooperative team effort composed of the athlete, the parents, the attending and team physicians and the athletic trainer.
7. Further research is needed to clarify the causes and possible preventative measures for the syndrome and related allergies.

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*continued on page 123*

# A Critical Review of Ankle Taping

Gregory R. Metcalf, ATC, MEd  
Craig R. Denegar, ATC, MEd

**I**njuries to the ankle joint are prevalent in athletics, accounting for ten percent of all sports injuries (9). The most common injury is an inversion sprain in which the foot rolls onto the lateral border, putting stress on the three lateral ligaments (10). The mechanism of injury is the motion of excessive supination, a combination of plantarflexion, inversion, and forefoot adduction (2).

Ankle taping as a prophylactic measure to prevent injury to the lateral ligaments has been widely practiced in athletics for many years. Theoretically, ankle taping accentuates the static ligamentous stability of the joint. Excessive supination may be restricted by taping the ankle in a pronated position, combining dorsiflexion, eversion, and forefoot abduction (2). Therefore taping may be valuable in preventing acute and chronic ankle sprains.

During the past two decades, the practice of ankle taping has been experimentally analyzed to verify the validity of the tape's functional support and preventive value. This paper intends to examine the practice through a review of the literature, examining possible benefits of taping including support, restricted motion and injury prevention, in addition to possible disadvantages such as performance loss, increased injury and expense. This paper is offered for athletic trainers and related sports medicine personnel who are interested in evaluating their current taping philosophy.

## Review of Literature

Ankle taping has been analyzed according to method of application and functional support, the effect on motor performance, and the tape's protective and preventive capabilities.

There are numerous studies investigating the appropriate taping techniques for providing support and restricting excessive range of motion (4,7,15,16,20). The majority of studies have examined the conventional methods of taping and wrapping such as open and closed basketweave, basketweave with heel locks and/or stirrups, and the Louisiana wrap.

Rarick et al (19) used five male subjects and concluded a basketweave technique, with both heel locks and stirrups, provides the greatest support. However, after ten minutes of vigorous exercise the tape had lost up to 40 percent of its restrictive quality.

Glick (12) used radiologic techniques and found a basketweave method held the talus firmly in the ankle mortise for no more than twenty minutes of exercise. Glick also observed that during subject's gait, the tape had a stimulating effect on the peroneus brevis muscle, causing the everter to remain contracted for a longer period of time.

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*Mr. Metcalf is an athletic trainer/science teacher at John Randolph Tucker High School in Richmond, VA. Mr. Denegar is the Head Athletic Trainer at Virginia Military Institute in Lexington, VA 24450.*

Malina (16) analyzed three strapping methods and concluded the basketweave technique with both heel locks and stirrups, applied directly to the skin, provided the greatest support. However, all techniques lost much of restrictive strength after five minutes of standard exercise. Delacerda (5) determined the effects of pre-tape base on restricting ankle motion and found both gauze and foam prewrap superior to direct skin application in reducing ankle supination. Libera (15) compared post-exercise support of cloth wrapping, two types of adhesive taping, and no tape, and found basketweave taping with heel locks superior in retaining support.

The actual method of applying conventional taping techniques has also been evaluated (4,7). Davies (4) has suggested that a lateral to medial pull of the heel locks in the basketweave technique may inadvertently invert the foot, placing it closer to the mechanism of injury. He cautioned trainers to apply the heel locks of any method with a medial to lateral force to slightly evert the foot away from the sprain mechanism. Felder (7) emphasized that the stirrups of a standard taping technique be applied with a medial to lateral torque, placing the taped ankle in a slightly everted-pronated position. Laughman (14) argued the value of athletic tape was in its resistance to stretch, its tensile strength, and not its adhesive quality. He reasoned this tensile strength restricted the excessive motions associated with lateral sprains.

The effects of ankle taping on performance has been examined by several different authors resulting in markedly different conclusions. Van Dam (23) used elastic and non-elastic tape and concluded neither had a detrimental effect on performance of agility runs, vertical jumps, or horizontal long jumps. Juvenal (13) found individuals jumped higher vertically without tape, and higher with elastic than adhesive tape. Mayhew (17) observed no difference between taped and untaped performance on agility tests, but found taping significantly reduced powerful plantarflexion. Abdenour et al (1) found taping affected only inversion torque and range of motion, and concluded taping did not impair the functional and total strength of the joint.

Numerous authors have investigated the beneficial and detrimental effects of prophylactic ankle taping. Simon (2) found little experimental support for the practice of protective taping, and observed no difference between cloth wrapping and adhesive taping in preventive ankle injury. Emerick (6) cited the expense of the trainer's time and budget and questioned the overall value of preventive taping.

Ferguson (8), in a thorough attack on the practice of prophylactic taping, stated the tape loosens immediately upon exercise, rendering its protective value useless. He argued taping over the skin provides little support due to the sliding of the skin's soft tissue surface. Ferguson expressed concern that taping would restrict the subtalar joint from acting as a safety valve in preventing injuries

to the knee. Additionally, he stated ankle taping would result in decreased strength of the lower leg muscles.

McCluskey and Blackburn (18) refuted portions of Ferguson's work, stating the loosening of the taper would permit subtalar joint motion to act as a safety valve. They emphasized ankle taping would prevent the extreme motions associated with lateral sprains. The authors advocated a thorough conditioning program and increasing achilles tendon flexibility as a means of preventing ankle sprains (18,24).

Garrick and Requa (11) found taped intramural basketball players had markedly lower injury rates than non-taped players. They found no increase in knee injuries in taped players, and recommended the use of high topped shoes in addition to ankle taping to prevent acute injury. Laughman et al (14) used kinematics and electrogoniometers to analyze the effects of exercise on a standard basketweave-heel lock-stirrup technique. The authors concluded ankle taping was effective in preventing motions associated with inversion sprains.

The suggestion that ankle taping predisposes the knee to injury has been evaluated by several authors. Wells (25), in a broad survey of college athletes, found no increase in knee injuries due to taping. Collins and Wells (3) studied the effects of ankle taping upon the strength decrement (fatigue) of the knee flexors and extensors. No relationship was established between taping, fatigue, and possible knee injury.

#### Discussion

The literature review reveals that properly applied adhesive tape enhances the functional support of the joint (1,6,11,12,14,15,16,19). Evidence exists that ankle taping restricts the motions associated with inversion sprains (1,12,14,19). The amount of support and protection offered by ankle taping is determined by the taping technique and the resiliency of the tape itself. The majority of studies indicate the basketweave technique with combination heel locks and stirrups is the most effective method in preventing extreme range of motion and providing support (1,4,15,19).

Regardless of the technique used, the effectiveness of the tape is in its tensile strength and not its tensile ability (14). Consequently, taping provides support and protection in relation to the tape's resistance to stretch. As the tape stretches or loosens with exercise, the amount of support and protection diminishes (12,16,19). However, diminished support is markedly better than no support at all and may prevent the extreme ranges of motion associated with lateral sprains (1,11,14,18,24).

The tape's tensile ability highlights the importance of the correct application of the tape (4,7) and the additional importance of the position of the pre-taped foot. To restrict the sprain motion of excessive supination, the foot should be positioned and taped into slight pronation (3,4,7).

The effects of ankle taping upon performance is difficult to assess due to the variety of experimental findings. The majority of studies have shown motor performance and functional joint strength are not adversely affected by taping (1,13,17,23). However, there is evidence that taping may limit powerful plantarflexion, a finding that has implications in training for a basketball team (13,17). Additionally, it is possible taping has a proprioceptive value in that the tape may induce a kinesthetic response which protects the ankle through dynamic stabilization (12,20).

There is no experimental support of increased injury due to protective taping. Ferguson's arguments that taping may leave the knee susceptible to injury and weaken the lower leg muscles have not been sub-

stantiated and have been refuted by numerous authors (3,6,11,15,25). As Ryan pointed out in 1969, there is still no evidence that taping harms the athlete (21). In fact, it has been demonstrated that ankle taping decreases the likelihood of acute ankle sprains (11).

There is a surprising lack of research analyzing the costs and benefits of protective taping (6,24). It appears that the protective and per-cost benefits are greatest when taping chronic or acutely injured as opposed to uninjured ankles (6,11,18). As McCluskey and Blackburn have suggested (18), a thorough conditioning/rehabilitation program may be more valuable and more cost effective in preventing ankle injury and reinjury than protective taping.

#### Conclusions

Athletic taping has definite value in supporting and protecting the second most injured joint, the ankle. Although conflicting evidence exists concerning ankle taping, it has been proven that taping restricts the motions associated with lateral sprains and decreases the likelihood of such sprains. Additionally, taping neither significantly hinders nor harms the taped athlete.

The use of protective taping on uninjured ankles is a matter of staff preference based on professional and budgetary considerations. The authors contend that taping is an effective adjunct to a sound conditioning or rehabilitation program in preventing ankle injury or reinjury.

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# Association Activities



David G. Yeo, DPE, ATC  
Montgomery County  
Community College

## District Two

Paul Slocum (Bloomsburg State College), President of the Pennsylvania Athletic Trainers Association, reported that on March 15, 1983, legislation was introduced in the State Senate allowing for certification of Athletic Trainers. The bill was signed by over twenty senators, and enjoys bipartisan support and endorsement from the Governor's Council on Physical Fitness and Sport, and the Committee on Sports Medicine. Joe Godek (West Chester State College) continues to lead this effort, and has developed the needed political action structure to work on behalf of the credentialing efforts.

Phil Donley (West Chester State College), Frank George (Brown University), Joe Gieck (University of Virginia), and Kathy Osborne (University of Florida) contributed to an article entitled "Delineating the Roles of the Sports Physical Therapist and the Athletic Trainer: Five Views," appearing in the September, 1982 issue of *Physical Therapy*.

Having the honor of speaking at this year's national convention of the American Alliance of Health, Physical Education, Recreation, and Dance in Minneapolis, were Marge Albohm (Sports Medicine and Joint Reconstructive Surgery, Inc., Indianapolis), William Buckley (Penn State), Susan Conley (Peoria, Illinois), Jane Sandusky (University of Wisconsin, Whitewater), and Antoinette Van DePutte (Yselta High School, El Paso).

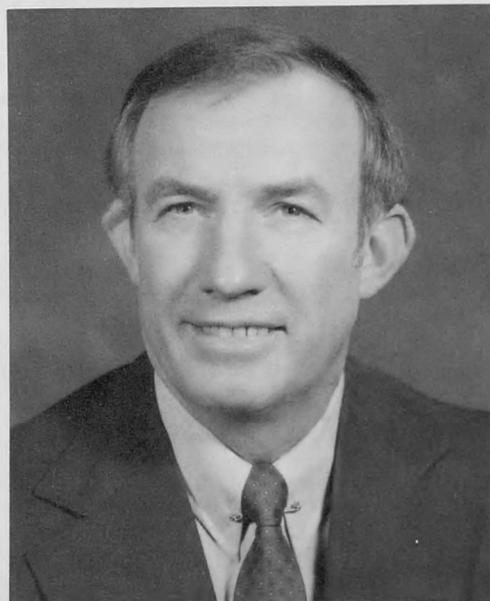
Stephen Black, president-elect of Massachusetts Chapter of Athletic Trainers, and co-owner of START (Sports Therapy for Athletic Rehabilitation and Treatment), Inc., Springfield, Massachusetts, has been invited by Cybex to join the faculty of their 1983 Isokinetics Seminar Series.

The James "Doc" Dodson family was selected from among 33 nominated families to receive the 1982 Midland Family of the Year Award, sponsored by The Church of Jesus Christ of Latter-Day Saints. Jim Dodson has been the athletic trainer at Midland High School for 24 years. During that time he has received many awards, including the 1972 Outstanding Young Man of Midland, the Outstanding High School Trainer in the United States for 1977 and 1980, and in 1972 he was the first high school trainer to go to the Olympics. He currently serves as the executive secretary for the Southwest Athletic Trainers

Association. "Doc" and his wife, Gayle, have two daughters, Kelly and Jamie.

## District Four

The new Michigan Athletic Trainer's Society Newsletter reflects the continual growth and development of one of NATA's influential state trainer's societies. The M.A.T.S. is headed by Lee Kermode (Born Sports Medicine Clinic, Grand Rapids) — President, Richard Rey (Hope College) — President-Elect, and Jeff Day (Greenville High School) — Secretary/Treasurer. The organization is active in licensure and state recognition of trainers, with the Legislative Committee chaired by Ken Kopke (Central Michigan University).



## DISTINGUISHED SERVICE AWARD GORDON STODDARD UNIVERSITY OF WISCONSIN

The University of Wisconsin's Head Athletic Trainer, Gordon Stoddard, is this year's recipient of the WHSFCA Distinguished Service Award. "Doc" Stoddard has been a friend of area football coaches for years with his help and expertise in Sports Medicine.

Mr. Stoddard - trainer, educator, and author has been at the University of Wisconsin since 1969. In addition to his training responsibilities, he is lecturer and supervisor of the Athletic Training area of concentration in the Physical Education Department. Before that he was Head Athletic Trainer and Assistant Professor at Central Michigan University.

He has been lecturer and clinician at many national, state, and area conferences, as well as authoring numerous publications in all areas of Sports Medicine. Research he initiated resulted in a national rules change regarding blocking below the waist. He organized the Wisconsin Athletic Trainer Association as well as the Big Ten Sports Medicine Association. He also developed the Madison Public Schools trainer program.

Among his many honors and awards are the Wisconsin Athletic Directors' Association's Distinguished Service Award and the Schering Corporation's Award for outstanding contributions to continuing education in Sports Medicine.

## History and Archives

Mike O'Shea, ATC  
University of Miami

In this issue of our Journal, we salute all NATA Hall of Fame Award Winners.

The following are some of the early Hall of Fame Award Winners. These people are why we have an outstanding



1964 Hall of Fame recipients in Palo Alto, California.



1966 Hall of Fame recipients. Left to right: William F. Linskey, Cambridge Schools, Massachusetts; Bill Ferrell, Univ. of Arkansas; Howard Waite, Univ. of Pittsburgh; Doc Johnson, Oklahoma State; Naseby Rhinehart, Univ. of Montana; Dutch Luchsinger, Mississippi State; George Sullivan, Chairman Hall of Fame, Univ. of Nebraska.

National Athletic Trainers Association today.

Let's not forget them, and let's all hope we can be like these athletic trainers.

A salute to all Hall of Fame Athletic Trainers!



1965 Hall of Fame recipients. Standing, left to right: Eddie Zanfrini, Princeton; Art Dickinson, Sr., Iowa State Teachers College; Lloyd Stein, Univ. of Minnesota; Walter Bakke, Univ. of Wisconsin. Seated, left to right: Frank Medina, Univ. of Texas; Whitey Gwynne, West Virginia; Jules Reichel, Syracuse; Eddie Wojceki, Rice Institute. Chicago, Illinois.



1967 Hall of Fame recipients. Left to right: Steve Witkowski, Wesleyan Univ., Connecticut; Whitey Gwynne, West Virginia Univ.; Bud Jorgensen, Green Bay Packers; Pinky Newell, Purdue Univ.; Mrs. Ernie Biggs; Ernie Biggs, Ohio State; Ken Rawlinson, Univ. of Oklahoma; Mrs. Ken Rawlinson.

## NEW MEXICO GETS LICENSURE

This picture shows an historic occasion as Governor Toney Anaya signs into law the New Mexico Licensure bill. Witnessing the signing are proponents (left to right) Abel McBride, Lobbyist for New Mexico Athletic Training Association; State Representative Mary Tucker, Sponsor of the bill; State Representative Henry Saavedra, Sponsor of the bill; L.F. "Tow" Diehm, Chairman New Mexico Athletic Training Association and Liaison for State Licensure; Larry Willock, President New Mexico Athletic Trainers Association. Other Committee Members who worked dilligently on the New Mexico law but were unavailable for the photographer were George Westbrook, New Mexico State University; Bob Moore, Las Cruces High School; Wayne Barger, Albuquerque Academy and Richard Gerrells, Albuquerque High School. +



# Management of Sexually Transmitted Diseases in Athletes

William E. Nelson, BS, REMTP

Frank C. McCue, III, MD

Robert L. Fritz, MD

James W. Stone, MD

Joe H. Gieck, EdD, ATC, RPT

**S**exually transmitted diseases (STDs) are prevalent in the United States (9). They involve one in twenty Americans (6). It is estimated that one teenager contracts gonorrhea or syphilis each minute (2). Men and women younger than twenty-five years of age have two-thirds of the more than one million cases of gonorrhea reported annually (5). Although syphilis accounts for less than one percent of teenage venereal disease, there are nearly four thousand cases reported yearly (5). Adolescents are thought to account for 25-50 percent of herpes genitalis cases (5). Clearly, many young Americans, athletes included, contract sexually transmitted diseases.

Team physicians and athletic trainers provide primary medical care for the athletes who have STDs. The players can approach these physicians and trainers without an appointment on the playing field and in the training room. However, convenience for the athletes is not the only reason that they are likely to turn to the team doctor and trainer for medical care of sexually transmitted diseases. Athletes are public figures, whether they play on high school, college, or professional teams. Many of them are conscious of the idealistic role that the spectators in society expect them to play. Therefore, they desire total confidentiality when they contract an STD. Because the athletes see the trainer or team physician daily in a non-medical setting, they develop a personal rapport that is unusual in other areas of medical practice. This relationship is such that the players often confide in the sports medicine staff when they suspect that they have an STD.

Team physicians and trainers are thus compelled to counsel athletes that may have STDs. Team physicians must be knowledgeable in diagnosis and current therapy. Herein we provide information necessary for diagnosis, treatment, and prevention of sexually transmitted diseases that are prevalent in adolescents and young adults, including athletes. The common STDs are gonorrhea, nongonococcal urethritis (NGU), herpes genitalis, and syphilis. We also briefly discuss salpingo-oophoritis (PID), nonilial vaginitis, trichomonas, pediculosis pubis, and scabies. Other less common STDs such as chancroid, granuloma inuinale, and lymphopathia venereum are beyond the scope of this paper.

In practice, diagnosis is based on history and physical examination. The history and physical should be done in

private, not in the center of the locker room. The athletes should be assured that their medical treatment is confidential. Examination of male athletes is easily done in a private office at the sports medicine clinic. However, physical exam of the female athlete should include a pelvic exam, which is more likely to be done in the student health, family practice, or gynecology clinics. Although examination may be deferred, team physicians and trainers should be familiar with symptoms and sequelae of STDs in women to assure appropriate referral, as well as effective counseling. Blood testing, routine urinalysis, appropriate culturing technique and gram staining, where appropriate, should be available and are usually sufficient for diagnostic verification.

## Gonorrhea

Gonorrhea, the most common venereal disease, is caused by *Neisseria gonorrhoea*. The infected male typically presents with a milky white or grossly purulent urethral discharge after three to five days of incubation. A female patient may complain of an increase of vaginal discharge. However this increase may not be noted, as the cervical os and canal have little sensitivity. An infected woman will often complain about UTI symptoms including increased frequency, urgency and pain with voiding, fever, and abdominal pain which may be noted in upper as well as lower quadrants. She may also exhibit a pustular rash with an erythematous base. Gun metal gray skin lesions may develop in the approximately three percent of infected athletes who become septic (4).

Diagnosis in the male is made principally on history and presence of often painful urethral discharge. The diagnosis should be confirmed with Grams' staining procedure, as not all "drip" or discharge is GC. Gram negative, bean shaped intra-cellular diplococci should be seen during microscopic examination of the discharge. Diagnostic confirmation for the female requires pelvic examination and a culture. Gram staining is insufficient because other gram negative diplococci may be present at the cervix. Men and women in whom gonorrhea is diagnosed should be tested for syphilis with the Venereal Disease Research Lab (VDRL) test and the Fluorescent Treponemal Antibody Absorbed (FTA-ABS) test if the VDRL is positive.

Current gonorrhea therapy must account for the increasing penicillin resistance of the organisms. Current recommendations are aqueous procaine penicillin G (APPG) 4.8 million units IM with 1 gram probenecid by mouth, tetracycline 500 mg by mouth four times per day for five days, amoxicillin 3 Gm by mouth one dose and

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*Mr. Nelson is Coordinator of Head Injury Research and an Instructor of Emergency Medical Care in the Division of Sports Medicine at the University of Virginia, Charlottesville, VA 22903. Other authors are associated with the same program.*

probenecid (4). Tetracycline is a useful medication as it reduces the incidence of post gonococcal urethritis in men and may eliminate chlamydial infections in men and women. Patients who are allergic to penicillin can be treated with 1 dose of spectinomycin 2 Gm intramuscularly or 1 dose of cefoxitin 2 Gm intramuscularly and probenecid 1 Gm by mouth.

Failure to recognize and treat gonorrhea in a female may result in extension to the fallopian tubes, scarring and subsequent sterility.

#### **Nongonococcal Urethritis (NGU)**

The male with NGU often complains of nonpainful, clear, scant but persistent discharge. On occasion, the discharge may grossly appear to be gonococcal. Many cases are seen after treatment of typical gonococcal urethritis. Usually the gonococcal discharge stops, then a few days later a watery discharge begins and may persist for up to 1 month without treatment. Diagnosis is made by examination of the exudate. Appearance of neisseria gonorrhoeae is indicative of GC recurrence. Absence of the gram negative intracellular diplococci is diagnostic for NGU. The appropriate treatment is tetracycline 500 mg orally 4 times per day for ten days. Erythromycin 500 mg orally 4 times daily may be used for those unable to take tetracycline.

#### **Syphilis**

Syphilis is named after the character of a latin poem written in 1530 by a Veronese physician and poet who was supposed to be the first patient with the disease (7). *Treponema pallidum* causes the greater than 50,000 new cases reported annually in the United States (9).

The disease has been described in three stages. The primary stage involves a five day to three week incubation period after entrance of the spirochete through a break in the skin. Following incubation a primary chancre develops. The ulcer may not be readily noticed if it appears on a poorly visible site, such as in the vagina or rectum.

The sports medicine staff can make the diagnosis of primary syphilis from history and physical exam. An early VDRL test may be negative and should be repeated four to five weeks after the appearance of the chancre, if there is doubt as to the diagnosis. The VDRL is not specific for syphilis. Therefore the FTA-ABS antibody specific test should be used for verification. A positive FTA-ABS test proves the diagnosis. It should be noted that screening tests result in 10 percent false positives due to connective tissue disease, viral infections such as the common cold, and immunizations such as measles and small pox (4). These false positives generally revert within a few weeks.

If the syphilis is not treated in the primary stage, it may proceed to the characteristic secondary stage. Greater than half the cases appear as a variable dermatologic rash at this stage. A red macular-papular rash that involves the palms of the hands or the soles of the feet should arouse considerable suspicion. Not many dermatologic conditions involved these areas of the skin. Secondary nummular lesions (coin shaped, round, flat disks) may also appear on the back. Secondary stage patients also exhibit low grade fever, sore throat, and adenopathy of the anterior cervical lymph node chains. These secondary signs may clear within a few weeks. Secondary syphilis can be diagnosed in all cases using VDRL and FTA-ABS if the VDRL is positive. If these tests are negative, the patient does not have secondary or latent syphilis (4).

The latent stage is interposed between the secondary and tertiary stages. During the latent phase there is an absence of clinical signs and symptoms, but positive serological tests are noted. The latent stage is divided into

two periods. The early latent period occurs within four years from the time of infection. Twenty-five percent of patients relapse into secondary syphilis and exhibit characteristic signs during this early latent phase (4). Late latency occurs after four years of infection.

The final stage is tertiary or late syphilis. It may appear years or decades after the primary and secondary stages, if they were not adequately treated. The patient in the final stage exhibits an immune response reaction to the spirochetes that are usually embedded in the blood vessel walls. Vasculitis may develop leading to aneurysms, CVSS, and organ damage. Meningitis and other brain disease may develop with neurosyphilis. The patients may exhibit pathologic signs ranging from foot slapping to dermentia paralytica, also known as general paralysis of the insane (GPI).

The treatment of choice for primary, secondary and early latent syphilis within one year of infection is benzathine penicillin 2.4 million units intramuscularly, 1 dose, or procaine penicillin G 600,000 units intramuscularly daily for 8 days. Athletes with penicillin allergies can be treated with erythromycin 500 mg or tetracycline 500 mg by mouth four times a day for 15 days.

Patients with late latent or tertiary syphilis are treated with benzathine penicillin 2.4 million units intramuscularly once a week for 3 weeks or erythromycin 500 mg or tetracycline 500 mg by mouth daily for 30 days. Patients with neurosyphilis are treated with procaine penicillin G 600,000 units daily for 14 days, or, if allergic to penicillin, erythromycin 500 mg or tetracycline 500 mg by mouth daily for 30 days.

Patients who are treated for syphilis in any stage may have a Jarisch-Herxheimer reaction. Fifty percent of patients with primary syphilis and 90 percent with secondary syphilis will develop a fever within two hours of treatment, which peaks in four to six hours (3). Reactive patients also have malaise, sore throat, myalgia, head ache, tachycardia, and shaking chills. The reaction which subsides within 24 hours should be treated with bed rest and aspirin. Treatment of the syphilis should not be interrupted.

Athletes who are treated for syphilis should have serial serological tests at 3, 6, and 12 months following treatment. Late latent and tertiary patients should also be retested at 24 months.

#### **Salpingo - oophoritis (Pelvic Inflammatory Disease)**

While some four percent PID is caused by *Neisseria gonorrhoea*, multiple synergistic microbes including chlamydia, streptococci and anaerobic bacteria are probably causative agents (4). The rare female athlete who presents with acute PID may walk in bent over complaining of severe lower abdominal pain. A 40°C temperature, lower abdominal pain and rebound tenderness will be noted on physical examination. Motion of the cervix during a pelvic exam will be painful. More commonly, the female with salpingo - oophoritis presents in the subacute or chronic state vague lower abdominal discomfort which may be the only complaint. The patients are frequently found to have a normal temperature. Findings of the physical exam include tenderness or mass in the adnexa and perhaps some discomfort with cervical movement. A variety of microbes may be cultured. However, the diagnosis is made by clinical assessment.

The tragic consequences associated with missed diagnosis and failure to treat nonacute pelvic inflammatory disease include scarring of the fallopian tubes and possible subsequent sterility. Thus the team physician should be suspicious when a female complains of a traumatic lower abdominal pain. Treatment should proceed even if culture fails to implicate a precise

causative organism.

Current treatment is tetracycline 500 mg by mouth 4 times per day for 10 days, or aqueous procaine penicillin G 4.8 million units intramuscularly followed by 1 gram probenecid and ampicillin 500 mg by mouth 4 times per day for 10 days. Tetracycline may be preferred due to its effectiveness against chlamydia. If the athlete has an intrauterine device, the IUD must be removed until the infection clears. Another IUD may be inserted three months later.

### Monilial Vaginitis

Monilial vaginitis is a yeast infection caused by *Candida albicans*. The organism is found on most skin and need not be transmitted sexually. A positive correlation between

perineum and vulva to reduce pruritus. The athlete should be counseled to avoid synthetic panties, panty hose, and tight fitting jeans which increase the incidence of candidiasis by trapping moisture at the vulva and perineum. Counseling may also be required to calm an upset athlete who erroneously believes that candidiasis must be sexually transmitted. Such a woman should be reassured that monilial vaginitis can be contracted asexually.

Topical Nystatin, Lotrimin or Monistat is effective in the treatment of males. An untreated male may reinfect the successfully treated woman. Use of a condom would inhibit transmission. However, the treatment of both partners is clearly preferred.

**Table 1**

**CURRENT RECOMMENDED TREATMENT FOR SEXUALLY TRANSMITTED DISEASES**

<p>Gonorrhea</p> <ul style="list-style-type: none"> <li>— Aqueous procaine penicillin G (APPG) 4.8 million units IM and Probenecid 1 Gm PO</li> <li>or — Tetracycline 500 mg PO QID 5 days</li> <li>or — Amoxicillin 3 Gm PO and Probenecid 1 Gm PO</li> <li>or — Ampicillin 3.5 Gm PO and Probenecid 1 Gm PO</li> <li>if athlete is penicillin allergic:               <ul style="list-style-type: none"> <li>— Spectinomycin 2 Gm IM and Probenecid 1 Gm PO</li> <li>or — Cefoxitin 2 Gm IM and Probenecid 1 Gm PO</li> </ul> </li> </ul> <p>Nongonococcal Urethritis</p> <ul style="list-style-type: none"> <li>— Tetracycline 500 mg PO QID 10 days</li> <li>or — Erythromycin 500 mg PO QID 10 days</li> </ul> <p>Syphilis</p> <p>(a) primary, secondary, early latent</p> <ul style="list-style-type: none"> <li>— Benzathine penicillin 2.4 million units IM 1 dose</li> <li>athletes with penicillin allergies:               <ul style="list-style-type: none"> <li>— Erythromycin 500 mg PO QID 15 days</li> <li>or — Tetracycline 500 mg PO QID 15 days</li> </ul> </li> </ul> <p>(b) late latent, tertiary</p> <ul style="list-style-type: none"> <li>— Benzathine penicillin 2.4 million units IM, weekly, 3 weeks</li> <li>or — Erythromycin 500 mg PO, daily, 30 days</li> <li>or — Tetracycline 500 mg PO, daily, 30 days</li> </ul> <p>(c) Neurosyphilis</p> <ul style="list-style-type: none"> <li>— Procaine penicillin G 600,000 units daily, 14 days</li> <li>if penicillin allergic:               <ul style="list-style-type: none"> <li>— Erythromycin 500 mg PO daily, 30 days</li> <li>or — Tetracycline 500 mg PO daily, 30 days</li> </ul> </li> </ul>	<p>(d) Jarisch-Herxheimer Reaction</p> <ul style="list-style-type: none"> <li>— Aspirin and bed rest</li> <li>Do not interrupt syphilis Rx</li> </ul> <p>Salpingo - oophoritis</p> <ul style="list-style-type: none"> <li>— Tetracycline 500 mg QID 10 days</li> <li>or — APPG 4.8 million units IM and Probenecid 19 m PO and Ampicillin 500 mg QID 10 days</li> <li>and — Remove IUD for 3 months</li> </ul> <p>Monilial Vaginitis</p> <ul style="list-style-type: none"> <li>— Nystatin vaginal suppositories BID, 10 days</li> <li>or — Monistat creme nightly, 7 nights</li> <li>or — Boric acid vaginal suppositories nightly for 14 days</li> <li>and — Topical mycostatin creme for pruritus</li> </ul> <p>Trichomonias</p> <ul style="list-style-type: none"> <li>— Metronidazole (Flagyl) 250 mg PO TID, 7 days</li> <li>or — Metronidazole (Flagyl) 2 gm PO once</li> </ul> <p>Pediculosis Pubis</p> <ul style="list-style-type: none"> <li>— Gama benzene hexachloride shampoo (Kwell)</li> <li>— Betadine and neosporin for secondary infection</li> </ul> <p>Herpes Genitalis</p> <ul style="list-style-type: none"> <li>— Condom to decrease transmission</li> <li>Benzocaine or lidocaine ointment for pain</li> <li>Betadine douche for vaginal or cervical lesions</li> </ul> <p>Scabies</p> <ul style="list-style-type: none"> <li>— Gama benzene hexachloride shampoo (Kwell)</li> </ul>
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the use of birth control pills and monilial vaginitis has been established (4). It seems likely that after vaginal chemistry is altered by the pill, an opportunistic endogenous infection results. Most patients present with an easily recognized white vaginal discharge that appears like cottage cheese. They may or may not complain of itching. Microscope examination of the discharge shows budding yeast and mycelia in a 10 percent potassium hydroxide slide preparation.

Nystatin vaginal suppositories, two times per day for 10 days may be prescribed. Less expensive intravaginal gelatin capsules containing 600 mg boric acid powder may be used nightly for two weeks (8). Alternatively, Monistat or Gyne-Lotrimin creme nightly for seven nights may be used. Mycostatin creme may be applied topically to the

### Trichomoniasis

Trichomoniasis is caused by *Trichomonas vaginatis*. The infected female presents with persistent vaginitis, complaining of itching, burning and a foamy discharge. The infected male may present with urethral inflammation and discharge, but he will commonly be asymptomatic. Diagnosis is made by examination of vaginal or urethral secretions of a urine sample for the protozoan. The treatment of choice is oral metronidazole (Flagyl) either 250 mg three times daily for 7 days or one 2 gm dose. Concurrent treatment of sexual partners is indicated. Patients should be warned not to consume alcohol during treatment and 24 hours thereafter because of metronidazole's antabuse-like effect.

### Pediculosis Pubis

Pediculosis Pubis is caused by *Phthirus pubis* — the pubic or crab louse. The athlete's chief complaint will usually be pubic itching. Examination of the pubic hair with a magnifying glass will reveal the lice. An adult louse produces about three nits or egg cases during the month it lives. The nits are deposited at the base of the hairs and are affixed with a secretion which make removal by bathing virtually impossible. The nits and lice may be found in axillary, body, and facial hair, as well as on the eyelashes, but rarely in scalp hair.

Treatment consists of a liberal application of gamma benzene hexachloride (Kwell) shampoo — lather hairy area and leave on for five minutes, then wash off. Retreatment is seldom necessary. Clothing and bedding must be washed. Combs and brushes should be heated in 66°C water for 10 minutes or treated with two percent Lysol solution for one hour. The louse bite and scratching by the patient results in lesions that may result in secondary infections including impetigo. These infections should be treated with antibacterial soaps and topical antibiotic ointments.

### Herpes Genitalis

Team physicians and athletic trainers are all familiar with herpes simplex type I virus that presents as "fever blisters." Unfortunately, many wrestlers and coaches are plagued by this virus. The virus that causes genital herpes is *Herpesvirus hominis*, herpes simplex type II. Type II vesicles, like the type I lesions tend to be recurrent. The venereal blisters usually appear in the genital area, frequently on the penile shaft of men, on the labia and vulva or on the cervix in women. The blisters are painful, with the exception of cervical lesions.

Diagnosis is made by examination of the typical lesions. Tenderness and swelling of the inguinal lymph nodes are frequently noted during the exam. There is presently no cure for herpes genitalis. Sexually active athletes should be educated to use condoms to avoid transmission of the virus. Those who contact the virus should clean the involved areas scrupulously to prevent secondary infection. Betadine douches may be used by women with vaginal or cervical lesions. Symptomatic relief for men and women may be provided by topical benzocaine or lidocaine.

### Scabies

Scabies is caused by the burrowing *Sarcoptes scabiei*. These mites are transmitted by close bodily contact. The female burrows into the superficial epidermis and lays two or three eggs daily for one or two months. Sensitization occurs about one month after infection. A popular reaction is noted frequently on the hands in the web areas between the fingers and wrists and may be seen in the groin, on the penis and buttocks. Infected patients will complain of severe itching which tends to increase at night. Diagnosis is made by identification of the characteristic burrows followed by examination of scrapings from these lesions. Appearance of adults, larvae or eggs is diagnostic.

Infected athletes should be treated with Gamma benzene hexachloride (Kwell shampoo). Antihistamines may be indicated for pruritis.

### STD Prevention

Athletes, indeed all adolescents and young adults, should be educated about sexually transmitted diseases. They should know that these diseases are endemic in their age group. They should also know that condoms are the birth control method of choice for sexually active athletes

who have multiple partners (1). Condoms inhibit the transmission of STD pathogens and, properly used, are an effective means of birth control. Male and female athletes should be reminded that condoms can be purchased without a prescription at drug stores.

### Conclusion

Athletes rely on team physicians and trainers for medical care. This care encompasses problems not directly associated with athletic injury, including sexually transmitted diseases. Team physicians and trainers must recognize the signs and symptoms of the diseases and be familiar with current therapy. Trainers should refer athletes with STD symptoms to team physicians. Further, they should be prepared to educate athletes in prevention and reduction of sexually transmitted diseases.

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# THE DIABETIC ATHLETE

Kathleen Kenna, ATC, MEd

## Introduction

**D**iabetic athletes are a special class of individuals. Any diabetic must maintain a delicate balance between food intake, exercise, and insulin dosage. Athletic activity places an added stress to the body. The diabetic has to adjust the diet and insulin dosage to meet the change in metabolic demands. The diabetic must be especially aware of the body's signals to avoid the serious physiological imbalance produced by hyperglycemic and hypoglycemic states. The athlete, treating physician and the athletic trainer can work together to maintain the control of the diabetic condition.

## Definition of Diabetes

Diabetes mellitus is characterized by a relative or absolute deficiency of insulin which affects carbohydrate metabolism. There are two major classifications of diabetes. Type I or insulin-dependent diabetes usually appears by the age of twenty. The type I condition usually occurs abruptly. The individual is prone to ketosis and must take insulin to prevent this pathology and preserve life. Clinical symptoms include polyuria (excessive urination), polydipsia (excessive thirst), weight loss, lack of energy, rapid fatigue, hyperglycemia (high blood sugar), and glycosuria (glucose in the urine). The type II or non-insulin dependent diabetic is usually over forty years of age. The deficiency of insulin is not severe, thus insulin therapy is usually not required. The disease can usually be controlled by diet. This type of diabetes is often associated with obesity. (1, 2)



*Ms. Kenna is presently in Physical Therapy School at the Medical College of Virginia.*

## Functions of Insulin

Insulin is a polypeptide composed of fifty-one amino acids. The hormone is normally produced in the beta cells of the islets of Langerhans in the pancreas and is secreted into the blood stream where it is transported throughout the body. Insulin is catabolized by the liver, kidney, and muscle tissue. The amount of insulin secreted seems to be dependent upon the blood glucose level and demand for glucose by the tissue. (3)

Insulin facilitates the absorption of glucose and amino acids into the tissues by altering the permeability of cell membranes. Insulin increases glycogen storage in the muscle and the liver. Excess insulin causes the liver to absorb glucose from the blood. The glucose is converted to glycogen and is stored in muscle tissue or the liver. In the absence of insulin, the liver releases glucose into the blood stream. Insulin also plays a role in fat metabolism. The presence of insulin promotes fat storage. A lack of insulin causes fat to release free fatty acids which further inhibits cellular glucose utilization and leads to an increased production of ketone bodies. (4) Insulin also affects protein metabolism by increasing active transport across cell membranes, accelerating ribosome activity, and increasing the quantities of RNA available for synthesis. (5) Insulin insufficiency can lead to protein deficiency and severe weight loss. The smell of acetone, a by-product of protein metabolism, may be on the person's breath. (1)

A diabetic suffers from three major effects of insulin deficiency. The person has a decreased utilization of glucose which causes the blood sugar level to increase. The mobilization of fats is greatly increased. Protein manufacture is decreased and protein is used as an energy source. As a result, protein is not replaced. Diabetes poses a threat of metabolic acidosis due to increased amounts of acidic waste products of elevated fat and protein metabolism. The person suffers from a loss of sodium to allow for the excretion of acidic wastes. The sodium loss further affects the acid-base balance of the body. (5)

## Treatment and Management of Diabetes

Fortunately, the diabetic can regulate blood sugar levels to become either asymptomatic or normoglycemic by taking synthetic insulin in balance with diet and activity. The dosage required to control the diabetes depends on the severity of the deficiency, age, body size, and the type of insulin needed. Initial requirements are determined by clinical trial under careful observation. Many

types of insulin exist. They can act within hours or over the course of a day. The insulin can be derived from a variety of animal sources. Since oral administration destroys insulin, a subcutaneous injection is the route of entrance into the body. The administration of insulin is established to act in harmony with the ingestion of meals. Type II diabetes can be treated orally with drugs that stimulate secretion of endogenous insulin.

The most important aspect of the treatment is the education of the diabetic as to the management and treatment of the disease. Diabetes is a life-long condition and physician's orders must be followed in order to minimize later complications. Prodromal symptoms of hypoglycemia and hyperglycemia should be recognized and learned to be acted upon accordingly. Cleanliness and foot care are to be stressed in order to avoid infection and associated sequelae of the disease. The diabetic should keep daily records of insulin dosage and monitor urine glucose levels. Activity should not be strenuous during the time of peak activity of the insulin taken in order to avoid hypoglycemia. The diabetic should always carry a quick source of carbohydrate to be used in the event of hypoglycemic symptoms. (5)

The diet of the diabetic is altered before insulin therapy begins. The diabetic loses the ability to adjust the amount of insulin secreted and produced in response to the intake of carbohydrates. The type I diabetic eats regular meals that are timed with the action of insulin after therapy has begun. A meal should never be missed. Several small meals may yield better control of the diabetes than three large meals. The type II diabetic is usually on a hypocaloric diet to achieve ideal body weight, then is placed on a maintenance program.

The diet and insulin dosage are adjusted depending on the activity of the diabetic. Greater caloric intake is required in response to added activity with a decrease in insulin dosage. Other conditions that alter insulin dosage are changes in metabolic needs, physical and psychological stress, and the administration of other drugs. If the balance of diet, activity and insulin is not maintained, the consequences can be fatal. (3)

Hypoglycemia or low blood sugar is due to an overabundance of insulin usually in combination with insufficient food. The person can experience hunger, faintness, excessive sweating, nausea, tremors, double vision, and muscular weakness. There is a minimal amount of glucose or ketones in the urine. The onset is sudden, usually within hours. The pulse is full and bounding. Convulsions may occur if the insulin shock is prolonged. Recovery is rapid with the administration of sugar. (2)

Hyperglycemia is a more dangerous condition. Food intake is ample or excessive, but insulin levels are low. The skin is dry and flushed. The condition is usually preceded by an illness that alters insulin demand. The mouth is dry and there is severe thirst. The patient suffers abdominal cramps, vomiting, and nausea. The person looks very ill. Respiration is forceful and irregular, as if struggling to inspire enough air. There is usually the smell of acetone on the person's breath. Diabetic coma develops over the course of several days. Blood pressure is low and the pulse is rapid and weak. The eyeballs appear soft and vision is dimmed. A large amount of glucose and ketones are present in the urine. Insulin must be administered immediately along with water and electrolyte replacement. The response to treatment is slow because of the seriousness of the metabolic acidosis. (2)

Other adverse reactions that the diabetic and the athletic trainer must be aware of may occur with insulin therapy. The person may be allergic to the type of insulin used. The reaction may be local as evidenced by erythema at the site of injection or systemic where symptoms would

include nausea, vomiting, and hives. This problem can usually be alleviated by switching to insulin made from another animal source. Alterations in the drug's effectiveness occur depending on the patient's physiological, behavioral, and nutritional status. (6) Insulin may counteract the effects of other hormones. (1) Toxicity affects the nervous system. The condition can be recognized by the presence of hunger, faintness, sweating, tremors, weakness, nausea, and possibly loss of consciousness. (3) The fat tissue at the site of injection may atrophy or hypertrophy, so alternating sites of injection is suggested. (1)

The use of glucocorticosteroids, oral contraceptives, oral diuretics, and amphetamines will induce or aggravate hyperglycemia and make the diabetic condition worse. Hypoglycemia may be caused by the intake of alcohol, phenylbutazone, salicylates, and sulfonamides used to treat urinary tract infections. The adverse interaction of these drugs is more pronounced in the type II diabetic. (1)

The drug interactions and adverse reactions of insulin are very, very important to know in athletic training situations. The trainer and the athlete must learn to recognize the onset of symptoms that are associated with these problems. The effects of alcohol intake on diabetes can be reduced with an adequate intake of carbohydrate. Phenylbutazone and salicylates are used to treat many musculo-skeletal conditions. In order to avoid any adverse reactions, the trainer should not provide aspirin or any other drug to the diabetic athlete. The physician and trainer must exercise caution when treating a diabetic athlete.

#### **Current Trends in Treatment and Research**

Several newer methods of treatment of diabetes mellitus are being tested. The major areas of research involve the use of insulin pumps, biosynthetic human insulin (BHI), and transplants of the islets of Langerhans or pancreas. Although these methods are not in as widespread use as the conventional insulin therapy, studies reveal promising indications for future use. (7, 8, 9, 10) The continuous control of insulin levels offers a closer approximation of normal metabolism associated with non-diabetic individuals. (7, 11) Researchers speculate that the better control may reduce, postpone, or actually eliminate many of the complications of the disease. (12) However, long term studies need to be conducted to investigate the possibility.

The new trend in diabetic management is the use of subcutaneously implanted devices that release insulin at a controlled rate. There are two basic kinds of insulin infusion pumps. The open loop device is preprogrammed to release a low basal level of insulin constantly with a greater rate beginning 30 minutes prior to a scheduled meal time. The closed loop device is also known as an artificial beta cell. The unit is composed of a glucose sensor, insulin pump, power pack, and a mini computer. The monitoring of blood glucose levels provides feedback for the computer for controlled insulin release in response to body demands. (7, 12, 13)

The use of implants for insulin delivery has several advantages. The danger of infection is reduced. The implant is protected from trauma by the overlying tissue, thus, allowing greater activity. Finally, the patient acceptance is favorable, which effects the psychological implications of the disease. Disadvantages of this treatment method include the requirement of surgical implantation of the device and failsafe safety mechanisms. The implants themselves must feature reliability, a long battery life, variable delivery rates, small size and weight, biocompatibility, and an adequate insulin reservoir and

delivery system. (13)

Another area of research is in the study of biosynthetic human insulin. The insulin is bacterially produced by genetically engineered recombinant DNA. The initial indications are good in comparison with insulins already in use. The allergic reactions to insulins of animal sources are eliminated. Future research needs to be done to determine the amount of glycemic control and the pharmacological aspects of its use. (8, 14)

Artificial pancreas units are being used in hospitals, but are very costly. (15) Transplants of the islets of Langerhans from an immature donor (9) or of fetal pancreas (10) into selected diabetics are meeting limited success. There are problems of donor rejection that need to be understood. (15, 16) Research in this area is progressing rapidly.

### Effects of Exercise

The effects of exercise on a diabetic depends upon the metabolic state, the intensity and duration of exercise, and the severity of the diabetes and its control. (17) Someone on oral drugs has reactions to exercise that parallel those of a normal individual. High intensity exercise will increase blood glucose utilization and stimulate glycogenolysis. Exercise of moderate intensity causes a decrease in blood glucose and endogenous insulin production due to muscle metabolism. Endurance activity increases cellular sensitivity to insulin. The exercise helps overcome insulin resistance of type II diabetes and increases glucose tolerance. (18) Insulin dependent diabetics encounter the threat of hypoglycemia due to accelerated absorption of blood glucose and a decrease in glucose production. (17)

In the event of hyperglycemia during exercise, the mobilization of free fatty acids is inhibited. Free fatty acids will become a major source of energy after thirty minutes of endurance activity. There is an increase in the demand for glucose and glycogen stores. Due to these factors, a diabetic marathon runner is more likely to "hit the wall."

If hypoglycemia is experienced during activity, insulin dosage should be reduced or carbohydrate intake increased. The rate of insulin absorption is increased by exercise. (1) Exercise should not be performed during the peak effect of insulin injections because glucose is being removed rapidly from the bloodstream. The increased demand of exercise can lead to hypoglycemia. (19) When glucose is being transported out of the bloodstream, glucose release by the liver is retarded and free fatty acids are not mobilized as quickly. (20) Physical training may increase insulin sensitivity and decrease insulin requirements of type I diabetes in well-controlled patients. For poorly regulated cases, exercise may intensify symptoms. (21)

The athlete must monitor sugar concentration in the urine and recognize signs of glucose imbalance. Activity is to be stopped at the onset of symptoms. A regular training program should be instituted with specific days for heavy and light training. With a regular regimen, insulin dosage and diet can be adjusted accordingly. Studies have indicated that the site of injection is important with regards to exercise and the propensity toward hypoglycemia. (22, 23) If the injection is administered in a muscle group that is being actively exercised, the absorption rate of the insulin is accelerated. This phenomenon may explain the mechanism of exercise-induced hypoglycemia. (22) Alternate sites of injection are the abdomen, because of the comparatively lower metabolic rate, and the gluteal area, because the fat pads slow down the rate of absorption. (23)

The athlete must realize that nervous tension may

cause symptoms of insulin reaction. The tendency is to counteract the signs by ingesting carbohydrates. However, the consumption of food can lead to hyperglycemia. Instead of eating, the athlete should not exercise until urine glucose levels are within normal limits.

Training reduces the tendency toward ketosis. (24) Triglycerides in the blood are reduced if the athlete runs four to eight miles a day. Diabetics have low levels of high density lipoproteins. These blood lipids seem to reduce the risk of coronary heart disease, arteriosclerosis, and atherosclerosis. Thus, the diabetic is at a greater risk of cardiovascular disease than the general population. High density lipoproteins can be increased by training and weight reduction. Training enhances free fatty acid mobilization due to increased enzyme activity. (4)

During long bouts of exercise, the diabetic should consume a dilute isotonic glucose and water solution every fifteen to twenty minutes. The water prevents heat exhaustion and facilitates gastric emptying. The sugar prevents hypoglycemia. The drink should be taken in the absence or presence of symptoms. Carbohydrate loading is not recommended due to the tendency of abnormal glucose metabolism. The diabetic athlete should alternate heavy and light training with supplemental carbohydrates to meet the extra caloric demand. The pre-competition meal should be low fat, low protein, and high carbohydrate taken three to four hours prior to competition. A small carbohydrate supplement should be ingested after the event to prevent delayed hypoglycemia. (22, 24)

### Conclusion

Diabetes mellitus treatment and management is unique for every individual. The athlete must maintain a critical balance between diet, insulin, and activity. The athlete must let the coach, trainer, and teammates know the extent of the condition. The athlete must heed the signs and symptoms of hypoglycemia and hyperglycemia. Without proper management, diabetes is a very damaging disease.

The athletic trainer can take part in monitoring the diabetic. The trainer must be aware of the signs and symptoms of insulin shock and diabetic coma in order to perform appropriate first aid measures. Treatment for either condition must be prompt. The trainer should also carry a supply of carbohydrates for the athlete when present during contests and practice sessions. The athlete and trainer can work together to help control the diabetic condition, all the while following the physician's orders.

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## Book Reviews

### Professional Preparation In Athletic Training

Edited by Gerald W. Bell  
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*Professional Preparation in Athletic Training* is a collection of 25 papers presented at three different National Athletic Trainers Association Professional Preparation Conferences. Major topics in the field of Athletic Training and Sports Medicine are presented by current authorities in Athletic Training and Sports Medicine in four separate parts.

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"Preventing Athletic Injuries through Health and Fitness" is the topic for discussion in Part Three. Topics such as Strength Training and Nutrition are given attention in this section.

In the final section, Part Four, topics of Liability and Management are discussed.

*Professional Preparation in Athletic Training* is a valuable collection of pertinent topics in Athletic Training and Sports Medicine and would greatly benefit anyone involved in Sports Medicine or Athletic Training. +

Kathleen A. Fox

### Hand Pain and Impairment

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*Hand Pain and Impairment* provides thorough discussion and illustration of evaluation of the hand.

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The final chapters contain topics such as "The Spastic Hand," "Hand Burns," "Infection and Vascular Impairment of the Hand," and "Splinting of the Hand."

*Hand Pain and Impairment* is an excellent reference book for Athletic Trainers and professionals working in Sports Medicine. As mentioned, this book is not directly related to Sports Medicine, but does provide extensive information essential to evaluation and treatment of the injured hand. +

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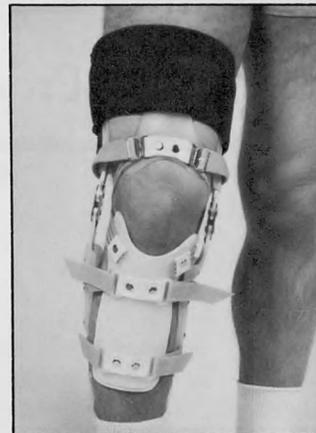
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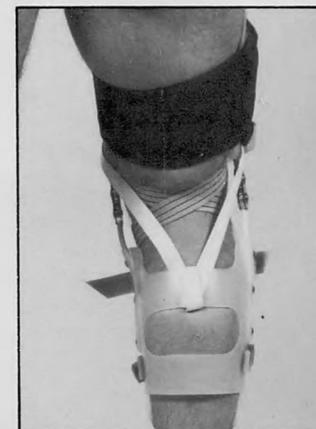
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## Portable, Moist Heat Application

Michael Harland, MS, ATC

Every athletic trainer has the problem of taking modalities on the road or getting an athlete to treat himself/herself at home on weekends or during vacations.

A clean, easy and economical way to use moist heat while away from the training room is to use an electric heating pad and a wet towel. The heating pad must have a waterproof covering and be free of other electrical defects to prevent the chance of electric shock (Figure 1).

### The Procedure to Apply

Wet a small towel with hot water, the hotter the water, the faster the desired effect will be reached. Wring the towel out just enough so the water will not drip on the athlete. Place the wet towel on the athlete (Figure 2). Place the heating pad on the wet towel (Figure 3) and then cover with a dry towel (Figure 4). The dry towel will keep the moisture and heat from escaping into the air and direct more heat toward the skin. It will also help keep the wet towel from drying out. Some heating pads come with a pad made for wetting to be used with the heating pad.

Plug the heating pad in and set the temperature to the desired setting. Every heating pad will be different so it may be to the athlete's advantage to let the athlete control the temperature (Figure 5).

### Conclusions

When moist heat is needed away from the training room or if a trainer does not have a moist heat modality, an electric heating pad with a wet towel will do a good job. It is important to use a waterproof heating pad and carefully monitor the temperature.

*It is felt that this technique should only be attempted with a U.I.L. listed waterproof heating pad. It is also recommended that in a clinical setting, the pad be plugged into an electrical circuit protected by a G.F.I. (Ground Fault Interrupter). +*

Editor

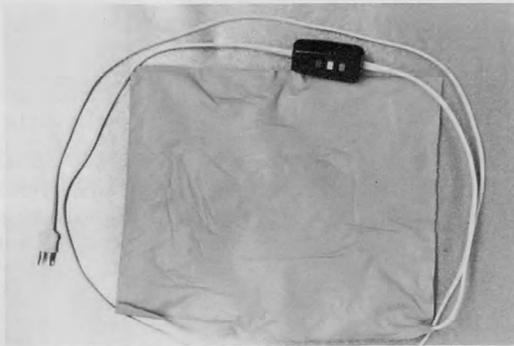


Figure 1

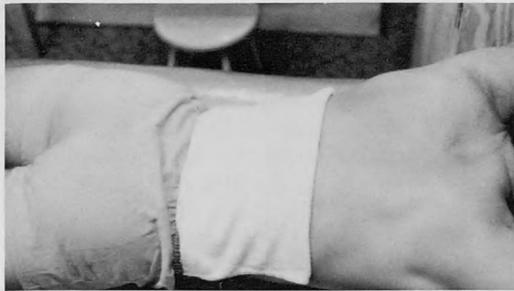


Figure 2



Figure 3



Figure 4



Figure 5



Mr. Harland is currently employed by the Austin Independent School District, Austin, Texas.

# Anorexia Nervosa and Bulimia In Athletics

Sherry Buickel, ATC, MS

**A**norexia nervosa and bulimia are nutritional disorders involving a person both physically and psychologically (1,6,9,11,12,17,18). This increases the complexity of diagnosis and treatment. There is also very little literature concerning these two disorders. Persons suffering from these disorders tend to be very secretive, making good research difficult to collect (6,8). Alexander Lucus (12) found no diagnostic tests or typical laboratory profiles for anorexia nervosa or bulimia. Lucus (12) sees two points of view existing: "One view holds that disturbed patterns of family relationships adversely influence the child who will develop anorexia nervosa and that the child never develops an adequate sense of autonomy and effectiveness. The other view holds that an immature pattern of hypothalamic functioning interferes with the normal maturational process at puberty" (12).

Another study has shown the affects of anorexia nervosa on cellular immunity and found "that most anoretics remain surprisingly well despite emaciation" (15). Vitamins, trace metals and taste function have been studied by Casper, et al (5) with the conclusion "that abnormalities in the levels of micronutrients in the blood of our patients with anorexia nervosa were either directly or indirectly related to nutrition" (5).

The importance of nutrition to athletic performance makes these two disorders extremely significant to athletic trainers. A correct and knowledgeable understanding of the basics of nutrition is also important but is not always there. Because of this lack of information, a great deal of experimenting is done to find the fastest and easiest way to lose weight and/or improve performance. Consequently, fad diets enter the athletic picture. These fad diets cause more problems than simply poor nutrition (17,18). They make nutrition seem so simply and easy. Psychologists believe that as a result, fad diets affect athletes not only physiologically, but psychologically as well (11).

This paper will concentrate primarily upon the two nutritional disorders of anorexia nervosa and bulimia and how they affect athletes.

## Who Is Susceptible?

Prime candidates for anorexia nervosa and bulimia are high achievers, persons with an intense desire to please others, females and in the age range of 10-40 years (2,6,8,16). However, these two disorders are not limited to the above categories. These disorders are being noticed everywhere including athletics. Fortunately, qualified personnel willing to help athletic trainers deal with athletes exhibiting signs of these disorders exist in fields such as food science and psychology. Persons in these fields should be contacted immediately when an athlete

needs treatment for one of these conditions (14).

## Basic Nutrition — How To Use It

As already mentioned, nutritional problems arise from lack of proper understanding of basic nutrition. Basic athletic nutrition requires an athlete to supply his/her body with an adequate and balanced amount of nutrients for optimal health and athletic performance. These nutrients include water, carbohydrates, proteins, fats, vitamins, minerals and electrolytes (3,7,10,13,14).

Adequate and balanced amounts can be seen in a percentile of the daily caloric intake. The figure for carbohydrates is 50% to 55%. Fats should amount to 30% to 35% while 12% to 15% should be made up of protein. The remainder of a balanced diet can be supplied by eating proper amounts of carbohydrates, proteins and fats (13,14).

## Fad Diets

When athletes develop problems supplying their bodies with adequate and balanced nutrition they can be falling into the area covered by fad diets. A fad diet is characterized as any restriction of food that enables rapid weight loss, omission of any one of the basic food groups, requires the purchase of supplements and is not suited to the individual's lifestyle (14). Athletes may resort to fad diets in hopes of producing drastic results to improve their performance or to lose unwanted weight quickly and easily. Athletes resorting to fad diets may be increasing their misunderstanding or masking their underlying problems with nutrition. Some professionals are beginning to believe there is a definite correlation between the quick and easy result of fad diets and the basic underlying problem which faces athletes and their eating behavior (16,18). Athletes are looking for immediate gratification. Problems develop because such gratification is simply not that easy (11,14,18).

## Areas of Action

The medical support staff is watching some athletes turn into psychological wrecks. Problems are arising in wanting and receiving immediate results, but not anticipating or understanding the long-term results. Athletic trainers can help by acting in four specific areas when there is any sign of such nutritional problems: PREVENTION, RECOGNITION, REFERRAL and SUPPORT (8,11,14).

## Signs

The medical definitions of anorexia nervosa and bulimia are very similar in that both conditions are psychological disorders involving eating patterns (1,2,6,8,9,18). Anorexia nervosa involves self-inflicted starvation, whereas bulimia is characterized by a binge-purge pattern of nutritional behavior. Signs of these two disorders are outlined below.

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*Ms. Buickel is the head women's athletic trainer at the University of Florida in Gainesville, FL 32601.*

### Signs of Anorexia Nervosa

- Feeling of obesity, even as weight loss increases (2,4,8,9)
- Altered body image (2,4,8,9)
- More than 25% weight loss (4,5,18,19)
- No desire to keep body weight over the minimum for age and height (4,19)
- No physical disorder to cause such weight loss (1,19)

### Signs of Bulimia

- Binge eating repeatedly (1,6,8,18,19)
- Eating inconspicuously during a binge (6,18,19)
- Ending a binge with abdominal pain, sleep, self induced vomiting or laxatives (1,6,8,18,19)
- Attempting severely restrictive diets to lose weight (18,19)
- Weight variations of more than 10 pounds due to binges and/or fasts (19)
- Realizing that the eating pattern is abnormal and not being able to voluntarily stop (18,19)
- Depression after eating binges (18,19)
- No physical disorder (19)
- Behavior is not anorexic (18,19)

### Comparison of Anorexia and Bulimia

Comparing characteristics of anorexia and bulimia can help to differentiate and understand these disorders better. The bulimic vomits (sometimes 10 to 20 times per day) or abuses laxatives (sometimes 200 pills per day) whereas the anorectic restricts food intake (11). Because of this restriction, severe weight loss is seen in an anorectic (greater than 25%) while there is a milder rate of weight loss in a bulimic (4,6,7,8,18,19). Anorectics begin their abnormal behavior at a younger age than bulimics and seem to be more introverted (1,11,14). Anorectics also exhibit obsessive features such as unrealistic goals, a desire to please and to be good, altered body image and a constant denial of hunger (2,6,7). A bulimic shares this desire to be good and to please, along with a poor body image, but definitely does experience hunger. Other behavioral abnormalities for the bulimic include kleptomania, drug abuse, impulsive actions, feelings of helplessness and a loss of control once there is a realization that behavior is abnormal (11,14,18). In contrast, anorectics feel in control of themselves and feel their behavior is normal, which is why the body changes are not personally seen by the anorectic (9).

### Medical Complications

Both anorexia and bulimia may have death as a final result. Anorectics may die of starvation, while suicide or hypokalemia take the lives of the bulimic (1,8,11,14). Hypokalemia results from the constant vomiting, which causes dehydration and a drastic loss of electrolytes, specifically potassium. Potassium regulates heart rhythm. The acid secreted into the stomach, due to the presence of food, is brought up through the esophagus during vomiting and irritates the tissue lining of the esophagus, along with destroying tooth enamel (12). Sores and ulcers may form, making swallowing difficult. The digestive system of an anorectic involves the inability to tolerate food. The reproductive system of athletes with this condition also show the effects in the form of amenorrhea in anorectics, while bulimics experience irregular menses (1,2,12,19).

### Referral and Support

Analysis and review of diagnostic criteria and comparisons between the disorders should help athletic trainers recognize or prevent these two conditions.

Immediate referral to the proper medical specialist is essential to successful treatment (11,18). Athletic trainers may not be qualified to treat athletes who have these conditions; however, psychologists, psychiatrists and nutritionists are examples of specialists to whom referrals can be made. Athletes will need physical and psychological treatment to overcome their problem (1,6,9,11,12,17,18). Support becomes of utmost importance after a definitive diagnosis is made by medical personnel (8,11). The doctor, athlete and athlete's family will need all of the support possible from everyone, especially the athletic trainer. Psychological therapy will probably continue throughout the athlete's collegiate career as well as throughout his or her lifetime (11).

### Conclusion

Anorexia nervosa and bulimia are becoming more obvious and frequent disorders in athletics. Athletes are facing some very tough times during an impressionable period of their lives. Athletic trainers can help by acting appropriately in the areas of prevention, recognition, referral and support. Education in proper nutrition can also help. As stated earlier, there is very little research to date in this area, especially involving athletics. A survey could be conducted of all of the high schools and colleges with competitive athletics to find out how many athletes are suffering from these disorders and how many of those remain competitive. Further research along with education are essential to enable success in treatment.

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# Systematic Desensitization: Psychological Rehabilitation of Injured Athletes

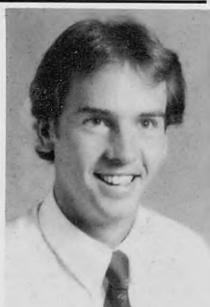
Robert J. Rotella, PhD and Michael S. Campbell, ATC

## Introduction

Important advancements in the fields of sports medicine and athletic training have been made in recent years. Today, more and more athletes are receiving specially designed rehabilitation techniques to insure their safe return to the athletic field following injury. Unfortunately, despite the rather rapid progress in physically preparing athletes following injury or surgery, little improvement has been witnessed in the much needed systematic psychological preparation of such athletes.

Far too often athletes have returned to action only to experience a performance decrement due to the rational or irrational fears associated with an injury (4,5,7,8). Performance may be hindered by loss of the ability to control attention due to the anxieties which often accompany athletes' return from debilitating injury. Frequently, the eventual result is that previously successful athletes lose confidence in their ability to perform. For some of these athletes the lack of psychological preparation for a safe and successful return from injury results in extending the length of time required for them to regain their original confidence and performance level. Others never make it back. Possibly, the worst of all potential outcomes is re-injury or injury to another body part.

There are a variety of potential causes for this unfortunate situation. Re-injury or further injury may be a result of an athlete's attempting to overcompensate for the previously injured body part and thereby placing undue stress on another part of the body. It may also be caused by associated muscle tension which may interfere with normal coordination. If the anxiety is severe enough, a phobia related to a recent injury may add to the problem. There is, of course, the possibility the re-injury could simply be a case of bad luck. Because athletic trainers and sports psychologists should be interested in prevention of further injury, it is safer to assume re-injury results from causes capable of being modified and prevented.



*Dr. Rotella is Director of Sport Psychology at the University of Virginia, Charlottesville, VA 22903. Mr. Campbell is Head Athletic Trainer at Western Albemarle High School in Crozet, VA.*

## The Need for Psychological Rehabilitation

Anyone involved in the treatment of injured athletes is probably aware of the problems mentioned above. Yet, because psychological scars are not visible, at least until the athlete re-enters the playing field, they are often overlooked. The situation is further complicated by the fact that the majority of the athletes safely return to play with physical rehabilitation alone. As a result it is often assumed that "tough" athletes don't need psychological rehabilitation (4,7,8). Athletic trainers should make sure that this important step in the athlete's rehabilitation is not left to chance.

## Systematic Desensitization

The utilization of systematic desensitization procedures and biofeedback can be an important adjunct to treatment techniques designed to rehabilitate injured athletes potentially having problems coping and adjusting to injury. Systematic desensitization is a specific procedure designed to help individuals effectively handle a particular fear or anxiety (1,5,8,9).

Although the procedure has received limited attention and exposure in the sport world a number of case studies detailing its effectiveness with serious injuries to the shoulder of wide receivers in football, goalies in soccer, and pitchers in baseball, ankle sprains to basketball and lacrosse players, and knee injuries to athletes involved in football have been presented (4,7,8). The procedure is basically a combination of relaxation training and visual imagery supplemented, whenever possible, by biofeedback training. It is effective because, in essence, it is impossible for an individual to be relaxed and anxious at the same time.

At the onset of physical rehabilitation of the athlete, the individual is objectively shown, via electromyographic biofeedback recordings, the skills needed for inducing relaxation. Typically, the athlete is asked to count backwards from 800 by 7's to induce stress and then is asked to relax. The level of relaxation should be recorded as baseline data. At this point the procedures and objectives of the relaxation techniques should be explained to the athlete. Next, the athlete is introduced to relaxation training techniques (in the present case progressive relaxation training) and sets up a daily practice schedule to be done either at home or in a private room set up next to the training room.

The use of a commercial tape recording is often most practical for learning relaxation training techniques (6). The tape will help the athlete in learning how to relax and will begin to prepare him to later learn how to imagine his safe and successful return to competition.

## Develop a Fear Hierarchy

The next step involves the establishment of a fear hierarchy particular to the athlete's phobia or anticipated fear. The fear hierarchy consists of 5-10 situations (Table

1) that cause progressive increases in the amount of anxiety they elicit. As soon as the fear hierarchy is developed, the athlete is asked to visualize Step 1 on the fear hierarchy. When a deep state of relaxation can be maintained while experiencing this step, the athlete is requested to move to Step 2. Once again a relaxed state is indicated via electromyographic readings. Ideally, the athlete should not return to competition until a relaxed state can be stabilized while visually imagining each of the steps of the hierarchy.

**Table 1**

Athlete's Fear Hierarchy

Athlete imagines each of the following situations:

1. You are going on the basketball court to practice.
2. You begin practice by running windsprints.
3. You are now in a "wave" drill and you practice your defensive step slide.
4. You are going to practice shooting with no defense.
5. You are running layups in practice.
6. You are in a scrimmage and you shoot over a defensive player.
7. You shoot over a defensive player and you are fouled.
8. You are in practice and will rebound a ball to start a fastbreak, there is no defense.
9. You rebound a ball during a scrimmage and turn to give an outlet pass.
10. In a scrimmage, you jump high to rebound a basketball, and when you come down you land on another player's foot but you still turn and give an outlet pass.

Typically, the systematic desensitization program will be most effective when biofeedback (utilizing electromyographic or thermal measures) is used as an extremely sensitive and objective indicator of muscle tension and relaxation. An athlete will generally not be as accurate in his assessment of muscle tension unless he has had prior relaxation training experiences. However, if biofeedback equipment is not available, the therapist can ask the athlete to indicate the degree of relaxation on a scale of 1 to 10 (1 = very tense; 10 = very relaxed). The therapist calls off the numbers 1-10 and the athlete indicates the level of relaxation by raising the index finger of the right hand when the appropriate number is called. The athlete should not return to competition until relaxation can be maintained on cue while visualizing the last step on the fear hierarchy on three consecutive tries.

It is important to note here that no more than fifteen to twenty minutes is spent on the systematic desensitization technique in one day. Any more will usually lead to boredom and lack of concentration on the part of the individual engaged in the technique.

**Case Study**

While participating in pre-season drills, a third year university student on the women's varsity basketball team at a major university suffered a moderate sprain to the lateral ligaments of her right ankle. It was her first experience with such a sprain. The injury occurred as the athlete landed on a teammate's foot after jumping high for a rebound. The athlete was told to use crutches and was then placed on a rehabilitation program with daily treatments of whirlpool and diathermy. Two days following the injury, the athlete was introduced to the systematic desensitization techniques. During this meeting the typical fears of injured athletes were

discussed (Table 2). The athlete was questioned and encouraged to talk about her fears and anxieties related to her injury and her return to competition (Table 3). The athlete was made aware that it is quite normal to have anxieties related to injury. The athlete was then given a tape recording that helped her acquire the skills needed to induce relaxation. During this session, a set time and place in which to perform the technique was designated.

**Table 2**

Fears and Anxieties of the Injured Athlete  
(Case Study)

- Fear re-injury on return to competition
- Fear injury of another body part
- Fear a lack of aggressiveness
- A "feeling" of re-injuring the body part accompanied by some pain
- A "feeling" of re-injuring the body part the same way that is was injured on previous occasion
- Fear of losing their starting position

**Table 3**

Athlete's Major Fears

"My biggest fear is landing on another person's foot when coming down with a rebound. I frequently visualize stepping on someone's foot and feeling my ankle crack. I also feel hesitant about going to the middle to rebound a basketball."

On the first day the athlete's baseline data (Table 4) was recorded by an electromyographic biofeedback machine (EMG) which was attached to the athlete's forehead. Four times the athlete was asked to count backwards from 800 by 7's in order to induce stress and then relax by incorporating the skills she had previously learned from the tape. The minimal level of tension recorded by the EMG machine during this time was to be the level of tension acquired at each step on the hierarchy before proceeding to the next step.

**Table 4**

Baseline Data of Injured Athlete

EMG sensitivity level is the setting on the EMG machine which ranges from 0.5 to 10.0 with 10 being the most sensitive and 0.5 the least sensitive setting. EMG Level Attained is measured on a scale ranging from 0.1-20.0, with 0.1 indicating a relaxed state and 20.0 indicating a state of high tension.

EMG Sensitivity Level    EMG Level Attained

Counting	10	5.0
Relaxing	10	0.6
Counting	5	7.0
Relaxing	5	3.0
Counting	2	9.0
Relaxing	2	4.0
Counting	1	12.0
Relaxing	1	7.0
Counting	5	20.0
Relaxing	5	12.0

The EMG machine had five different sensitivity levels with 10.0 being the least sensitive and 0.5 being the most sensitive. Starting with Step 1 on the hierarchy and with

the EMG sensitivity reading at 10.0, the athlete was told to visually imagine the first step while at the same time remaining as relaxed as possible. As soon as the athlete was able to reach a relaxed state while visually imagining the scene, the sensitivity was increased until she was able to reach a relaxed state while on the 0.5 sensitivity setting. These steps were repeated until the athlete was able to achieve a relaxed state while imagining each step in her fear hierarchy on three consecutive trials.

Upon completion of the fear hierarchy, the athlete was hopefully mentally prepared to participate. However, some form of evaluation was needed in order to determine the technique's effectiveness. In addition to the athlete's own evaluation of the technique, an impartial evaluator was needed to determine the technique's success. Therefore, the athlete's coaches also were used as evaluators (Table 5).

---

**Table 5**

Post Treatment Evaluation: Subjective

Head Coach

"No fears associated with the injury; as a matter of fact, several weeks following her return I didn't even remember her being injured.

"She displayed no loss of self-confidence following her injury.

"I definitely wish it (the technique) would be used with the younger players who seem psychologically unprepared even though they are physically prepared to return to action."

Assistant Coach

"Injury didn't affect her play, mainly because of her mental attitude. She rebounds and plays just as well as she did before the injury. She is still as aggressive as she was last year."

Athlete

"I'm not as scared about rebounding and I don't worry much about it. I just go to the boards. I just go without even thinking of the consequences of maybe reinjuring my ankle."

---

**Problems in Administering**

The following will hopefully provide those using the Systematic Desensitization Technique for the first time with a better understanding of typical problems they are likely to encounter. By foreseeing these problems, the user should be better able to cope with them and, therefore, help athletes attain full rehabilitation.

One of the first problems athletic trainers will encounter is determining who needs psychological rehabilitation and who does not. There is not a perfect answer to this problem but certainly some athletes will be able to return to the field and pick up where they left off without ever showing psychological signs of injury. If there is any doubt at all, prevent a possible problem and provide psychological intervention. Another typical problem is that some athletes may perceive systematic desensitization as a suggestion that something is psychologically wrong with them. Trainers must make certain that athletes realize the treatment is a preventative measure designed to assure their successful return to competition. Athletes should be assured they will benefit from preventive psychological intervention. Athletes must not be led to believe intervention is provided due to a mental problem. A positive approach is

more effective and accurate. Athletes should understand that systematic desensitization is a natural part of rehabilitation and nothing more. The intent is to insure a safe and successful return to competition. These perceptions would of course be easier to establish if all athletes received psychological rehabilitation following injury.

A final problem concerns the issue of who will administer the systematic desensitization procedures. Typically, athletic trainers will need to identify a willing and interested sport psychologist, counselor or clinical psychologist who is willing to donate time to administer desensitization procedures. A relationship similar to athletic trainers and team physicians may be established. It is also possible and perhaps desirable that in the future athletic trainers will be prepared in their academic programs of study to provide a highly specific procedure such as systematic desensitization. The ultimate future solution to this problem is yet to be determined. However, it appears that many athletic trainers already experiencing time constraints will prefer outside assistance.

**Initiating Desensitization Procedures**

Systematic desensitization is a procedure which is ideally initiated at the onset of physical rehabilitation and timed so that when athletes are physically ready to return psychological rehabilitation is also complete. In this regard, it is crucial to explain the rationale behind the therapy prior to initiating systematic desensitization procedures. Athletes should understand how and why systematic desensitization works prior to the commencement of treatment. With this approach the likelihood of injured athletes becoming actively and willingly involved are greatly enhanced. The result is a greater opportunity for a complete and successful rehabilitation.

**Conclusion**

Systematic Desensitization Technique is a tool which, if used properly, can aid in the successful rehabilitation of injured athletes. It is not magical or mystical. It is based on sound psychological principles and has been proven effective inside and outside of the world of sport. Its usefulness to athletes will be maximized when both athletic trainers and the athletes understand and recognize its important role in rehabilitation.

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# Effects of Wearing a Toe Cap or a Sock On Temperature and Perceived Pain During Ice Water Immersion

Paul S.R. Nimchick, MS, ATC  
Kenneth L. Knight, PhD, ATC

The use of cryokinetics has proven to be very effective in the rehabilitation of musculoskeletal injuries (1,2,11), especially sprained ankles (4,5). Cold induced analgesia allows early active motion, which in turn increases blood flow to the ankle (8), decreases pain and neural inhibitions, and decreases the psychological sequelae to the injury. Water cold enough to numb the foot, however, initially causes pain and discomfort for the athlete, often concentrated in the area of the toes. To reduce this discomfort, athletic trainers have tried covering the toes with various substances, such as a toe cap (12), underwrap, socks, etc. Subjective evaluation of these substances indicated the toe cap was effective in decreasing discomfort and pain during ice water immersion; however, the other techniques only delayed the onset of pain. The present study was designed to provide objective data concerning these points.

## Methodology

Temperature changes in various parts of the foot were measured and compared during immersion of the foot in ice water while wearing either a toe cap\*, a sock, or nothing. Each session was 60 minutes long and consisted of three periods of 20 minutes each: pre-immersion, immersion, and post-immersion. Twelve student volunteers, six males and six females, were tested in each condition on three separate days within a five day period. The order in which conditions were applied to subjects was determined by two 3 x 3 balanced latin squares. One male and one female subject were randomly assigned to each application sequence.

Interface temperatures were measured with a Yellow Springs Instrument (YSI) Model 44 twelve channel telethermister at the following sites: 1. distal phalangeal joint of the hallux on the dorsum side (toe), 2. half an inch inside the edge of the toe cap along the extensor hallucis longus tendon (EHL-ic), 3. half an inch outside of the toe cap along the extensor hallucis longus tendon (EHL-oc), 4. over the anterior talofibular ligament (ATF), 5. lateral side of the achilles tendon perpendicular to the lateral malleolus (achilles), and 6. half an inch proximal to the base of the fifth metatarsal-tarsal joint on the lateral side.

During the first session, whether the session be for the toe cap, sock, or control, the toe cap was placed on the subject's foot in order to mark various sites at which the temperature probes were to be placed. The surface area of the foot that was covered by the toe cap was marked in order that placement of the folded-up athletic sock would cover the same area that the toe cap covered.

\*Pro Orthopedics

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Mr. Nimchick is Head Athletic Trainer at the University of Guam. Dr. Knight is an Athletic Trainer and Director of the Sports Injury Research Laboratory at Indiana State University, Terre Haute, IN 47809.

Instructions were given to each subject concerning procedures that were to be followed during the sessions. Each subject was asked not to move the foot during temperature recordings. Each subject was also given a sheet of paper on which to record the sensations felt, and the location of those sensations, during each two minute period of immersion.

After application of the probes, the subject's foot was rested flat on the carpeted floor. Temperature measurements were taken at 10, 5, and 2 minutes prior to immersion. The toe cap or sock was placed on the foot 15 seconds prior to immersion.

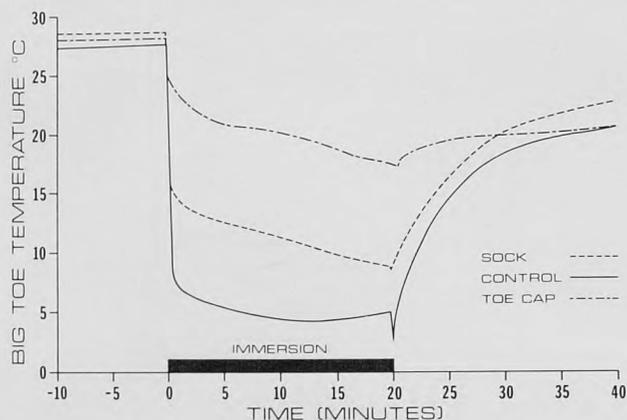
The foot was then immersed into a slush bucket (0.1°C), filled with crushed ice and water six and a half inches deep. The foot was positioned so that it was resting flat on the bottom of the bucket.

Interface temperatures were recorded at 30 seconds, and at 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, and 20 minutes. After the 20 minute reading was taken, the water was stirred around the foot for five seconds and another temperature measurement taken. The foot was then removed from the slush bucket, the toe cap or sock was removed, and the foot was again placed flat on the floor. Post-immersion temperature measurements were taken according to the same time schedule as during immersion.

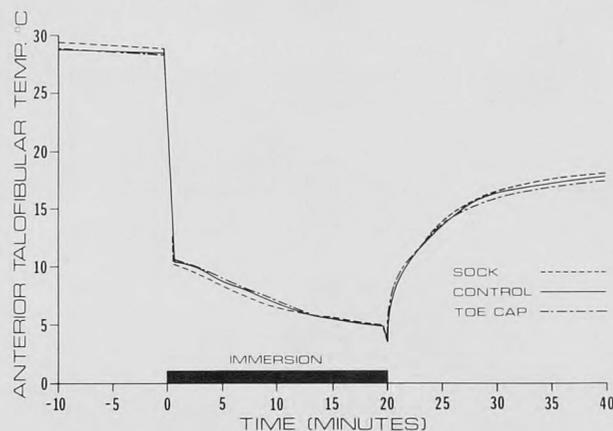
## Results

Figures 1 and 2 illustrate the minute by minute temperature means of each of the conditions for the toe and ATF, respectively. During control conditions, the toe temperature decreased rapidly within the first minutes to 7°C, decreased 3.7°C over the next 10 minutes, and then increased 1.8°C by the end of the immersion period (Fig. 1). With the toe cap on, toe temperature decreased to 21°C within the first five minutes, and only to 17.6°C at 20 minutes. Temperature response during the sock condition was about midway between the toe cap and control conditions. Neither the toe cap nor the sock appeared to have any affect on the ATF temperature. It was virtually identical in all three conditions, decreasing rapidly to about 10.3°C within the first minute, and an additional 5.5°C decrease by 20 minutes (Fig. 2). Temperatures at the BFM, Achilles, and EHL-oc were essentially identical to the ATF. At the EHL-ic control and sock temperatures were essentially identical to temperatures at the toe.

Table 1 contains the means and standard deviations of all temperature measurements made at each site during pre-immersion, immersion, and post immersion for each condition. All three conditions were significantly different ( $p < .01$ ) at the toe during immersion and post-immersion; EHL-ic temperature of the control condition was significantly colder ( $p < .01$ ) than the sock or the toe cap during immersion; at the same site during post-immersion the control condition was significantly colder ( $p < .05$ ) than the sock or the toe cap; at the EHL-oc during



**Figure 1.** Surface temperature of the big toe before, during, and after immersion in an 0.1°C ice water bath while wearing a toe cap, a sock, or nothing over the forefoot.



**Figure 2.** Surface temperature of the Anterior Talofibular (ATF) ligament before, during, and after immersion in an 0.1°C ice water bath while wearing a toe cap, a sock, or nothing over the forefoot.

immersion the sock was significantly warmer ( $p < .01$ ) than the control condition; the sock was significantly warmer ( $p < .05$ ) than the control or toe cap during pre-immersion at the base of the fifth metatarsal-tarsal joint; and at the same site during immersion the control condition was significantly warmer ( $p < .05$ ) than the sock or toe cap.

Atmosphere and water bath temperature averaged  $24.5 \pm 0.4^\circ\text{C}$  and  $0.1 \pm 0.1^\circ\text{C}$ , respectively, for the entire study. There were no differences between conditions for either of these measurements.

Table 2 shows the mean minimum immersion temperature at each site, the time at which the minimum temperature occurred, the mean temperature at 20 minutes (T-20), and the mean temperature after the water was stirred for five seconds (T-20.5). The average mean temperature drop from T-20 to T-20.5 was  $2.14^\circ\text{C}$ . This drop in temperature recorded by temperature probes at various sites on the foot indicated that a thermal gradient had developed between the foot and the surrounding water. By stirring the water around the foot the thermal gradient was disrupted, lowering the interface temperature.

Only one subject reported feeling pain in the big toe while using the toe cap (Table 3). This pain was experienced between 17 and 20 minutes of immersion. Several subjects wearing the sock reported feeling cold and pain at the toes between one and three minutes of immersion, and all reported feeling cold and pain within eleven minutes of immersion. During the control condition extreme pain was felt at the toes within one minute of immersion by all subjects. The pain felt by subjects at sites other than the toe was about the same in all three conditions. This indicates that the effect of the toe cap was to decrease pain only at the toes.

### Discussion

These data substantiate the subjective feelings of Tovell (12) that the toe cap is quite satisfactory in keeping the toes warm and comfortable during ice bath immersion. The toe cap kept the big toe of the twelve subjects significantly warmer than either the sock or control conditions. As Tovell (12) had indicated, most of the discomfort was experienced at the toes.

Since the toe cap did not affect temperatures over the ATF and other exposed sites, it appears to be a valuable adjunct to cryokinetic treatment of the ankle. The desired

effects of the ice water immersion can be obtained at the site(s) of injury, while minimizing pain and discomfort for the subject.

During immersion the EHL-ic temperature was significantly warmer during the sock condition than the control condition. One logical reason for this occurrence was that the fold in the athletic sock created a thermal gradient large enough that it caused a significant difference to occur.

No physiological reason could be found to explain the occurrence of a warmer pre-immersion temperature at the BOFM during the sock condition. This was not the case at any of the other sites. A 10 minute period was given to each subject prior to recording pre-immersion temperatures. By extending the 10 minute rest period to 20 or even 30 minutes the significant reading may have been eliminated; however, this is only conjecture.

The control condition during immersion was significantly warmer than the toe cap or sock at the BFM. We were unable to find a logical physiological explanation for this occurrence. We feel that a big enough thermal gradient developed around the foot during the control condition and was not disrupted by the subject inadvertently moving his foot causing a significant difference. The stirring of the water following the 20 minute immersion reading decreased the interface temperature by an average of  $2.14^\circ\text{C}$ .

The rising of temperature during immersion might be interpreted by some as an indication of Lewis' "Hunting Response" (10). We do not think this is the case, however. Previous research from this laboratory (6,7,9) suggested that a thermal gradient develops around a body part exposed to an ice pack or ice water, especially when the limb remains motionless. If surface temperature is being measured, as was the case in both our and Lewis' work, the interface temperature would reflect the gradually developing thermal gradient. The significant drop in temperature after stirring the water is evidence that a thermal gradient existed, thus resulting in what Lewis described as the "Hunting Response".

Grant (1) and Hayden (2) reported patients experienced the sensations of pain, warming, aching and numbness when subjected to cold applications of 10-15 minutes. In this study the sequence of sensations did not exist. The warming effect was reported only twice, and that was by the same subject during the control condition (between 11-13 minutes). The other sensations were experienced by

**Table 1**

Average temperature (°C) of seven sites of the foot while wearing a toe cap, a sock, or nothing (control).

(Mean + S D, °C)

Site	Condition	Pre-immersion	Immersion	Post-immersion
Toe	Control	27.5 + 2.9	5.4 + 1.9	15.3 + 6.0
	Sock	28.7 + 3.3 **	11.7 + 3.1 **	17.5 + 5.9
	Toe Cap	28.1 + 2.7	20.7 + 5.3	19.5 + 4.6
EHL-in	Control	29.6 + 1.7	5.7 + 2.7	15.3 + 5.9
	Sock	30.2 + 1.7 **	12.9 + 3.0 *	16.9 + 4.9
	Toe Cap	29.9 + 1.6	12.6 + 4.0	16.7 + 5.3
EHL-out	Control	30.3 + 1.4	6.3 + 2.8	15.3 + 6.2
	Sock	30.5 + 1.3 **	7.4 + 2.8	16.0 + 5.7
	Toe Cap	30.1 + 1.5	6.9 + 3.3	15.4 + 5.9
ATF	Control	28.6 + 1.7	7.7 + 2.5	14.2 + 3.7
	Sock	29.1 + 1.6	7.5 + 2.4	14.4 + 3.8
	Toe Cap	28.5 + 1.5	7.8 + 2.5	14.1 + 3.6
Achilles	Control	27.0 + 1.7	5.7 + 2.0	15.2 + 4.6
	Sock	27.7 + 1.8	5.4 + 2.0	15.6 + 4.5
	Toe Cap	27.2 + 1.6	5.9 + 2.3	15.1 + 4.7
Base of 5th Met.	Control	* 26.8 + 2.3	7.0 + 2.1	14.8 + 4.3
	Sock	* 27.9 + 2.1 *	6.4 + 2.5	15.8 + 5.1
	Toe Cap	* 26.8 + 2.2	6.5 + 2.0	14.8 + 4.1

\* p .05 (Duncans Multiple Range test)

\*\* p .01 (Duncans Multiple Range test)

**Table 3**

Perception of Pain by Subjects  
(Number of Times That Pain Was Reported)

SITE	CONDITION			Total
	Control	Sock	Toe Cap	
Toe	65	52	1	118
Malleolus	21	22	28	71
Achilles	14	26	24	64
Arch	15	18	7	40
Waterline	13	9	3	25
Other	2	1	6	9
TOTAL	130	128	69	327
TOTAL Excluding the toe	65	76	68	

**Table 2**

Effects, at various sites, of stirring water bath after 20 minutes of immersion.

(Mean + S D, °C)

site	condition	minimum temperature*	time of min. temp.**	temp. at end of immersion		temp. change with stirring
				before stirring	after stirring	
toe	control	4.0	12.0	5.5	2.8	2.7
	sock	8.8	17.0	9.1	8.9	.2
	toe cap	17.8	17.2	18.7	18.5	.2
EHL-ic	control	3.7	17.4	3.8	2.6	1.2
	sock	9.9	20.0	9.9	9.1	.8
	toe cap	9.7	20.0	9.7	8.6	1.1
EHL-oc	control	3.8	19.0	3.8	2.7	1.1
	sock	5.2	19.2	5.2	3.4	1.8
	toe cap	4.7	19.0	4.7	2.8	1.9
	Avg.	4.6	19.1	4.6	2.97	1.6
ATF	control	4.9	19.3	5.0	3.2	1.8
	sock	5.1	18.4	5.2	3.0	2.2
	toe cap	5.0	18.9	5.0	2.8	2.2
	Avg.	5.0	18.8	5.1	3.0	2.07
Achilles	control	3.8	17.9	4.6	2.7	1.9
	sock	3.2	14.8	4.4	2.2	2.2
	toe cap	3.5	17.8	4.3	2.0	2.3
	Avg.	3.5	16.8	4.4	2.3	2.1
Base of 5th Met.	control	5.6	9.9	7.2	4.4	2.8
	sock	4.9	12.1	6.3	3.8	2.5
	toe cap	4.8	12.1	5.8	2.8	3.0
	Avg.	5.1	11.2	6.4	3.7	2.4
Mean of Means	4.6		5.1	3.0	2.1	

\* prior to stirring of water bath  
\*\* minutes

8/168 subject sites did not drop below their minimum after stirring (but they did decrease)  
4 of the 8 were in subject 13 (A total of 16 sites were measured, 6 during each of three conditions)

each subject but not in any set sequence as Grant (1) and Hayden (2) stated. About an equal number of subjects experienced pain, numbness or throbbing during the last three minutes of immersion. This is in contrast to an earlier study from our laboratory, wherein all subjects experienced warming during ankle immersion (3). In that study subjects were told they would experience a warming sensation and were asked to report when it occurred. In the present study subjects were not told what sensations to expect; rather they were told to write down whatever sensation they experienced. Further research is needed to clarify this point.

### Summary

Twelve volunteers were subjected to each of three conditions: toe cap, sock, and nothing (control), while immersing their foot in ice water for 20 minutes. Surface temperature was measured at six foot and ankle sites for 50 minutes, which included a 10 minute period of pre-immersion. The toe cap kept the big toe significantly warmer than the sock or the control, but did not hinder the effects of cold application at other sites on the foot. Post-immersion temperatures of the four exposed foot sites were not significantly altered by the toe cap or sock. Subjective ratings indicated that the toe cap eliminated pain and discomfort during immersion in ice water.

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# Potpourri



**Dennis Aten, ATC, RPT, MS**  
Eastern Illinois University

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## Tooth Replacement

*Good Health Digest, September, 1982*

If your tooth is knocked out and you can get to a dentist within 30 minutes, the chances of having it successfully replaced in the socket are 90 percent. After two hours, however, the success rate drops to ten percent. Don't rinse or clean the tooth; just wrap it in a clean, damp cloth and get to a dentist quickly!

## Artificial Knees

*Reader's Digest*

Though not so common as total hip replacements, total knee replacements have already enabled hundreds of thousands of disabled by severe arthritis or injury to walk again. More than 80 different designs have been developed as orthopedic engineers struggle to duplicate the complex motion of the human knee, the largest and most frequently injured joint in the body.

The knee may appear to be a simple hinge, but in addition to the hinge-like motion, with every step the knee joint angles from side to side, rolls, glides and rotates. This constant twisting also results in an eventual loosening of artificial knees that are simple hinges, since the muscles try to make them rotate like real knees.

Among the newest mechanical joints, which try to imitate normal knee action, is one used with considerable success by orthopedic surgeon Dr. Herbert Kaufer and his group at the University of Michigan School of Medicine. Like most such prostheses, it is cemented to the leg bones in the operating room. Another type, developed at Johns Hopkins University School of Medicine and used experimentally in more than 100 patients so far, has a porous surface into which the bone grows, promising greater security in the joint.

## Doctor's R<sub>x</sub> for Health

*Family Weekly*

Doctors may talk a good game when it comes to preventive health care, but do they actually practice what they preach? Well, according to a recent survey of some 600 members of the Harvard Medical School faculty, it appears they really do, generally following the advice they give their patients.

They get exercise (49 percent jog); 84 percent regularly see their dentist; 78 percent eat breakfast; and 73 percent

buckle their seat belts. Some 44 percent restrict their consumption of red meat, and 41 percent try to maintain a high-fiber diet. Additionally, the doctors avoid antibiotics for minor illnesses, such as colds, preferring chicken soup.

## Check Your Priorities

*Good Health Digest, January, 1983*

The average person spends six years eating; eleven years at work; five and one-half years washing and dressing; three years in education; eight years in amusement; six years walking, three years reading; three years in conversation; twenty-four years sleeping; and six months in worshipping.

## Five Tips on Interpreting Scientific Research

*News Release*

If you've been puzzled trying to interpret the stream of research reports that talk about "substance X" causing "disease Y," here are five guidelines compiled by Mazola's Nutrition/Health Information Service that might be helpful in judging scientific studies.

These criteria apply to animal studies as well as epidemiological (controlled population group) investigations.

According to Mazola's Nutrition/Health Information Service:

- 1) There should be consistency in the data. If the substance seems to cause the given disease in some studies, but not in others, the matter is questionable and cannot yet be taken as fact. Other factors may be causing the differences in results.
- 2) The effect should be robust. With borderline results, it is hard to tell if the effect is real or whether it is just a matter of chance.
- 3) The more specific the effect, the better. If something seems to cause many different medical problems, but each only to a small degree, it probably really doesn't cause any of them.
- 4) The cause has to precede the effect, not the other way around.
- 5) The "route of administration" of the given substance is important since the many ways potentially harmful substances can work in the body are complex. If, for example, a dietary component were injected directly into the bloodstream instead of given orally as part of a complete diet, the results would be of limited value when trying to extrapolate to the human condition.

In addition, the results should be statistically significant. The lower the "P-value" (it's almost always printed in the actual study), the better. A "P-value" of .001 indicates that this result could have occurred by chance only once in 1000 times. This means the effect reported in the test group can very reliably be attributed to something different about that group, usually, but not always, exposure to the substance being tested.

If the study is an epidemiological investigation, ideally it should have a control group which can be compared to the people who have been exposed to the substance in question. The more alike the control and exposed groups are — except for exposure to the test substance — the better.

If the population groups are very different in terms of age, socioeconomic status, education, work or other factors, the resulting differences in disease may not be due to the test substance, but to one of these other

factors. A control group of animals is necessary in a laboratory test as well.

Reports of a handful of cases cannot be used to draw conclusions about large population groups. Those cases, scientists reason, could be exceptions due to chance. There's no way to tell if that is the case, so scientists generally do not consider anecdotal evidence to be enough support from which to draw cause and effect conclusions.

Mazola's Nutrition/Health Information Service prepares and distributes nutrition education materials to health professionals, consumers, and members of the news media. It is a public service effort of Best Foods, a division of CPC International, Englewood Cliffs, N.J.

### Artificial Hips

*Reader's Digest*

One of the great successes of U.S. medicine in recent decades is the artificial-hip-joint operation, performed annually on an estimated 65,000 Americans suffering deterioration of the joint. A panel of experts convened by the National Institute of Health has recently issued a few notes of caution.

Almost all patients, the experts report, can return to normal activities such as walking, driving, dancing and sex. But jogging, jumping and racquet sports should be avoided. The panel also found that in ten percent of all cases the hip joints come loose by the tenth year, often requiring new surgery. The operation, it added, carries such risks as infections and blood clots, and should be performed by orthopedic surgeons with special expertise in this area.

### Nutrition Periodical

*News Release*

Contemporary Nutrition, a monthly newsletter distributed by the Nutrition Department of the Betty Crocker Food and Nutrition Center, General Mills, Inc., is available to health professionals free of charge. Written by experts in the nutrition field, the newsletter is offered as a service to health professionals. To receive the newsletter send your name, address, and instructions indicating that you wish to be placed on the mailing list, to General Mills Nutrition Department, Department 65, P.O. Box 1112, Minneapolis, MN 55440. +

#### Literature, from page 105

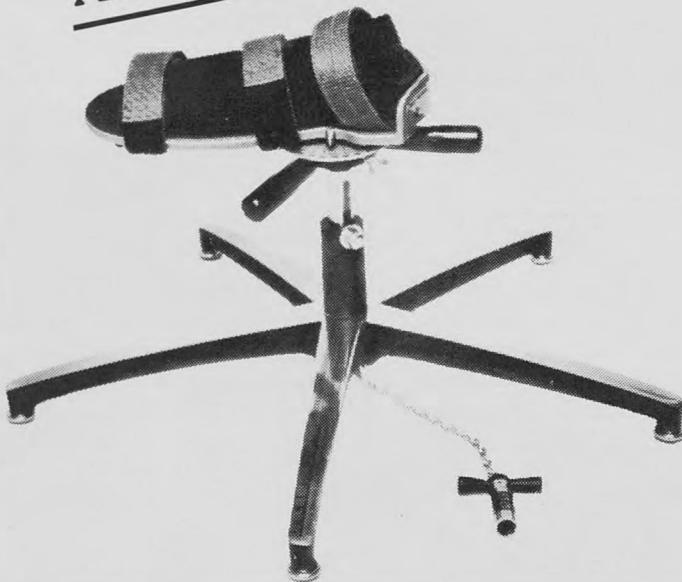
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\*Indicates articles written by members of the NATA. The Current Literature Editor invites the submission of bibliographic material of NATA members that is published in other journals. Submit information to: Kiski School, Saltsburg, PA 15681. +

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### CEU COURSES IN DENVER

\*\*\* The CEU Courses that will be offered at the National Meeting in Denver on Sunday, June 12, will be from 9:00 am to 12:00 noon in the Downtown Hilton Ballroom. These courses run concurrently. Registration forms have been mailed to the membership. This is additional information:

1. Isokinetics—A Clinical Application in Sports Medicine  
Bernie Zelhof, Cybex  
George J. Davies, University of Wisconsin-LaCrosse  
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For further information contact Glen Snow, Floyd Central High School, New Albany, IN, (812) 923-8811.

### SAVE A TOLL CALL!

\*\*\* Many calls from the membership to the National Office could be avoided if the person calling only knew where to find what was needed in a past issue of the Journal. Of course we are always happy to hear from members and are eager to help in any way we can. At the same time, however, we are aware that long distance telephone calls are very expensive. The following reference shows where you may find some of the most frequently requested materials in your back issues of *ATHLETIC TRAINING*. These were originally published for the convenience of the membership and as many copies as needed may be xeroxed directly from your Journal.

Application for District Transfer — this issue, Summer 1983, page 183

CEU Report Form — Winter 1982, page 313

Continuing Education Requirements & Appeals Process — Winter 1982, page 312

Documentation of Internship Hours — Fall 1982, page 187

Index of Articles — each Winter issue

NATA Constitution — Spring 1983, page 75

Student Report Form for Training Room Hours — Fall 1982, page 186

### ANOTHER REMINDER!

\*\*\* Please remember to sign a second class mail forwarding form at your local post office when changing addresses. In order to receive your Journal at your new address agreement must be made in advance with the post office that you will pay the forwarding costs. This usually amounts to only 30¢ to 40¢, which is much more economical than \$5.00 per back issue if you must replace an issue. The Association (via the National Office) is not responsible for replacing lost or missing issues due to an address change unless the new address is registered with the National Office at least 30 days in advance of the Journal's publication date. Over 2500 requests for address changes are processed annually — not all of these are received in time for Journal deadlines. Replacement costs to the Association would be astronomical if we did not adhere to our 30-day guideline. Please help us to help you by getting address changes in promptly and advising your post office to forward interim mail.

### PLACEMENT HOT LINE

\*\*\* The number for the 24-hour telephone "HOT LINE" offering information on job opportunities is (919) 752-1266. Two different tapes are used: Graduate Assistantship tape is run on Monday, Wednesday and Friday from 5:00 pm until 9:00 am the following working day. General employment tape is run at all other times. Have pen and paper available

to take down the following information: Position Title, Location, Brief Qualifications, Deadline, Person to Contact. A good idea some trainers are using: The HOT LINE tape is recorded for posting on bulletin boards. A current Placement File is also maintained by Committee Chairperson Craig Sink. If you would like to be included in this cross-indexed file, mail your current resume to him at NCSU, Box 5187, Raleigh, NC 27650.

### GRAFFITI

\*\*\* Our Spring 1983 issue was mailed to 170 foreign subscribers — an all time high.

\*\*\* Ken Wolfert, Editor-in-Chief of *ATHLETIC TRAINING* made a visit to the National Office in February. A candid shot of one of his work sessions appears on page 92 with his Editor's Remarks.

\*\*\* **URGENT CERTIFICATION UPDATE:** THE CORE REQUIREMENT OF BASIC FIRST AID WILL REMAIN AS IS THROUGH 1984. THE REQUIREMENT WILL NOT BE CHANGED TO ADVANCED FIRST AID.

\*\*\* Photo credits and many thanks to Johnnie Williams who took pictures in the National Office for this issue.

\*\*\* Nashville '84 — June 10-13!!

\*\*\* The North Carolina State University Wolfpack student trainers recently visited the National Office for an orientation seminar. Pictured below is one of the conferences of that day.



# Announcements

## Schedule of Future Sites and Dates NATA Certification Examination

All regional sites subject to a **minimum** of six candidates per site and limited to a **maximum** of 30 candidates. Applications are accepted and scheduled for sites in order of remittance.

NOTE: All sites are subject to change within the region.

**January 9, 1983** — Deadline for returning applications is 11-27-82

New Britain, CT	Fort Worth, TX
Philadelphia, PA	Denver, CO
Raleigh, NC	Sacramento, CA
Chicago, IL	Portland, OR
Dayton, OH	

**March 20, 1983** — Deadline for returning applications is 2-5-83

Boston, MA	Richmond, KY
Pittsburgh, PA	Boise, ID
Lincoln, NE (3-18-83)	Anderson, IN
Tucson, AZ	Fort Worth, TX
Costa Mesa, CA	Springfield, VA

**June 26, 1983** — Deadline for returning applications is 5-21-83

New Britain, CT	*Denver, CO
Philadelphia, PA	Sacramento, CA
Raleigh, NC	Richmond, KY
**Chicago, IL	Portland, OR
Lawrence, KS	

**July 31, 1983** — Deadline for returning applications is 6-18-83

Boston, MA	Costa Mesa, CA (7-29-83)
Philadelphia, PA	Chattanooga, TN
**Chicago, IL	Seattle, WA
Cedar Falls, IA	Raleigh, NC

WHEN REQUESTING AN APPLICATION: It must be in written form, it must state the date to be examined and what section you will be applying under. Application forms are available from: NATA Board of Certification  
P.O. Drawer 1865  
Greenville, NC 27834

NOTE: The 1984 examination dates will approximate the 1983 dates on a regional basis.

All items must be received by the NATA Board of Certification Office by the specified deadline for the date you have chosen; however, all applications are accepted and scheduled in order of remittance.

\*Test site not at National Meeting

## NATA CERTIFICATION EXAMINATION TENTATIVE SCHEDULE FOR 1984

NOTE: Sites may change, but will remain in the same NATA District.

### January 8, 1984

New Britain, CT	Albuquerque, NM
Pittsburgh, PA	Costa Mesa, CA
Raleigh, NC	Richmond, KY
Chicago, IL	Seattle, WA
Fort Worth, TX	

### June 26, 1984

New Britain, CT	Fort Worth, TX
Philadelphia, PA	Denver, CO
Raleigh, NC	Costa Mesa, CA
Dayton, OH	Nashville, TN
Madison, WI	Portland, OR

### March 18, 1984

Boston, MA	Tucson, AZ
Harrisburg, PA	Sacramento, CA
Springfield, VA	Richmond, KY
Chicago, IL	Eugene, OR
Lincoln, NE (3-16-84)	

### August 5, 1984

Boston, MA	Costa Mesa, CA
Harrisburg, PA	Chattanooga, TN
Raleigh, NC	
Chicago, IL	
Lawrence, KS	

## DENVER COLORADO



The "Bucking Bronco" and "On the Warpath" statues, reminders of Denver's western frontier heritage, stand before the 24-carat, gold plated dome of the Colorado State Capitol Building in downtown Denver.

### Buickel, from page 138

14. Parker K: Dietician/Nutritionist, Gainesville, Florida, Personal Conversation.
15. Pertschuk M, Crosby L, Barot L, Mullen J: Immunocompetency in Anorexia Nervosa. *The American Journal of Clinical Nutrition* 35(5) pp. 968-972, 1982.
16. Smith NJ: Excessive Weight Loss and Food Aversion in Athletes Simulating Anorexia Nervosa. *Pediatrics* 66(1):139-142, 1980.
17. Smith NJ: Nutrition and the Athletic Trainer. Presented at the 33rd Annual Meeting and Clinical Symposium of the National Athletic Trainers Association. Seattle, WA, June 13, 1982.
18. Squire S: Why Thousands of Women Don't Know What to Eat. *Glamour* 79:244-245, 309-315, 1981.
19. Webb LJ: Diagnostic Criteria for Anorexia and Bulimia. *Diagnostic and Statistical Manual of Mental Disorders* 17:69-71, 1980. +

### Rotella and Campbell, from page 142

7. Rotella RJ: Systematic Desensitization: Psychological Rehabilitation of Injured Athletes. In LK Bunker and RJ Rotella (Eds) *Sport Psychology: From Theory to Practice*. Charlottesville, Virginia, Department of Health and Physical Education, University of Virginia, 1978, pp. 339-390.
8. Rotella R: Psychological care of the injured athlete. In Kulund D, *The Injured Athlete*. Philadelphia: JB Lippincott Company, 1982, pp. 213-224.
9. Wolpe J: *Psychotherapy by Reciprocal Inhibition*. Stanford, California: Stanford University Press, 1958.
10. Wolpe J: *The Practice of Behavior Therapy*. 2nd edition. New York: Pergamon Press, 1973. +

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T. C. "Skip" Cox

Head Ath. Trainer Baylor Univ.

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# PROCEEDINGS of the BOARD OF DIRECTORS NATIONAL ATHLETIC TRAINERS' ASSOCIATION

Mid-Winter Meeting  
February 27-28, 1983  
Denver Hilton Hotel  
Denver, Colorado

## SUMMARY OF ACTIONS NATA BOARD OF DIRECTORS

The following agenda items were considered and actions taken by the NATA Board of Directors at its Mid-Winter Board Meeting held on February 27-28, 1983, at the Denver Hilton Hotel, Denver, Colorado. Mr. Bobby Barton, President, presiding and with the following present:

Mr. Bobby Barton, President  
Mr. Otho Davis, Executive Director  
Mr. Bruce Melin, Parliamentarian  
Mr. Jack Baynes, District 1  
Mr. Hal Biggs, District 2  
Mr. Hunter Smith, District 3  
Mr. Robert Behnke, District 4  
Mr. Frank Randall, District 5  
Mr. Paul Zeek, District 6  
Mr. Dale Mildenberger, District 7  
Mr. Roger Dennis, District 8  
Mr. Roy Don Wilson, District 9  
Mr. Mark Smaha, District 10  
Mr. Larry Graham, Legal Counsel  
Mr. Brooks McIntyre, Financial Adviser

### I. MAIL BALLOT APPROVALS:

Moved by District 3, seconded by District 5 and carried (with Mr. Baynes not being present at the time this vote was taken) that the mail ballots previously acted upon be approved.

The items are as follows:

1. Appointments to Ethics Committee:  
Kevin P. O'Neill, District 10  
Oregon State University  
Cash Birdwell, District 6  
Southern Methodist University  
Kent Falb, District 4  
Detroit Lions Football Club  
Debra Granner, District 3  
University of South Carolina  
Wesley Jordan, District 1  
University of Maine at Orono
2. Resignation of Marge Albohm, District 4, Indiana University, as member of Certification Committee.
3. Resignation of Larry Krock, District 8, California State University, Northridge, CA, as member of Continuing Education Committee.
4. Appointment of Dan Bailey, District 8, California State University, Long Beach, CA, to Continuing Education Committee.
5. Sale of *NATA ROLE DELINEATION STUDY*.
6. Resignation of Ed Christman, District 9, Knoxville, Tennessee, as member of Journal Committee.
7. Resignation of Ron Sendre, District 4, Central Michigan University, as member of Professional Education Committee.
8. Resignation of Debra Granner, District 3, University of South Carolina, as member of Continuing Education Committee.
9. Appointment of David Huffstetler, District 3, University of South Carolina as member of Continuing Education Committee.
10. Appointment to Journal Committee:  
Deloss Brubaker, District 10  
Oregon State University  
David Burton, District 6  
Duncanville Independent School District

Duncanville, Texas  
Paul Concialdi  
Kiskiminetas Springs School  
Saltsburg, Pennsylvania

11. Resignation of Debra Granner, District 3, University of South Carolina, as member of Ethics Committee.

### II. INFORMATIONAL REPORTS:

The following reports having been submitted with no action items contained therein, it was moved by District 7, seconded by District 8 and carried (with Mr. Baynes not present at the time this vote was taken) to accept these items as information.

Audio Visual Aids  
Career Information and Services  
Certification  
Board of Certification  
Continuing Education  
Drug Education  
History and Archives  
Public Relations  
Publications  
Research and Injury  
American College of Health Association  
American College of Sports Medicine  
American Corrective Therapy Association  
American Physical Therapy Association  
Joint Commission on Competition Safeguards  
and Medical Aspects of Sports  
National Association for Girls and  
Women in Sports  
National Association of College Directors  
of Athletics  
National Association of Intercollegiate  
Athletics  
National Federation of State High School  
Associations  
National Football League Alumni  
National Head and Neck Injury Registry  
United States Collegiate Sports Council  
Schering Symposium  
National Commission for Health Certifying  
Agencies  
AMA Liaison Contact Meeting  
National Sports Rehabilitation Foundation  
Display at College Hall of Fame  
Maginnis and Associates

1. The Audio Visual Aids Committee report is as follows:

September 30, 1982

The NATA Audiovisual Aids Committee will revise the bibliography of media items available to our membership this year. Please inform your district committee member if you are aware of or use a media item in your program that may benefit other members of our profession.

October 4, 1982

MEMO

TO: NATA Members — Audio Visual Aids Committee  
FROM: John Streif — Chairman  
RE: Responsibilities — Report

1. The following enclosed announcement will be put in

the NATA Journal and District Newsletters.

2. A committee roster is enclosed and the necessary information will go to the National Office for approval once I have all the resumes in.

3. Dennis Murphy will coordinate all bibliography update and new information to be completed in a booklet for distribution to our national membership. Please send any information you receive or research to him no later than Feb. 15, 1983.

4. Robert Smetanka will be responsible for establishing and coordinating a media review room for convention in June (info. will be sent by Bob).

5. The remainder of the members of the committee have been assigned pages in the old bibliography.

a. Please research and see if these media items are still available and record any new or updated information and send it into Dennis Murphy by Feb. 15.

b. Please send information provided by any district members to Dennis Murphy.

c. If you have an audiovisual library available please try to list any items related to athletic training or sportsmedicine that may benefit our membership.

Dennis will need to know the type of media item (film, videocassette, etc.), length, availability, cost, possibly a summary of the presentation, or any detailed information that may be available.

6. Please also inform Robert Smetanka if you plan on being at the NATA convention in June and if you will be able to be of some help with the media review room at the convention.

7. No further communication has come up from the National Office concerning the AV committee recording meetings and selling tapes.

8. Other correspondence is enclosed.

9. Jerry Nowesnick is also working on a bibliography of text relating to athletic training.

November 23, 1982

MEMO

TO: Otho Davis

FROM: John Streif

RE: Mid Year Audiovisual Aids Committee Report

The following projects are now being worked on by the AV committee:

A. Bibliography of text related to the Athletic Training profession.

B. Media Review room for national convention in 1983.

C. Updating the bibliography on media items related to our profession.

D. We will soon start a directory (indexed by author and subject) on audio cassette tapes of NATA meetings being sold by the National Office.

E. District member communication and helping district secretaries in taping meetings.

F. Jan. 1, 1983 the videocassette tape "They Keep Them Playing" is to be made available to our committee for distribution.

Thank you and committee members and resumes are forwarded for board approval.

1982 NATA Audiovisual Aids Committee

Michael Rule, Dist. I  
Keaney Gymnasium  
University of Rhode Island  
Kingston, RI 02881

G. Patrick Connors, Dist. II  
Program Director  
The Institute for Medicine in Sports  
Hamilton Hospital  
Box H  
Trenton, NJ 08690

John Joseph Kasik, Dist. III  
9005 Harford Road  
Baltimore, MD 21234

Robert S. Gray, Jr., Dist. IV  
3187 West 21st Street  
Loraine, OH 44053

Jerry Nowesnick, Dist. IV  
College of Du Page  
22nd St. & Lambert Rd.  
Glen Ellyn, IL 60137

Jerry Weber, Dist. V  
Dept. of Athletics  
Stadium Office Building  
University of Nebraska  
Lincoln, NE 68588

Allen Eggert, Dist. VI  
Rice University  
Houston, TX 77002

Thomas E. Abdenour, Dist. VII  
Head Athletic Trainer  
Weber State College  
Ogden, UT 84408

Robert E. Smetanka, Dist. VIII  
1327 31st Avenue  
Apt. #3  
San Francisco, CA 94122

James A. Madaleno, Dist. IX  
Valdosta State College  
Athletic Dept.  
Valdosta, GA 31698

Dennis T. Murphy, Dist. X  
University of Montana  
Field House 208  
Missoula, MT 59801

John Streif  
University of Iowa  
FH Training Room  
Iowa City, IA 52242

2. The Career Information and Services Committee report is as follows:

November 26, 1982

TO: Otho Davis, Executive Director  
FROM: Charles O. Demers, Chairman  
Career Information Services Committee  
SUBJECT: Mid-Year Committee Status Report

1. The proposed Committee budget 1983-84 (copy attached) is the only Committee business to be addressed to the Board of Directors at this time.

2. The Committee membership remains:

Charles O. Demers, Chairman  
Deerfield Academy  
Robert Behnke  
Indiana State University  
Fred Kelley  
Dartmouth College

3. The primary functions of the Committee are the publication of the "Career and Placement Brochure" and to serve as a designated source of career information.

4. The duties of the Committee members are to advise and assist the chairman in the process of effective Committee operation.

3. The Certification Committee report is as follows:

September 22, 1982

Mr. Otho Davis  
Executive Director, NATA  
Veterans Stadium  
Philadelphia, PA

Dear Otho:

The Role Delineation study is now completed. As you know it is the basis for our certification examination test structure and will serve as the foundation on which our approved educational programs should be modeled with regard to athletic training education coursework, etc.

For the purpose of getting this information out to all athletic trainers who have programs, internship or approved, I would like to recommend that the NATA sell the results and the study itself to this population. This, the selling of the role delineation study, is done by most professions who have conducted one.

To comply with NCHCA and EEOG regulations we will be conducting this study every three years. I believe it is an excellent way to recover funds for this on-going project.

I have asked the National Office to investigate printing and mailing costs, when this is available I will have them for you.

I would hope that this (the selling of the study) could

be ready for this December. Thanks and please call if you have any questions.

Most cordially,  
Paul Grace  
Chairman

MEMBERS OF THE CERTIFICATION COMMITTEE  
August 25, 1982

DISTRICT I  
John Leard  
Northeastern University  
360 Huntington Avenue  
Boston, MA 02115

DISTRICT II  
Steve Bair  
Head Athletic Trainer  
Department of Athletics  
Temple University  
Philadelphia, PA 19122

DISTRICT III  
Mary Allen Watson  
North Carolina State University  
Post Office Box 5187  
Raleigh, NC 27650

DISTRICT IV  
Steve Risinger  
Anderson College  
Sports Medicine Center  
Anderson, IN 46012

DISTRICT VI  
Harold Bennett  
Athletic Department  
North Texas State University  
Denton, TX 76203

DISTRICT VII  
Ben Davidson  
Athletic Department  
Southern Utah State University  
Cedar City, UT 84720

DISTRICT VIII  
Carlynn A. Smith  
Athletic Trainer  
San Diego State University  
San Diego, CA 92182

DISTRICT IX  
Al Green  
Memorial Coliseum  
University of Kentucky  
Lexington, KY 40506

Terry Lewis  
University of Tennessee at Chattanooga  
Athletic Department  
5th and Lansing Streets  
Chattanooga, TN 37402

DISTRICT X  
Dick Irvin  
Oregon State University  
Physical Education Department  
Langston Hall  
Corvallis, OR 97331

4. The Board of Certification report is as follows:

BOARD OF CERTIFICATION  
MID-YEAR REPORT 1982/83

Since the June meeting of the Board of Certification the focus of our attention has been directed in two areas: (1) assessment of the validated Role Delineation and subsequent revision of the Certification Examination, and (2) completion of the application for membership with the National Commission for Health Certifying Agencies. I am pleased to report that both of these activities have been completed.

During the month of July the examination revision sub-committee met in New York City with representatives of Professional Examination Services (PES) to (1) assess the Role Delineation, (2) review an item analysis of the present examination, (3) select questions for the revised examination based upon the test specifications established by the Role Delineation, and (4) establish a pass/fail point for the written section of the Certification Examination.

To address the issue of test security, we will also use a scrambled version of the revised test. As well, the oral/practical portion of the examination for 1983 was established at this time.

Other activities concerned with certification are as follows: (1) the development and subsequent printing of a Certification Information brochure. This brochure is available to all interested certification applicants; (2) the development of an Examination Administration Booklet. This booklet will be utilized by the host site coordinator and committee representative for pre-test and post-test operations; (3) the certification certificate was redesigned and has received positive comments from the membership. In my opinion, the certificate is a vast improvement over our previous certificate of

certification.

A number of sub-groups have been formed to initially address topics concerning certification. These major sub-groups are as follows: Examiner Development, Written/Oral Examination Development, and Research. Members of each sub-group will present their report at our annual meeting.

We initially had hoped to embark on our formal Examiner Development Program in 1983. After considerable consultation, this process will not formally begin until 1984. By this time, all the participants will have had ample time to carefully assess our approach to this project and develop a workable strategy to meet these goals.

Each sub-group and the members involved are listed below. The district represented by each individual is noted within the parentheses.

SUB-GROUP	LEADER
Examiner Development	Ron Barnes (2) Members: Mary Allen Watson (3), Bruce Swart (8), Dennis McMeekin (6), Al Green (9), Steve Risinger (4)
Research and Evaluation	Bruce Kola (7) Members: Lynn Bott (5), Janet Anderson (10), Terry Lewis (9), Dick Irvin (10), Dave Burton (5), Steve Bair (2)
Examination Questions	Carl Krein (1) Members: David Green (9), Kathy Heck (4), Bruce Swart (8), John Leard (1), Harold Bennett (6), Ben Davidson (7), Carlynn Smith (8)
Appeals	Chairman Members: Janet Anderson (10), Bruce Swart (8), Lynn Bott (5)
Test Revision	Chairman Members: Carl Krein (1), David Green (9), Bruce Kola (7), Ron Barnes (2), Dennis McMeekin (6), Mary Allen Watson (3)

The progress we have made with these aspects of certification should, and must be credited, to a committed group of workers. I am pleased to report that the Certification Committee and Board of Certification has such a group.

BOARD OF CERTIFICATION MEMBERS  
April 29, 1982

DISTRICT I  
Carl Krein  
Kaiser Hall  
Central Connecticut State College  
New Britain, CT 06050

DISTRICT II  
Ron Barnes  
Head Athletic Trainer  
New York Giants  
Giants Stadium  
East Rutherford, NJ 07073

DISTRICT III  
Joe Gieck  
Box 3785 University Hall  
University of Virginia  
Charlottesville, VA 22903

DISTRICT IV  
Kathy Heck  
1737 Nemoke Trail #11  
Haslett, MI 48840

DISTRICT V  
Lynn Bott  
Allen Fieldhouse  
Kansas University  
Lawrence, KS 66045

DISTRICT VI  
Jim Dodson  
Head Athletic Trainer  
Midland High School  
Midland, TX 79701

DISTRICT VII  
Bruce Kola  
Department of Athletics  
The Colorado College  
Colorado Springs, CO 80903

DISTRICT VIII  
Bruce Swart  
Palomar College  
1140 West Mission Road  
San Marcos, CA 92069

DISTRICT IX  
David Green  
Alumni Coliseum  
Room 126  
Eastern Kentucky University  
Richmond, KY 40475

DISTRICT X  
Janet Anderson  
1128 1/2 West 8th  
Eugene, OR 97402

5. The Continuing Education Committee report is as follows:

#### CONTINUING EDUCATION COMMITTEE REPORT

Midyear meeting agenda report for the Continuing Education Committee

- Item 1 — Deficient members for 1979-1980 reporting period — 459 deficient members or 13.5%. This is based on 3200 members. This is a reduction of 12.5% over the same reporting period of a year ago.
- Item 2 — Journal Quiz — This seems to be serving that population of the membership that was having problems accumulating Continuing Education Units. Attachment A shows the percentage break down since we began our survey.
- Item 3 — Approval of Mr. Dave Huffstetler, Head Trainer University of South Carolina as District Three Representative to replace Ms. Debbie Granner.

Respectfully submitted,  
James B. Gallaspy

#### Attachment A

Of the 98 who responded to the Journal quiz:

- 28.5% were at the High School level
- 4 % were at the Junior College level
- 9 % were at the College level
- 16.3% were at the University level
- 16.3% were at the Sports Medicine clinic level
- 25.5% were classified as other

#### CONTINUING EDUCATION COMMITTEE

DISTRICT 1  
Harriett Pearce  
Dupont Athletic Center  
MIT  
PO Box Br D  
Cambridge, MA 02139

DISTRICT 2  
Don Kessler  
PO Box 71 Athletic Department  
Princeton University  
Princeton, NJ 08544

DISTRICT 3  
David Huffstetler  
Athletic Department  
University of South Carolina  
Columbia, SC 29208

DISTRICT 4  
Fred Turner  
1816 W 170th  
Hazelcrest, IL 60429

DISTRICT 5  
Reginald G. Speak  
Sr HS  
3330 Maple Crest  
Bettendorf, IA 52722

DISTRICT 6  
Ron Carroll  
PO Box 1225  
State University, AR 72467

DISTRICT 7  
Mike Nesbitt  
Box 15400  
Northern Arizona University  
Flagstaff, AZ 86011

DISTRICT 8  
Dan W. Bailey  
2020 Tevis Avenue  
Long Beach, CA 90815

DISTRICT 9  
Linda Arnold  
Field House 367  
Memphis State University  
Memphis, TN 38152

DISTRICT 10  
Jackie Laws  
PEB 203  
University of Idaho  
Moscow, ID 83843

6. The Drug Education Committee report is as follows:

#### DRUG EDUCATION COMMITTEE REPORT: DECEMBER, 1982

1. In regard to the directive of the Board of Directors, and the letter of November 19, 1982, signed Otho Davis (see copy), a telephone call was made to Mary Edgerley on November 22, 1982. She was at a loss to explain the requested procedures to me. A copy of the financial statement, as prepared by the chairman and submitted to Mary is enclosed.

2. Two Drug Education articles have been printed in *Athletic Training: The Journal of the National Athletic*

#### Trainers' Association.

A. "An Evaluation of DMSO in Sports Medicine," Spring, 1982.

B. "Alcohol: Number One Drug of Abuse," Fall, 1982.

3. The next Drug Education article will be "Marijuana and Athletic Performance."

Respectfully submitted,  
John Wells, Chairman

7. The Public Relations Committee report is as follows:

#### NATIONAL ATHLETIC TRAINERS' ASSOCIATION PUBLIC RELATIONS COMMITTEE REPORT DICK VANDERVOORT, CHAIRMAN

In organizing a Public Relations Committee there are many questions we must ask ourselves. What can this Committee do for the NATA and its members? What group or groups of people do we need to reach with information concerning the professional role and contribution of the athletic trainer? Why is it important for us as individual athletic trainers and the NATA to make the public more aware of our profession?

If you read the article in the Spring NATA Journal, "The Burnout Syndrome Among Athletic Trainers," I think you will agree we need to improve not only the public's awareness of our profession, but our working conditions as well. The following are some quotes from that article:

"The trainer begins his professional career with a high level of interest and enthusiasm. He's bursting with ideas and desires to implement them. The classic work pattern of dedication and commitment becomes over dedication and over commitment. The pace of the first to arrive and the last to leave becomes a schedule he feels he must maintain. He perceives the pressure of his profession: multiple decision making with regard to care of injured players, the player and coach interactions with regard to a player's return to competition, the disruptions of travel, and just meeting these schedules week after week."

"The athletic trainer works extensively and intimately with administrators, coaches, doctors and athletes over an extended period of time. This requires the constant giving of himself to others with his own needs becoming secondary. The emotional involvement of meeting everyone's needs as well as his own is taxing even for the best adjusted athletic trainer."

I am sure many or most of you can relate to some of the quotes from that article. I thought the article was excellent and a subject that needed to be brought out. It also gives us many additional reasons why I think we need a Public Relations Committee for the NATA.

It is my belief that in order for this Committee and the NATA membership to improve our public image, we have to first begin within our own organization. To do this, we must become more positive in our attitude toward the profession and the vital role we serve in any given athletic program. We must realize we are not just the athletic trainer, but we are professional people who are responsible for the lives of young athletes across this country. I believe the athletic trainer has been his own worst enemy for years, and I think that's why we must start within our own organization. We can start by appropriately promoting our profession and ourselves to groups of people who are in a position to not only create more jobs for certified athletic trainers, but at the same time increase the salaries of the men and women currently employed in our profession.

One of our most important decisions is to determine the crucial audiences we need to supply information on the importance of having the services of a certified athletic trainer on their athletic staff. There are many people who do not know the importance or the role of an athletic trainer and the vital contributions he makes to organized sports.

#### IMPORTANT GROUPS REQUIRING SPECIAL INFORMATION ABOUT THE ATHLETIC TRAINING PROFESSION

##### Parents of Student Athletes

Parents of student athletes should be educated about our profession. This can best be done with the help of certified athletic trainers located in communities where high schools do not have a certified athletic trainer on their staff. Local PTA groups would be a great place to begin educating parents on the importance of having a full-time athletic trainer for their sons or daughters.

At the same time I think it would be appropriate for us to encourage parents to send their sons or daughters to a college or university that has a certified athletic trainer on its staff. A large percentage of small colleges do not have certified athletic trainers and only approximately 300 of 20,700 high schools have the services of our profession.

At the present time the National Basketball Trainers Association has on retainer a book publishing company,"

"76 Press, Inc." The president's name is Mr. W.W. Wood, and I have discussed with him the possibility of placing articles on athletic trainers in leading parent magazines in the United States. He feels he can be of help to us in this area and is willing to make contact with people who can achieve this goal. We also have had meetings in New York with a Mr. Zander Hollander, President of Associated Features. Mr. Hollander specializes in sports publications, and I will meet with him to discuss what help he might be able to give us. Mr. Hollander produces the annual hand book for professional basketball and his book credits also include the "Pro Basketball Encyclopedia, The Complete Encyclopedia of Ice Hockey, the Encyclopedia of Sports Talk and Sports Lists."

The NBTA has also signed a contract with Westwood Communications, Inc. to produce a series of video tapes on athletic training. I have talked with Mr. Bruce O'Neil, the Executive Producer, about ways we could promote the NATA through video tapes. At this time we are still discussing how we can best accomplish this goal. Because the video series is being developed for use by high school coaches and parents, it may be a very good vehicle for the NATA as a means of reaching parent groups in areas where high schools do not have certified athletic trainers.

I feel the parents are the most important group of people to whom we need to present our message. We must emphasize the value and the vital role the services of a certified athletic trainer can provide for any athletic program, high school, college or professional.

#### ATHLETIC DIRECTORS, HIGH SCHOOL AND COLLEGE ADMINISTRATORS

If we can demonstrate and reach the parents on the importance of having a certified trainer for their schools, our next step is to direct our message to the people in charge of hiring our services. Among the ways this can be accomplished is by placing first rate articles on the value of an athletic trainer in coaching magazines, such as "Scholastic Coach." Those who are in a position to hire certified athletic trainers, should know, appreciate and be committed to adding this vital service to their staff.

It would also be a great aid if we could have college, pro sports and high school trainers in all states speak at annual meetings of high school athletic directors and coaches. First hand information and demonstrations would make our role more impressive to coaches and athletic directors who are not aware of the skills we can provide their athletes and their programs.

#### LEGISLATORS

The third group of people with whom we need to cultivate a good understanding is our State Legislators. We must improve the overall image of what an athletic trainer can do by concretely and dramatically informing the state governments concerning the benefits of having a qualified athletic trainer in their state high school system. We can also improve their awareness and understanding of the NATA and its position on the need for state licensure of athletic trainers.

You may have noticed I have not included the general public as a group of people we need to reach at this time. This is because I think we have covered the three most important groups we must reach with information concerning the value and the skills a certified athletic trainer can provide young athletes throughout this country.

If we are able to accomplish some of the goals set forth in this outline in the first year of operation, we will have made a step in the right direction. Again, I want to emphasize this Committee cannot do this job without the help of the entire NATA membership. I realize you and I did not spend years in college to learn how to become public relations experts, but we all should have great pride in our profession and the resolve to help in promoting this potentially historic and probably overdue campaign for greater public recognition and appreciation of our profession.

Respectfully submitted,  
Richard E. Vandervoort

8. The Research and Injury Committee report is as follows:

Committee Report: Research and Injury Committee

Members: Steve Antonopolus, Denver Broncos  
Bob Moore, San Diego State University

For the past several years the Research and Injury Committee has offered the Free Communication section at the National Meeting. Response to the Call for Abstracts has varied from year to year. We anticipate that this section will continue in the future. All Committee members review these abstracts for acceptance.

The Committee has discussed programs for the development of increased interest in conducting and reporting results of research programs among the members of the Association. We feel that an incentive award program should be established in order to

encourage post-graduate level students to continue to examine and report the findings of research conducted relevant to the knowledge and applications in athletic training.

Such an Incentive Award would produce more abstracts for the Free Communication Section as well as articles for the Journal of Athletic Training. I have discussed this program with members of the Awards & Scholarship and they feel that such an Incentive Award would be consistent with growth in the profession of athletic training.

The Research Incentive Award Program would consist of an annual cash award to the individual who submits for Free Communication or Journal publication the most comprehensive and applicable completed research project. The criteria for selection would be originality of design, depth of analysis, application to the profession, and presentation of findings. The finalist in the program would be selected by the Research and Injury Committee and final selection of the award recipient to be made by an independent review committee.

The Committee feels that as the profession of Athletic Training takes its rightful place among other allied health professions, it is important that we encourage our membership to examine and document areas of our expertise. A program of reward of individuals in our Association for the tremendous time and effort to carry out a definite research project deserves recognition by the Association. We are currently asking for the Board's support as we seek an independent sponsor for this award. The award to be initiated at the 1984 National Convention.

Respectfully submitted,  
John W. Powell, Ph.D., A.T.C.  
Chairman

It was further noted that the NCAA Research Committee has funds available for qualified research as follows:

#### FUNDS ARE AVAILABLE FOR RESEARCH WORK

Researchers seeking NCAA funding of projects for the 1983-84 fiscal year must submit requests for funds by April 1, according to Fred Jacoby, commissioner of the Southwest Athletic Conference and chair of the NCAA Research Committee.

Procedures for submitting proposals and guidelines for evaluation of those requests can be obtained from Eric D. Zemper, research coordinator, at the NCAA national office. The procedures and guidelines, approved by the NCAA Council, have been revised recently by the Research Committee and the Committee on Competitive Safeguards and Medical Aspects of Sports.

Within the published guidelines, the committee considers all requests for Association research funds. The committee hopes that several areas will be emphasized, including the following:

- Health and safety factors in athletics. Recommendations in this area come to the committee through the competitive safeguards committee.
- The value and justification of intercollegiate athletics.
- The relationship between institutional athletic recognition and the institution's enrollment applications, development funds and other tangible measurements of the benefits athletic programs may bring to an institution.
- The extent of alcohol and other drug use among student-athletes, and the impact of that use on athletic performance.

Jacoby said that the Research Committee urges those requesting NCAA funding to comply with the approved guidelines, especially in suggesting projects that have practical application to the membership. The committee does not wish to fund projects dealing with technical analysis or performance in a sport, believing that coaches associations are more appropriate sources of funding for specific-sport research.

In addition, proposals should include research methodology, particularly in terms of cost efficiency. The Association traditionally has been successful in supporting research projects at a relatively modest cost.

"It is the committee's intention to maintain high standards for the use of the Association's funds," Jacoby said.

Jacoby also noted that the committee has reaffirmed its policy of not providing funding for indirect costs to institutions; salary costs for principal investigators generally are not approved either. Finally, any studies that involve the use of human subjects must be cleared by the human subjects committee of the institution where the proposal originates.

The NCAA research program has expanded in recent years, but there is no mechanism for funding of major requests. According to Zemper, the average proposal during the past year was funded for approximately \$5,000; the range during the past several years has been \$500 to \$12,000.

Further information is available by contacting Zemper.

*The NCAA News*/February 2, 1983

9. The American College of Sports Medicine report is as follows:

DATE: November 24, 1982  
TO: Otho Davis, NATA Board of Directors  
FROM: Ken Knight  
RE: American College of Sports Medicine Liaison

1. The ACSM Annual Meeting is May 18-21 in Montreal, Quebec, Canada. Budget enclosed.

2. ACSM has raised their dues to \$60 annually.

3. The ACSM has a long range planning committee that meets annually. In its last meeting it reemphasized the following areas of concern:

- a. greater emphasis on scientific and research efforts,
- b. increased lay publications in the form of position stands, brochures, pamphlets, and booklets,
- c. revising the national office staff structure so as to better serve the membership,
- d. more public relation and fund raising efforts among non-members of the college,
- e. better job placement services, and
- f. strengthening regional chapters.

4. The ACSM is continuing to push for a formal liaison organization of sports medicine groups. This body's purpose will be to promote more dialogue, cooperation, and sharing among the 90 different groups who claim to be "Sports Medicine" groups. The final report of a study supported by The Lilly Foundation will be completed by December 15th. Otho will get a copy of it.

5. Construction will begin on the National Center in Indianapolis next March or April. The building should be completed sometime between September and November. At that time the Madison Wisconsin office will close.

6. Tom Miller, Executive Director, has resigned effective July 1, 1983. A search is on for his replacement, who is to begin working by May 1st in Indianapolis.

October 11, 1982

Bobby Barton, A.T.C.  
National Athletic Trainers Association  
1001 East Fourth Street  
P.O. Drawer 1865  
Greenville, N.C. 27834-0413

Dear Mr. Barton:

As the "Forums on Youth Fitness" program continues across the country, I thought that I would thank you and the NATA for its endorsement of our program. I am sure that this program has created an expanded interest in youth fitness wherever it has traveled. This added awareness will benefit all of us who are involved in fitness and health.

We are looking forward to next year already. Our plans will be formulated in January and we will be looking towards continuing our relationship.

Thank you again for your support.

Sincerely,  
AMERICAN COLLEGE OF SPORTS MEDICINE  
Jeffrey Krueger  
Director of Communications & Public Relations

#### THREE FITNESS GROUPS TO STAGE YOUTH FORUMS WITH MAJOR CEREAL COMPANY

NEW YORK—The public and private sectors will join forces this fall to help improve the quality of youth fitness in America.

Three national fitness organizations are presenting 15 Forums on Youth Fitness sponsored by Post Cereals as part of its "FUN 'n FITNESS" campaign.

Subtitled "FUN 'n FITNESS for All," the events will be staged by the American College of Sports Medicine in cooperation with the YMCA and the American Alliance for Health, Physical Education, Recreation and Dance. The one-day seminars are designed for physical education teachers, park and recreation specialists, youth club leaders, health educators and volunteer coaches.

"Inactivity among youth today is a serious problem that must be corrected," says Thomas Miller, executive director of the American College of Sports Medicine. "We have far too many spectators and not enough participants. These forums will provide a practical learning experience that will give our professionals solid guidance on directing our youths into fitness lifestyles."

"We're delighted to be working with the American College of Sports Medicine," notes Ken Deffen, manager of corporate communications for General Foods. "It is a highly respected, professional organization known not only for its research, but for its dedication to communicating the results of that research to the public. The forum faculty, all College members, are among the best in their field."

The following topics will be explored in concurrent "breakaway" activity sessions:

- Aerobics
- Actions for Land and Water
- The Healthy Back

- Weight Training and Conditioning
- Teaching Fitness for Life
- Sports Fitness Analysis
- Fitness for the Handicapped
- Nutrition in Relation to Fitness and Sport
- YMCA Feelin' Good

A principal goal of the forums is to encourage student participation in school physical education programs. A 1980 Surgeon General's report on health promotion and disease prevention estimated that only one-third of those children aged 10-17 participated in daily school fitness activities.

The following are the forum locations and dates:

- Indianapolis; Arsenal Technical High School, Sept. 2
- Albuquerque, N.M.; University of New Mexico, Sept. 7
- New Orleans; University of New Orleans, Sept. 21
- Raleigh, N.C.; North Carolina State University, Sept. 22
- San Diego; Point Loma College, Sept. 28
- San Jose, Calif.; West Valley Community College, Sept. 29
- Oklahoma City; Central State University, Oct. 7
- Memphis; Memphis State University, Oct. 8
- San Antonio, Texas; Lanier High School, Oct. 11
- Seattle; Seattle Pacific University, Oct. 12
- Denver; Metro State College, Oct. 14
- Springfield, Mass.; Springfield College, Oct. 27
- Des Moines, Iowa; Drake University, Nov. 2
- Kansas City, Mo.; William Jewell College, Nov. 3
- Milwaukee; University of Wisconsin, Nov. 5

The Forums on Youth Fitness are endorsed by the Boosters Clubs of America, the National Athletic Trainers Association and the National Federation of State High School Associations.

The "FUN 'n FITNESS" program was instituted by Post Cereals to help schools across the country maintain quality athletic and recreation programs. By collecting proof-of-purchase seals from any Post Cereals box, the schools can obtain a variety of sports equipment, ranging from volleyballs to balance beams. As of August 1982, 39,000 schools have signed up for the program.

More information can be obtained by calling the following toll-free numbers: (800) 435-7678 or (800) 892-1869 (Illinois only).

For further information contact:  
Martha Peterson, Continuing Education Coordinator,  
ACSM  
608-262-3632

#### RELEASE AT WILL

ACSM Certification Programs—Details, dates, locations  
MADISON, WI—Exercise has a legitimate and accepted role in both preventive and rehabilitative medical programs. As a result, there is an increasing demand for qualified personnel to administer graded exercise tests, to execute exercise prescriptions, to design, supervise and lead appropriate exercise and to design, implement and administer safe, effective and enjoyable preventive and rehabilitative exercise programs.

To meet this need, the American College of Sports Medicine (ACSM) has established certification procedures for Preventive and Rehabilitative Exercise Test Technologists, Exercise Specialists, Exercise Program Directors and Fitness Instructors. There are progressive expectations of knowledge base, skills and competencies for each of these categories.

The purpose of this program is two-fold: 1) to increase competencies of those involved in preventive and rehabilitative exercise programs, and 2) establish means whereby the public consumer can recognize professional competence.

10. The American Corrective Therapy Association report is as follows:

August 3, 1982

TO: Jeff Fair  
Head Trainer  
Oklahoma State University  
Stillwater, Oklahoma 74074

FM: James B. Gallaspy, Jr.  
Assistant Professor  
Department of Athletic  
Administration and Coaching  
University of Southern Mississippi

RE: Liaison Report from  
American Corrective Therapy Association  
held July 10-11, 1982

On July 10-11, 1982 I met with the Executive Committee of the American Corrective Therapy Association in Biloxi, Mississippi. I found this meeting very interesting and informative and realized that many of the problems the ACTA is having are some of the same problems the National Athletic Trainers Association has had to deal with in the past. Some of the areas we discussed were certification, continuing education, professional education committee funding, and placement.

I enjoyed meeting Mr. Henry Ostermann, President of the ACTA and each of the other Executive Committee

members and I informed them if we could be of any assistance to please call on us. The Executive Committee seemed to appreciate that the NATA had a representative at the meeting.

I appreciate the opportunity to serve the NATA in this capacity and if I can be of any further assistance in the future, please call on me.

cc: Bobby Barton  
Otho Davis

The new president of the American Corrective Therapy Association is Mr. John Malpass. He was elevated to the presidency at the ACTA's 1982 Annual National meeting in Biloxi, Mississippi. (Copy of ACTA Administrative Organization enclosed.) Attending the 1982 convention was James Gallaspy acting as the NATA Liaison. (Copy of Jim's report on this meeting enclosed.)

The American Corrective Therapy is very active in working with their clinical training affiliations and the VA medical centers. (A list of these universities and VA hospitals is enclosed.)

The ACTA Historical Committee is making available the *History of the American Corrective Therapy Association*. Copies of the ACTA history can be obtained from Henry Ostermann, past president of the ACTA.

The next ACTA National Convention will be held July 11-14 at the Dunfey Hotel in Houston, Texas. It is recommended to the Board of Directors that we continue our close association with the ACTA and send an appropriate representative to their national meeting as our liaison.

Respectfully submitted,  
Jeff Fair  
Head Athletic Trainer  
Oklahoma State University  
ACTA Liaison

TO: Coordinator, Committees and Projects  
FROM: Chairman, Historical Committee, ACTA  
SUBJ: Final Report

1. Efforts to update and increase the historical evidence relating to the American Corrective Therapy Association have been extremely successful. Additional sources of information have identified themselves — including a number of past-presidents and former officers of the Association, retired members, and current ACTA officials — and numerous facts have been entered into the first draft of the *History of the American Corrective Therapy Association*. A number of old photographs dating back to the 1940's and 1950's have been submitted for use in this historical search. The most recent acquisition, submitted by Past-President Norman Roche, was a 12" x 20" photograph of the entire Physical Medicine and Rehabilitation Service staff (130 in number) at the VA Hospital, Hines, IL, circa 1948. Of significant importance was the receipt of a generous monetary gift to the Association from Past-President Leo Berner for assistance in the printing of this information.

2. President Henry Ostermann has had 200 copies of the FIRST EDITION of the History printed at Texas A&M University within the past two months, and some of these are being made available at this conference. Due to the costs of printing, a charge will be made for purchase of these documents. It should be made clear, however, that continued efforts will be made to collect pertinent data, facts and figures, photographs, personal observations and recollections, and first-person commentary which relate to the history of this organization. Plans are already underway to create the SECOND EDITION of the History within the next few years. All who read this report should have a contribution to make to this document, and your assistance will be gratefully accepted and acknowledged.

WARREN C. SMITH, C.C.T.  
July 8, 1982

11. The American Physical Therapy Association report is as follows:

Dear Section Member:

The Sports Physical Therapy Section Executive Committee has approved initiation of a newsletter to enhance communication to the membership. This service will be provided on a two times a year basis following each national meeting. The purpose of this format will be to provide reports by various chairmen of different committees which can be passed on to the membership.

This section has just undergone a major change with the election of a new executive committee at Anaheim. The new executive committee consists of:

Robert Mangine, Chairman  
Fred Turner, Vice-Chairman  
Ken Rusche, Treasurer  
Greg Kaumeyer, Secretary

This was an unusual year for elections due to the implementation of the specialty board. As you know, the House of Delegates in 1981 recognized sports physical therapy as a specialty area. This resulted in a formation of a Board who had the task of guiding the section through specialization. This Board includes:

Terry Malone, Chairman

Lynn Wallace  
Past Chairman on the Executive Board  
T.A. Blackburn  
Past Treasurer on the Section

Enclosed is a statement from the Chairman of the Board, Mr. Malone:

The specialization process in the area of sports physical therapy was approved by the 1981 House of Delegates of the APTA. In August of 1981, the Board for Certification for Advanced Clinical Competence (BCACC) appointed three members to the Sports Physical Therapy Specialization Council. These individuals (Terry Malone, Lynn Wallace, Tab Blackburn) were asked to serve on this Council and to outline the process to be used to develop a competency based certification method. As three other Specialization Councils were formed, a joint meeting was held in January to determine areas of mutual concern. At that meeting, a degree of common "process" was outlined to allow the Specialization Councils to develop the examination process utilizing a consultant recently contracted by the APTA. This will allow the examination to be offered at a much more reasonable cost and also allow the Specialization Council to more appropriately design the examination. Each of the Councils determined that additional members would be required to insure regional representation and to more adequately devise an examination. Additionally, the BCACC has been requested to allow four individuals to take the examination prior to the first public use of the examination. This will allow "passing" levels to be more adequately defined and allow these four individuals to form the original examination team which will administer the oral practical-oral demonstration portion of the completed examination. The present time table calls for the written examination to be offered in November, 1983, and the first oral practical-oral demonstration to be given to those individuals who successfully complete the written in February, 1984. It is planned that the written will be given regionally in November, while the oral practical-oral demonstration would be given at the national meetings biannually. Thus, the writings will be given in November and March, while the oral practical will be given in February and June. Numerous individuals are being contacted to serve as item writers for the examination and each item will then be submitted to an individual who has completed the item writer's workshop offered through the APTA. This will be the method used to construct the written, while the oral practical will also be developed through questions submitted through a similar process and refined by the four members of the examination team.

In August of 1982, an outline of recommended activities was submitted to the BCACC. These activities were outlined to allow an applicant for the examination to have achieved the competencies required by the Sports Physical Therapy Specialization Council. This outline will be available as soon as the BCACC approves of the concept.

The implementation of specialization has posed several new problems for the Section over the next several years. Our primary goal must be to inform other health practitioners of sports physical therapy and its body of knowledge. To this commitment the Board has budgeted monies for new brochures, fabrication of an exhibit display, and investigation into exhibit for this at the American Academy of Orthopaedic Surgeons Conference, National Athletic Trainers Association Conference, and investigations into other areas of specialty interest.

In the Public Relations Committee headed by Perry Esterson is providing the basis for the above course of action.

The Section has also committed to the placement service concept headed by Ken Rusche. This service has continued to expand over the past four years. Anyone seeking information, please feel free to contact Ken at: Department of Physical Therapy, School of Allied Health Sciences, UTMB, Galveston, Texas 77550, (713) 765-3068.

The section and the National Athletic Trainers Association have opened active communication at the meeting in Anaheim. Dennis Miller, head trainer at Purdue University, has been named liaison by the National Athletic Trainers Association to the Sports Physical Therapy Section. The objective is to have open communication to discuss current problems and communicate information of interest to both parties.

The Section has made tremendous strides financially. Over the last five years we have developed revenue generating concepts which has produced monies for the Section and converted us to a solvent business. Through the efforts of former treasurer, T.A. Blackburn, the Section has become a Georgia Chapter Incorporation. Also, this Section has applied and received bulk mailing permits and is now attempting to establish non-profit status.

On a related note, the Section is continuing to support the concept of abstract book publications. This is currently being handled by Lynn Wallace at: Western Reserve Therapists, 12690 Opalocha Drive, Chesterland, Ohio 44026. Please check the latest journal for publications which this Section offers and support this function.

On a clinical note, the Virginia State Board of Medicine has sided with Physical Therapy in their action against a Richmond Sports Medicine Clinic. The Board ruled that the clinic must cease operation until they have conformed to State law of hiring a physical therapist. Further action included reprimands to three of the six orthopaedic surgeons involved. This case revolved around the employment of athletic trainers in an office outside the physician's practice, yet charged for physical therapy. Currently the physicians are looking to employ a physical therapist in order to conform to State Law.

Finally, the Section is holding the Third Annual Physician Therapist Conference in Dallas on December 2-4, 1982. Please support this course by attending as well as bringing a friend. For further information, please write: Kathy E. Johnson, Sports Medicine, Henrico Doctors' Hospital, 1602 Skipwith Rd., Richmond, Virginia 23229, (804) 285-3338. The above address is also the new administrative office address for the Section.

Good luck to all involved in fall sports. I hope it proves to be a successful season.

Kindest personal regards,  
Robert E. Mangine, P.T., A.T., C., M.Ed.  
Chairman, Sports Physical Therapy Section,  
American Physical Therapy Association

12. The Joint Commission on Competitive Safeguards and Medical Aspects of Sports report is as follows:

July 18, 1982

TO: Board of Directors  
NATA

RE: Joint Commission on Competitive Safeguards and Medical Aspects of Sports

As liaison representative to the Joint Commission and past Chairman I would like to officially recommend to the NATA that we continue involvement with the Commission if it agrees to continue operation after the June, 1983 meeting.

With the resignation of the NCAA, I feel the Joint Commission can become a more viable group and more easily accomplish its goals and objectives.

The NATA should also officially invite the Joint Commission to continue meeting at our annual convention site and do everything we can to make them feel welcome.

Respectfully submitted,  
Roy Don Wilson, A.T.C.

13. The National Head and Neck Injury Registry report is as follows:

November 8, 1982

TO: Otho Davis  
Executive Director  
National Athletic Trainers Association

RE: Liaison Report — National Athletic Head and Neck Injury Registry

Since my last report the National Athletic Head and Neck Injury Registry has undertaken two projects that will be of importance to NATA members.

The Registry is in the process of compiling data it has collected on injuries from 1971-1981, a ten year span. It will be available within the next six months, and it will be disseminated in the appropriate journals and scientific publications.

Secondly, a film is being developed from materials gathered by the Registry. It will be a cinematographic documentation of axial loading injuries to the cervical spine from tackle football that resulted in quadriplegia. In addition to the actual injury film, the corresponding radiographic documentation is included.

The data gathered by the Registry is provided in a large part by the members of the NATA, the Registry owes a great deal of thanks to those members who have and continue to participate in its annual survey.

At this time I feel that it is extremely important for the NATA to continue its association with the Registry. Our members are the most appropriate health care professionals to supply information and our members benefit by utilizing the Registry's data and information to implement and monitor measures to prevent severe and catastrophic head and neck injuries.

Joseph J. Vegso, A.T., C.  
Liaison Representative  
NATA

14. The National Commission for Health Certifying Agencies report is as follows:

NATIONAL COMMISSION FOR  
HEALTH CERTIFYING AGENCIES

TO: Board of Directors

FROM: Paul Grace

It has been a rewarding year for the National Athletic Trainers' Association concerning our membership with the National Commission for Health Certifying Agencies.

This past August we were granted "conditional Class A membership." This conditional membership is for one year, as is the case with all conditional members. Next summer, after submitting our test analyses and documentation, full membership can be expected.

The commission recently held their annual meeting in Washington, D.C. The focus of the meeting was on the New Federalism and the impact on health care delivery system.

Mr. Larry Graham also attended the pre-conference educational workshops. I believe Larry will address the Board of Directors on the area of Antitrust Law and its implications to our Association. The experts gathered at the meetings on this subject, were as one member put it, "... an all-star team of experts."

Other workshops that were available at the NCHCA conference were as follows:

- (1) The Practical Side of Recertification
- (2) How to Evaluate Your Testing Program
- (3) New Dimensions in Antitrust Law
- (4) Setting Pass/Fail Levels
- (5) Recent Advances in Establishing Reliability and Validity of Criteria - Referenced Examinations
- (6) The Professions - Under Legal Attack: Occupational Credentials and Equal Employment Law
- (7) The Professions - Under Legal Attack: Antitrust Vistas

I am pleased to report to you that by the very nature of our membership with the NCHCA, we have demonstrated full compliance in all areas of our certification examination process (role delineation, item analysis, pass/fail level, etc.) with that recommended by experts in testing, measurement, and law.

Professional Examination Service, our test consultant, has led us in the proper direction in this area. It was most rewarding for me personally, to hear an expert outline and explain what should be done with tests, etc., and to know that we (NATA) have already done so.

The workshop that I found most informative was that of "The Practical Side of Recertification." This workshop was directed by two members of the Commission who have continuing competency programs now in progress. The exact science and measurement of continuing competence is relatively new. The Board of Certification will discuss this topic at the Annual Meeting and a process of development and implementation will be forthcoming to you.

The Commission is in the process of trying to secure research funds to assist member associations evaluate their continuing competence program.

Attached for your information is a working report on Professional Discipline and Certification. It was accepted by the voting delegates of the General Assembly of the NCHCA (of which we are one) and continuance of the project will be made through 1983. I will keep you updated as the Commission develops policies on this matter.

Additionally, the Commission is investigating a blanket liability insurance plan for its class A membership. Additional information has been requested from numerous carriers, but was not available for the meeting. I have requested that the collected insurance information be sent to the Board of Certification for review.

As I mentioned previously, the focus of the 1982 meeting was on the New Federalism and its impact on health care and credentialing. One of the initial goals, and still a cornerstone of the Commission foundation, is the reliance of states on utilizing private sector credentialing.

During one afternoon panel discussion, elected representatives outlined the increased need for, and move toward, private sector credentialing of professionals. In other words, the need for certification standards from the private sector to be utilized by the state in licensing, etc.

Dennis Falk, Executive Director of NCHCA, read a report from the Office of Management and Budget to state agencies and federal departments recommending the use of private sector standards and credentials in lieu of state operated and administered examinations.

I am also including in this report the committee reports of the Membership and Finance Committees for your information. Additionally, I have been appointed to serve on one of the NCHCA task force groups by the Executive Director. I have accepted this appointment. When the exact nature of the task force group is known, this information will be passed on to you.

15. The American Medical Association Sports Medicine Contact Meeting report is as follows:

WORKSHOP DISCUSSION GROUP #1  
DRUG USE AND ABUSE IN ATHLETICS  
(Presented by Dr. Donald L. Cooper)

We were primarily concerned in our study group with

the two substances that are continually being mentioned, namely the androgenic-anabolic steroids and the amphetamine family of drugs. Of course, we know that people in the weight lifting business and the body building business use these substances without much exception. It is interesting to note that the US Olympic Committee has included for their testing for 1984 both caffeine and abnormal levels of Testosterone. In previous events the individuals would take Winstrol or Dianabol up until about 4 to 6 weeks prior to the event; they would then switch over and start taking Testosterone itself. This will apparently be tested quantitatively. I don't know what they're going to decide on as the line of demarcation from over use or acceptable use, but when they furnish cokes and coffee in the cafeteria and have all this caffeine available, it is going to be real interesting who is going to make the decision this is too much or this is not enough. Dr. Dardik said he didn't have the details as to how they were going to monitor that, but it would be a quantitative test. Apparently they've got the testing so sophisticated now that if you have been taking an interfering substance or what we would call an artificial androgenic-anabolic steroid, they can now test it where it can be shown up to three months after you've gone off of it, it'll still be excreted and be picked up. In addition the full list of banned substances was included and presented. (SEE END OF PAPER FOR LIST)

The quantitative studies that will be done in the 1984 Olympics concerning caffeine and testosterone will probably create a very interesting situation. I don't know just exactly in what way, but I know that what the athletes want from the medical people is what is the optimum dosage because most experiment with themselves or experiment strictly by word of mouth from the other groups of athletes they visit with, who say "Hey Joe what did you take?" "Well I took 10 a day, what did you take?" "I took 15 a day" and it goes from there and there is very little well controlled experimental work done. There is some literature that indicates that anabolic-androgenic steroids did increase strength and size, and yet how well the studies were done is questionable. Other studies that have been done both in Europe and in this country, even Stromme in Norway, where he could get away with using ten to 15 times the normal dosage, came up with the conclusion that there was no constant relationship between the amount of drugs taken even in massive doses and basic hard work that the individuals did in overloading and fatiguing their muscles to cause hypertrophy to occur.

We talked a little bit about a survey that has been completed just this past year, an anonymous type of survey done by the Big Ten team physicians group. Bob Murphy from Ohio State primarily ramrodded it on all of the football and basketball players, swimming and track athletes at the Big Ten schools, and apparently they had quite a bit of cooperation because it was anonymous. They were pleasantly surprised regarding the minimal amount of usage of the substances among all the various athletes. One thing that did come out that is alarming to them, but is no surprise, is that over 60% are using alcohol regularly. We know on our campus with our athletes that it probably runs more like 75% are using alcohol regularly. Along with alcohol is marijuana. These are two substances that are popular and very much readily available, and I don't know really how to get a handle on it or what you can do about it. The peer pressure is so extensive and the athletes are only athletes about 2 to 3 hours out of the 24 hour period. The other 21 to 22 hours of the day they are involved with other members of their social groups, age groups, other members of their living areas and other people whether it's teachers, girlfriends, etc. so that these people get the same peer pressure that everybody gets. I know this, that the stories that we're hearing about Kramer at Minnesota and Porter with St. Louis, and we've heard about any number of athletes who've gotten into trouble with alcohol who have gone ahead and made a public issue of it, that's only the tip of the iceberg. I think when you talk to some of the people that are intimately involved with athletics the number of careers that have been damaged, shortened and crippled by alcohol is quite a great number. The athletes have been readily available in practically every dressing room. It is free and it's going to be very difficult to control. I know the number of people who run marathons and use alcohol is not a small percentage and there may be again some difficulties here.

They did talk a little bit about the blood doping. This is a problem that has not really been fully analyzed in a sense of being able to test it. I don't know of any methodology that you can use, because its just the same person's blood given back to the person. We did hear a theory that has been advanced by some hematologists that the blood that has been stored and frozen when its put back in it may take a day or two or three for it to be able to get its oxygen carrying capacity fully restored again. So you may not be doing as much help as you think. In some of the work they did at Wake Forest on a study of ten subjects, they were not able to show any increased output or increased ability to perform or increased longevity or performance but this becomes one

of those hypothetical situations. I'm not really familiar with any world class athletes that have been involved in this other than what you hear, that some of the later athletes of Finland have admitted that they did do this in some of their long races; yet even some of the people that won were to have done this. How much of an impact this had we of course couldn't figure out.

They did talk about a temporal mandibular mouthpiece study that was done at the USC training center in terms of the weight lifters. In fact, even though this isn't a drug, it is another ergogenic aid or thought to be, and there was no way to correlate that the mandibular interface seemed to have anything to do with the person's ability to increase his strength.

The amphetamine subject is one that I don't know anybody that has a true handle on. It falls into the land of who knows and how can you tell. I talked to some people connected with professional football and they say it is still being used. I talked to other people and they say its the marked minority that are using it. I talked to some people in professional baseball and they say its still being used, and you talk to others and they say its not being used much.

There are a whole host of other peripheral drugs that we just mentioned, such as Vitamin B15, Pangamic Acid, and some of the work that gets published in lay journals but lay journals read by the public, like *Track and Field* will come out with an article by some people from USC, and of course USC carries a fairly reputable higher institution reputation, and saying they get longer ability to perform which increases their maxVo2. It really makes it tough when you're sitting in your office and a kid brings in this article and says "Gimme some of this Pangamic Acid, I want to be able to run 24% longer than I could run without it." Yet, I think the studies are poorly done.

Again, we did talk about caffeine. There is some work that's been done by very controlled studies by Dave Costill primarily at Ball State that does possibly show some ability to spare glycogen and have the free fatty acids mobilized and be utilized as the primary energy supply earlier. So maybe in a person running a 10,000 meter or running a marathon it can be of some help.

There's mention of a new drug that I haven't seen yet being used in humans, mainly because its toxic to humans, but yet the literature has talked about what it can do to make dogs run longer and rats swim longer, and this is called Biochloralacetate. I know nothing about it other than they say somewhere along the line someone will be using it. Again you get into some of the other exotic drugs and this happened whenever someone runs a race and wins it they say what do you attribute your success to and he says its the bee pollen I've been taking for the last 6 weeks or Vitamin E or Vitamin B12. Of course, now we see a lot of sports that are into Beta blockers, Inderal for instance, and those individuals who are in a situation where they feel they have to be able to calm themselves as it were to reduce a slowing of their heart beat. The shooters for instance like it because it slows their heart and they like to be able to pull that trigger when they're in diastole not when they're in systole or immediately after systole, because by pulling the trigger in diastole they have less movement. So they take Inderal to slow the heart beat so they can stand there and become aware of it enough, which I never did think about it, but apparently this stabilizes their shooting. You got the ski jumpers that take it. But Inderal does calm them. You have piano players, people that do public speaking, people that do vocal work and have to get up in front of audiences that will take Inderal, and I'm sure there are athletes that have been experimenting with it. We have used Inderal, but only in situations of irregular heart beat individuals, PAT (paroxysmal articular tachycardia) on occasional individuals. We had a swimmer once that had a lot of PAT, and we kept him on Inderal throughout the swimming season, because I guarantee you when he had an attack in the water he just didn't do well. He ran out of oxygen in a hurry and sank pretty fast so we kept him on it as a prophylactic measure to protect him from PAT.

There is of course the long list of banned substances by the International Olympic Committee, and we ran over most of those. There is some new work being done on electrical stimulators, although not with drugs, they are with artificial means and then we talked of therapeutic drugs to the extent when we talk about Indocin, Butazolidin, Motrin, Anaprox, Naprosyn, Clinaril, Meclamin, and Tolectin. There must be 15 or 20 on the market, and somebody coming out with a new one every other day, and of course these do work with the prostaglandin inhibition, and of course this is to some extent the way your good old Aspirin works. I think, by and large, most of these substances are compared to Aspirin in the final analysis, and if you have any worry about Aspirin bothering the stomach we usually go with a Bufferin or an Aspirin, and this has become our anti-inflammatory of choice. Although I have used and still use all of the others, sometimes just to change the color of the pill to make the athlete feel as if you're doing something more for him. There is an awful lot of psychological implication in all of these substances, and I

think this is something you have to bear in mind. There is a placebo effect and I'm not too convinced that there is not a placebo affect of the anabolic-androgenic steroids, although if you talk to the weight lifters themselves and the people that use them they swear by them and swear that there's no way they can compete without them. Consequently, I do know that this is a problem that is not going away.

I don't exactly know what the answer is in amateur athletics. I do realize in terms of intercollegiate it's too expensive, and the professional athletics it's already been agreed upon that this is an invasion of privacy, and it's nobody's business what the individual takes so this is why there has never been any rules to get testing done on professional athletes. At the amateur athletic level (high school and collegiate) most of us are struggling with our budgets so much; NCAA is the only one making any money, but they won't spend it for testing. I can understand that too, because we tried to get into it several years ago. There are a lot of legal complications and it isn't just a simple thing you do; and it's a very expensive thing for the IOC to be involved in. If they do it with their more quantitative and sophisticated methods, I assume that in 1984 it will be more expensive.

**SUBSTANCES BANNED BY THE  
INTERNATIONAL OLYMPIC COMMITTEE  
MEDICAL COMMISSION**

**Psychomotor Stimulants**

Amphetamine  
Benzphetamine (Didrex)  
Cocaine  
Diethylpropion  
Dimethylamphetamine  
Ethylamphetamine  
Fencamfamin  
Methylamphetamine  
Methylphenidate  
Norpseudoephedrine  
Phendimetrazine tartrate  
Phenmetrazine (Preludin)  
Prolintane

**Anabolic Steroids**

Methandrostenolone  
(Dianabol)  
Stanozolol  
(Winstrol)  
Oxymetholone  
(Androyd, Anadrol-50)  
Nandrolone  
phenpropionate  
Nandrolone  
decanoate

**Sympatheomimetic amines**

Ephedrine sulfate  
Methylephedrine  
Methoxyphenamine

**Miscellaneous CNS**

**Stimulants**  
Amiphenazole  
Bemegride  
Lepatazol  
Nikethamide (Coramine)  
Pentyletetrastazol  
Strychnine

**Narcotic analgesics**

Heroin  
Morphine  
Methadone (Dolophine,  
Methadone Diskets)  
Dextromoramide  
Dipipanone  
Pethidine  
Meperidine

**WORKSHOP DISCUSSION GROUP #2  
PREADOLESCENT PARTICIPATION IN  
COMPETITIVE SPORTS**

(presented by Dr. Walter J. Kennedy)

I would like to thank Mr. John Macik, representing the National Sports Rehabilitation Foundation, Dr. Donald Spencer, from the National Association of Intercollegiate Athletics, Dr. Ash Hayes, representing the President's Council of Physical Fitness and Sports, and Dr. Theodore Doege, from the American Medical Association, for the contributions to this afternoon's workshop on Preadolescent Participation in Competitive Sports. Our charge was to consider the medical, the physiological, and the psychological aspects. Brevity of time prevented us from considering our concerns in depth as we might have liked to.

In order to set proper parameters we noticed that adolescence is defined as that period of life between puberty and maturity, and puberty is the period at which sexual maturity is reached, commonly designated legally as fourteen years for boys and twelve years for girls. We realize, however, that actually youngsters reach puberty and adolescence at different ages, and that this can pose a problem to youngsters involved in sports programs in this age group. Some of these difficulties have been

solved by matching youngsters according to sexual maturity, and, less frequently (and less practical) by bone age, but, from the standpoint of sports participation these years can be a difficult time for the youngster with late physical maturity. Efforts to correct this problem should be considered.

In our discussion we also noted that preadolescent youngsters participate in 1) organized sports activities in the elementary and junior high school, 2) organized community programs, such as Junior League Baseball, YMCA Athletic Programs and Pee Wee Soccer Leagues, usually directed by volunteer coaches and other adult leaders, and 3) unorganized sports of the so called "sand lot" variety.

After considering the advantages and the disadvantages of preadolescent organized and unorganized sport programs, it became the consensus of opinion that because of the expertise of supervision involved, concerns were not as great in school programs as in non-school activities, and perhaps of even more importance, that organized activities were much safer and probably provided a much better learning experience for youngsters than the "sand lot" variety of sports. As these advantages and disadvantages were discussed, it appears that the sometimes misdirected enthusiasm of volunteer coaches and parents probably posed the greatest problem in preadolescent organized sport programs, but that this difficulty could be corrected by providing proper guidelines to the volunteer coaches and supervisory adults.

The group felt that organized community sports for preadolescents are probably a "sign of the times" associated with the increasing population and urbanization and its resulting regimentation of society, and that to return to the unsupervised preadolescent sports would be a mistake.

We then asked if physical injury really posed any great problem at any period of physical development in preadolescent sport programs and concluded that since the degree of force involved in contact sports was not great that this was not a great problem. We fully realize that injury in any youngster can on occasions be tragic and for this reason we should continue every effort to reduce such injuries in the preadolescent sports program. We also agree that increased injuries are associated with certain sports and that such sports should be discouraged in this age group.

Because of the lack of physical force and absence of significant structural or functional differences between the sexes we agreed that, on a physical basis, prepubertal girls and boys could compete in contact sports up to the age of twelve years. After that, because of differences in size and strength, contact sports involving both sexes should be discouraged. The group noted the fact that on rare occasions the athletically gifted, highly motivated girl has been allowed to compete in organized contact sports.

Our next question was do the psychological aspects of preadolescent sports outweigh the physical and medical problems? On the basis of information available including the studies of Martens and Simon, our conclusions were that ordinarily the anxiety factors in youngsters in this age group is not a great problem. When it is noted to be a problem the source of the difficulty can frequently be traced to coach and parental attitudes. Again, the group felt that providing guidelines to the coaches and parents would help solve this problem.

The physiology of exercise in the preadolescent was discussed briefly. Some of the conclusions we reached today are based on data already accumulated on the physiology of exercise in this age group. It is our belief, however, that there is a continuing need for further research in this field.

We should have allowed more time to discuss sports for the handicapped preadolescent youngster. We did take note of the fact that there are those whose handicaps make normal participation in sports impossible and that it is imperative programs be provided them. Here the physiotherapist and the occupation therapist might play a vital role. It was also noted that youngsters with certain diseases, asthma, diabetes, and epilepsy are often believed to be handicapped and unable to participate. It is most important that this misconception be corrected because they can participate fully. Moreover these youngsters, particularly youngsters with diabetes, are frequently benefited by exercise.

Time prevented us from considering the various classification of sports. This would be of importance in order to understand the physical demand of each of the sports on preadolescent youth.

We concluded our discussion realizing that despite the concerns which have been expressed, organized preadolescent sport programs play a very positive role in the development of our youth and the adult leaders, especially the volunteer coaches and parents who guide the millions of youngsters in these programs are to be commended. In those instances where there is misdirection, prompt measures should be taken to correct them.

Although some information is already filtering to the local level to local leaders and volunteer coaches through

efforts of national sports organizations such as the Little League Program, the YMCA, the National Youth Hockey League much more could be done in this area. Each organization involved should reassess its role in developing proper guidelines and in providing these guidelines to the local volunteer leaders. It was suggested that a consortium of the national organizations involved in preadolescent sports could be formed to act as a forum 1) to develop guidelines and 2) to further encourage the dissemination of such material to the local coaches and parents. A third suggestion was that other organizations such as the American Red Cross, the American Academy of Pediatrics, the American Academy of Family Practice, the American College of Sports Medicine, and even the President's Council on Physical Fitness and Sports could also have an active role.

In summary, we felt that in preadolescent sports 1) the psychological concerns were greater than the medical ones, 2) that continuing research on the physiological aspects of preadolescent sports is indicated, 3) that the handicapped must always be considered in planning sports programs, and 4) finally we felt that proper guidelines should be developed and distributed to the local volunteer leaders in the community preadolescent sport programs.

**WORKSHOP DISCUSSION GROUP #4  
FUTURE NEEDS AND RESEARCH  
IN SPORTS MEDICINE**

(Presented by Dr. Bernard R. Cahill)

Thirteen members attended this workshop and there were twelve suggestions involving a clearing house. Apparently to the sports medicine practitioner, the anathema of his existence is the absence of this utopian "shangrila", this repository of information doesn't currently exist. The following is an attempt to clarify some of the putative resource deficiencies in Sports Medicine.

**CLEARING HOUSE:**

1. *Research:* A clearing house could get individuals interested in sports medicine for a contact meeting similar to the one held today. The results of this meeting and research would be to identify important activities that need to be addressed and the problem solved. The results of this meeting would be published to the research community with the hope that some of these individuals would be stimulated to take on some of the identified priority projects. It was suggested that a system whereby a foundation mechanism could be organized to gather funds, and when research needs were identified this might be matched with a research center or individual. There might be competition for these projects and awards.

2. *Data System:* The need for a data bank on the entire field of sports medicine appears to be needed. Information on individual sports by age, sex and level of ability is currently non-existent. In addition, risk factors involving certain sports need to be identified enabling the coaches or administrators to make knowledgeable judgements when channeling use into appropriate sports.

3. *Research Translation:* A function of the clearing house would be to translate existent research in sports medicine into practical applications for coaches, trainers or those in regulatory positions who are charged with setting rules of competition.

4. *Availability of Data on Objective Evaluation of Training Methods, Rehabilitation Methods and Treatment Modes:* The capability of a staff to analyze stored data in the clearing house and to get this information to appropriate individuals in the field of sports medicine so that this information can have a meaningful and appropriate impact on their activities.

5. *Preparticipation Physical:* Identification of a preparticipation physical or document that can identify risk in the individual athlete by the individual sport the athlete is considering.

The problem of funds came up several organizations had no funds and that is a very real need and problem. By the way, no solutions were proposed.

The dental associations, of course, are concerned with the More device and realize that further evaluation of this should be carried out, and true scientific rather than anecdotal publications issued. In addition, protective dental devices need further evaluation and improvement so that breathing and communication by the athlete can be facilitated and these devices made more efficient.

A need exists for dissemination of information on the development of new equipment. As new equipment is developed, the regulatory agencies responsible for rules and conduct of games need to accumulate this knowledge so they could make appropriate changes if it would safely enhance performance.

The preparticipation physical was mentioned again, but here to design some experiment to finally answer the question whether matching by maturation levels is the answer to some of the pediatricians' questions about safe competition.

A rather lively discussion of the possibility of research design was entered into by the group. We need to assess

the level of knowledge of our voluntary coaches. Maybe this information we would rather not know, but it was deemed as one of the essential needs.

We discussed the effects of the prepubertal child on weight lifting or weight training. There is a need for not only some statement but some well designed research project, perhaps short of muscle biopsy to demonstrate the effects, efficiency and perhaps harm of muscle training in youths. A data base in this area, which is a part of the clearing house, is definitely needed. This data base transcends many areas other than simply entry identification.

The fact is that we need some objective methods of measuring our treatment and rehabilitation methods. We need basic research into soft tissue injuries, their production and their method of healing; specifically ligaments, tendons and muscles. We need research into prosthetic joints; not only their longevity, but the functions and uses of these. We need to know something more of what are effective doses of exercise, in other words how much exercise is good in a longitudinal study in a young person or in an older person that will have a beneficial effect and not precipitate degenerative changes in the joints.

There should be an increased dissemination of new information on new methods of injury prevention and rehabilitation of athletic injuries and finding practical applications for research.

There was a suggestion that this information could be disseminated to the coach and perhaps the athlete himself. Perhaps this could be done by abstracting pertinent annual scientific evidence and experimentation editorializing as to the practice aspects of the information to the athletes own performance, safety and health.

The question was discussed of developing a funding base and some way for a specific organization or consortium of organizations, and then again identifying research needs and trying to match appropriate researches with these funds. Dr. Jones noted that the AMA is currently developing a clearing house that would be a data repository, not a bibliographic service; we hope that through the AMA we can be serviced of this development because certain sports medicine data can be added.

In the field of research the coordination of research activity seems to be the most important question. Researchers in various parts of the body are ignorant of their contemporaries' activities, and duplication of efforts seem to be frequent. No apparent effort has been made to share progress when two researchers are working in the same area. A format was suggested (see clearing house) where an organization would identify research needs, then facilities capable of doing that research identified and lastly the identification of someone within that facility who might be stimulated to take up the priority research project previously identified.

In summary, it seems that the most pressing need is a clearing house, however it may be defined.

#### WORKSHOP DISCUSSION GROUP #3 ALLIED HEALTH PERSONNEL IN SPORTS MEDICINE

(Presented by Dr. Christine E. Haycock)

We basically defined the ancillary personnel as the athletic trainers, the EMT people, the school nurse and more recently the physician's assistant. We discussed at considerable length the role that these people should play and what kind of training they should have. I tried to condense what we did.

First of all, with the athletic trainer, we felt definitely all trainers should be certified and licensed, probably certified at a national level and licensed at state level. However, one thing you have to be careful about in licensure is the defining of the licensure act for these individuals. You have to watch it closely because it could be too restrictive or it could be too broad. It would be important that the trainer is protected and yet not put in a situation that would put him at a disadvantage, at least legally. Certainly, the trainer should be working closely with the team physician, and I think perhaps more closely with the team physician than with the coach in the sense that he shouldn't be overruled by the coach in making a decision as to whether or not the player should return to the field. This can be a real problem. If the physician tells the player not to return and the coach says "what do you think, Joe, can you play", and he says, "Sure I can, coach", and the coach sends him back on the field. This is probably not so much at the collegiate or professional level, but perhaps we are talking more about the high school, little league, and that kind of level. This is where a good trainer who has rapport with the players can be very valuable because he will get a true answer from the player, whereas when the coach asks the player, the player may be carried away by his zeal for the game and will play when he probably shouldn't.

More trainers need to be trained, but they should be encouraged to take an education in which they can combine their certification training with something other than physical education. The reason for this is economic.

Many schools cannot afford to hire a trainer just as a trainer; but if he has secondary training in English, Economics, Math, or some other secondary field, he can be hired as a teacher and a trainer. This can enable a high school to hire an individual they otherwise could not include in their budget. This is unfortunately a fact of life, not really the ideal situation. I know that in setting up a program at Kean College in New Jersey, consideration was very much given as the best thing for the trainer, because if you just have your training certification, you may find yourself in a problem as far as employment is concerned.

It was also pointed out that the training should include the use of many modalities similar to those used by physical therapists. One of the people in the group pointed out that at least in one state they have two types of licensure: Class A which allows use of limited modalities (heat, cold, etc), and Class B, in which they can use everything including more sophisticated types of ultrasound, diathermy, etc. Their training would be 8 to 12 hours, the same as the physical therapist in use of these modalities. This is a way of getting around it. Recently in New Jersey we had a case that went to court in which the Medical Society was the plaintiff and was suing the state on grounds that their regulation in regard to the use of heat and cold, etc. is so strict in the way the regulation reads, that nobody except a certified physical therapist could apply a heat pack; I mean nobody, including a nurse or trainer or coach or anyone else. However, the judge refused to make a ruling on the case because he said the interpretation by the state society, while it might be correct if carried out to the letter of the law, it had not as yet been interpreted by anyone that broadly. I guess until it is brought up as an issue, and somebody is brought before the medical board on the grounds of practicing without a license, he's not going to make a ruling. This leaves the entire issue up in the air.

Another factor is the truism that the trainer often has better knowledge about the fitting of equipment than the coach. One person pointed out an instance where helmets were ordered by a coach who then left the team and the new coach the following year was not familiar with the helmets that were ordered. At the end of the year one of the manufacturer's representatives came around and looked at the helmets and said "I see you've deflated them for storage." The coach said, "What do you mean, deflated them?" Apparently, they had never been inflated in the first place. So we think a good trainer might have more knowledge in protective equipment and would also see to it that the athlete doesn't cut down his equipment to look sleek so he can run better without pads, etc, and that's something a coach probably doesn't have time to look into.

It was felt that the EMT was really more important as a transfer person. In other words, the best bet with that ambulance was to back the trainer up, because most trainers do have CPR training, and many of the trainers do have EMT training. Their job would be mainly to get the patient to the hospital after its been decided that this is necessary. The other thing that the EMT personnel can provide in certain situations is communication. I know that this is true because I had recently volunteered my services as a physician at the Handicapped Olympics. We had a case where we had no phones because we were out in the stadium, and we had one youngster who needed to be gotten out. The only communication we had was through the radios in the ambulance, so they can provide that for you also. The other place where the EMT can function very well is in the Little League or Pop Warner Leagues. It's pretty hard to get a physician there unless you have a concerned father or trainer at such a game. At least a well trained EMT can be available if you can get your volunteer ambulance squad for the Little League game.

The school nurse is another member of the team. Probably her most valuable role is in the initial screening and physical examination of the athlete preparticipation. She can review the medical file and bring to the coach's attention any problem the athlete might have. Occasionally, if she is interested, she might be at the games. At any level, but particularly in high school, most practices are after school and she wants to go home, so she probably is not going to be there too frequently unless she has a particular interest in a sport. However, she is also useful to refer minor medical complaints too, like colds and headaches and runny noses, that sort of thing. She can be a valuable back up. She's also good at checking on equipment to make sure that the uniforms are clean, the mats are clean, the pool is chlorinated, and in general this type of housekeeping. The school nurse can be a very helpful person in getting to the school administration to see that these things are done properly, so she can be a very valuable asset to the team in that sense.

The fourth person, the physicians assistant, can be particularly valuable and in many instances can substitute for the physician, particularly in states where PA's are licensed. In New Jersey they cannot be licensed. But if a physicians assistant is well trained, he can certainly handle an emergency at the field probably

as well as the physician. There are limitations in even what the physician can do on the field, so he would be an excellent substitute. The Army is using PA's to run field clinics and they do excellent jobs, but occasionally they do overstep their bounds. So in general, we also feel that there is a lot of information that this group still needs to get down to the coach in the boondocks, so that he does work much better with the team physician and trainer.

16. The National Sports Rehabilitation Foundation report is as follows:

June 25, 1982

TO: NATA Offices  
FROM: Bobby Barton  
RE: National Sports Rehabilitation Foundation (NSRF)

The NSRF held a summer meeting at the Indianapolis Convention Center, Room 122, on Thursday, June 4. The meeting was called to order by Chairman Frank Gordon (Riddell) at approximately 4:20 p.m. Representatives were present from Bike, Colorado HSAA, NATA, NFLPA, Riddell, SGMA and legal counsel. The articles of incorporation were circulated for signatures of incorporators. The document will require the signature of Mr. Davis. Mr. Dan Patterson agreed to arrange this signing at an appropriate time for both parties. An application for Recognition of Exemption (Form 1023) in this state of California was circulated and approved for submission to the proper authorities in Sacramento, California. The application will be accompanied by the By-Laws of NSRF as a California-Non Profit Public Benefit Corporation.

The majority of the meeting was devoted to financial debate. There are several differences of opinion as to what the immediate financial plan should be for this organization. John Mack (NFLPA) presented a three year estimate of projected costs that could meet the previously determined financial commitment to injured athletes of a catastrophic nature. His figures were accumulated with assistance from Mr. Bill Beecher, and with the expectation of seven new catastrophic injuries in each of the next three years. The reality of a five million dollar goal received considerable discussion. Mr. Howard Bruns (SGMA) presented a financial statement through 6/15/82.

Several financial pledges have not been forthcoming. The majority of the group felt several contributors may need to be reminded of their earlier pledges. It came to my attention that the NATA was the only group represented that had not made a contribution. I strongly suspect that our opportunities for input will diminish if we retain that distinction.

There were several issues discussed by the different representatives that only had a limited relationship to the feared financial road block.

Of greatest significance and interest were:

1. Chairman Gordon would like to have the names of any College Football Bowl Committee Chairman that the NATA Board may personally know.
2. An insurance specialist will be invited to one of the future meetings to discuss the differences in primary and secondary catastrophic coverage.
3. Dr. Clark of the USOC is receptive to discussion and hopes that the NSRF can present a united front with the National Association of Disabled Athletes.
4. At least three pro-football personalities (Bill Walsh, Don Shula, Paul Brown) have shown limited interest.
5. The NSRF is considering hiring a public relations firm. (Martin J. Moran)

Regarding the Funding Outline of May 4, 1982, disappointment regarding the NCAA and NFL reaction was expressed. Both appeared to be of limited help in the immediate future. The disparity between financial goals and current assets has forced the NSRF to rethink their immediate future. The National Federation will soon be approached for their endorsement. Everyone agreed that their endorsement was desirable, but of little financial significance. The group agreed to try to enlist a well known public figure as an official spokesman.

It is my recommendation that the NATA continue to meet with NSRF on a regular basis. I would also suggest that the Board of Directors consider some type of financial commitment at the 1983 winter meeting.

#### NATIONAL SPORTS REHABILITATION FOUNDATION UPDATE Number 1 / August 30, 1982

##### Professional Fundraising Group

Our young Foundation needs help! We have set a goal of raising \$40,000 by September 30, 1982. This money will be used to obtain a professional fundraising group (see outlined attached).

We have solicited all 21 College Bowl games, and have asked for a \$7,500 grant from each that would be used in the development of the fundraising plan outlined above. If anyone has contacts with any Bowl game executives, please let me know as soon as possible.

The Board of Directors, meeting in Indianapolis on June 24, 1982, re-directed our fundraising program because of lack of support from the NCAA and National Federation of State High School Athletic Associations

(the powers that be, where the biggest catastrophic injury problems lie). To properly approach the television sponsors for NCAA games, we obviously feel we need the NCAA's help. The NFL has also stated that it cannot fund or help in fundraising for the Foundation until labor negotiations are over. We feel we need the NFL's help, as well, if we are to properly approach their television sponsors. However, we have sent a proposal to NFL charities, requesting a \$40,000 grant for our professional fundraising effort. As yet, we have heard nothing, but keep the fingers crossed.

I might add, that if any of you have corporate contacts that might be interested in a "tax deduction", we are generating a Corporate Advisory Board that will be listed on our stationery, separate from the Board of Directors and the National Advisory Board. Any donation of \$7,500 or more by any company or corporation will make the group a corporate advisor. Besides being listed on our stationery, each corporate advisor will be invited to send a representative to any activities involving the Foundation. Again, our next goal is to get our professional fundraisers to help raise "professional" amounts of money for the Foundation. We do need your help.

#### National Advisory Board

At the Indianapolis meeting, the Board also agreed to establish a select National Advisory Board that could not only give leadership but also help direct national efforts in fundraising.

To date, Ara Parseghian, Rocky Bleier, and Irv Cross have agreed (enthusiastically, I might add) to serve. Bruce Jenner's office has just called and expressed his interest.

We have also sent letters to Clint Eastwood, Burt Reynolds, Gerald Ford and Vince Lombardi, Jr. We are anticipating sending letters to Kenny Rogers, Bill Walsh, Tom Landry and Bear Bryant.

We do not want this advisory group to be large immediately. With a small, select group, we can continue to generate interest and support for this cause.

#### Overview

We are continuing to get calls and requests for information from all over the country. Reporters and other interested groups continue to call in almost daily.

Presently, one area or gap that the Foundation is effectively filling is as an information "clearing house" concerning catastrophically injured athletes and the drastic and tragic imbalances occurring with the athlete, equipment manufacturers and school systems.

Friends, we are the only organization actively trying to bring reason and fairness to this problem. To date, no one has proposed a better solution. We have met with groups proposing insurance alternatives, but they cannot produce the key to solving the problem: *Alternate to litigation*. The Foundation can do this. We have shown it in black-and-white. The people that wish we would go away are the same people that think the catastrophic injury problems will suddenly disappear.

Well folks, the problems are still here, and more money has been awarded in litigations this year than any previous year. More schools are debating dropping sports, like football, and more equipment manufacturers are considering getting out of the business. More paralyzed kids and parents are suing anybody, because there is no alternative to litigation.

I have also attached some interesting articles for your consideration.

Keep the faith!  
John Maciek

P.S. I'll be sending these updates to you as often as possible. With a small budget, we must conserve, so I cannot promise these every two weeks. If you need any information, call me at (202) 463-2200 ext. 254.

#### National Sports Rehabilitation Foundation

Football, as well as other organized sports, will not survive the tremendous financial pressures imposed upon them by today's litigation without drastic changes. The National Sports Rehabilitation Foundation is a self-insurance program similar to workers compensation, which will guarantee lifetime care and financial independence for every catastrophically injured player. This would provide an alternate to litigation, allowing a settlement which would avoid the tremendous cost of attorney's fees and litigation expense, which on an average, results in the injured player receiving only one-third of the sums paid out by the insurance company. How much better it would be to use the same amount of funds to provide for three permanently injured young men.

Based on information reported in the 1982 *NOCSAE Manual*, page 4, over the last eleven years, there have been some 280 cases of permanent quadriplegia in football alone. It is important to note that during this period, there have been 17 cases taken to court that have produced a verdict. Of these cases, the juries found in favor of the injured player eight times. This resulted in approximately \$27 million in verdicts against helmet manufacturers, school districts and coaches. Of the \$27 million verdicts, \$19.8 million was awarded in 1980-81.

More than half of the money awarded to the injured players goes to pay costs of the lawsuit and attorneys' fees. It is important to note that the average lawsuit takes five years to bring the case to a verdict. It takes another two to three years to appeal the case. In total, it will be close to eight years before an injured player (who historically has a 46 percent chance of winning the case) will find out if he has won or lost.

The effect of this system of recompense is two-fold. In the first place, it is grossly unfair. One player in the northwest is injured while making a tackle, sustains permanent quadriplegia paralysis, and yet loses his case in court. The family suffers its second tragedy. Another player in the east is paralyzed while tackling and receives a verdict of \$7 million, a tragedy for football. In the second place, the insurance industry simply will not stand for the resulting loss ratio. Insurance companies are refusing to cover the manufacturers.

Unfortunately, the solution is not safer protective equipment. Researchers tell us that the head and neck injury rate has been reduced as much as can be expected. It is believed that catastrophic injuries to the neck and brain resulting in permanent paralysis, will continue at the approximate rate of 15 to 20 per year. The injuries occur because of two mechanisms, dislocation/fracture of the neck and subdural hematoma of the brain. In the case of the neck injuries, the helmet is simply not at the scene of the accident, and cannot protect against a situation where the player is in motion, his head comes to a sudden stop in a ramming or butting configuration, and the body mass continues forward, dislocating or fracturing the bones of the neck as the bones compress. Subdural hematomas are poorly understood, but we know that the injury occurs oftentimes from the tearing of blood vessels in the brain when the head is moved aside or rotated rapidly. Again the helmet remains unchanged and uninvolved.

Upon injury and induction into a rehabilitation hospital, the injured player and his parents would accept the Foundation annuity plan as an alternative to litigation. The person making the claim would simply establish through his doctor the degree and nature of his injury and that it was received while participating in organized football. The player and family would agree to bring no suit against any coach, school, school district, athletic association, league, state, or equipment manufacturer or supplier. In short, litigation would be avoided.

The National High School Athletic Coaches Association, Sporting Goods Manufacturers Association, National Association of Intercollegiate Athletics, NFL Players Association, National Football League and the National Athletic Trainers Association have agreed to pursue and develop this Foundation concept.

Football must provide the solution to its own problems. The insurance industry will not continue to stand in the breach without relief in the immediate future. Manufacturers will not make and sell helmets without insurance. Their bankers would be foolish to let them do so.

Football and other sports are being litigated into extinction. The time for action is now.

#### III. ETHICS:

Following a brief discussion concerning the treatment of an athlete by another institution's trainer without permission of the trainer of that athlete, a motion was made by District 8 that it shall be unethical for a trainer to treat or evaluate an athlete from another institution without that institution's trainer's permission. There being no second to this motion, it was declared dead for lack of a second.

Other Ethics Committee information is as follows:

December 21, 1982

Mr. Larry Graham  
Oakmont Professional Center  
Suite 2  
Greenville, North Carolina 27834

Dear Larry:

This letter is to let you know what has transpired over the last few months with the NATA Ethics Committee and the action taken. Also, I am taking this opportunity to ask for your guidance in other matters, particularly those of misrepresentation.

Item #1 - In the early fall, there appeared in *Penthouse* magazine an article that wasn't taken to very kindly by some members of the NATA. The article was authored by someone with the initials of P.L. from Cedar Rapids, Iowa. The NATA records were searched and it was found that we have no member with the initials P.L. from Cedar Rapids. Therefore, we feel we can take no action unless someone can provide more enlightening evidence.

Item #2 - In September, 1982, information was received regarding a Mr. Kasey Cibert of 423 North L Street, Livermore, California 94550, (415) 455-1494, who has been misrepresenting himself both as a R.P.T. and A.T.C. Prescription pads from Orthopedic and Sportsmedicine Rehabilitation Center in Livermore, California, show the name "Kasey Cibert RPT, ATC."

Mr. Cibert is NOT a member of NATA in any membership classification, nor is this the first time the Association has had problems with Cibert.

In 1979 he attended our meeting in St. Louis and gave us a bad check which was returned for insufficient funds. Quite some time was taken before we could collect on the check. He attended that meeting but not as an NATA member and he has never joined our Association.

Item #3 - In the early fall, I received information complaining about a Mr. Dave Link. It seems Mr. Link has been making claims that he is an NATA Athletic Trainer, Certified. To spare you the in-depth details, through the information obtained and the investigation by the Ethics Committee, it has been determined that Mr. Link is presently employed as a masseur at Chillicothe Swim and Raquet Club, Chillicothe, Ohio. Also, it has been determined that Mr. Link is not and never has been certified by the NATA.

Item #4 - Copy of a letter I received dated September 22, 1982, from Roger Dennis, Director of District 8 addressed to Mr. Bobby Barton. Roger was asking the Board to discuss an item that does involve the Ethics Committee. It seems Roger wants to "add to the Code of Ethics that it shall be unethical for a trainer to treat or evaluate an athlete from another institution without that institution's trainer's permission. Reason: I am not concerned about teams that come to play and do not bring a trainer. I am concerned about coaches and athletes going on 'fishing expeditions.' What happens is that a coach takes an athlete from trainer to trainer until he finds one who will tell him what he wants to hear. This athlete then goes back and tells the other athletes that the other trainer is better than their own, and this dilutes the trainer's effectiveness and credibility with the other athletes. By making this an unethical act, perhaps we can control some of the inflated egos we have in this organization."

My committee members were each sent a copy of Roger's letter and were asked to give it some thought, then send those thoughts to me in writing. I have received those replies and the consensus is that we *not* add anything along these lines to the Code of Ethics. Why? Because (1) It is felt that trainers would be reluctant to even look at another school's athletes, thus the athletes themselves would be the ones to suffer, and (2) Putting something in writing can be done but it would be tough to enforce due to local pressure that could be applied from club presidents, school presidents, superintendents of school districts, etc.

It is the opinion of the Ethics Committee that it is a professional courtesy to call another trainer or write a note when examining one of his or her athletes. This type of communication will let them know exactly what you found and, if you question the athlete and/or coach thoroughly, we think that such "fishing expedition" can be recognized and dealt with in a professional manner that will not discredit or take away any one person's effectiveness.

Item #5 - Copy of letters sent to me by Otho Davis from Tom A. Lewis, 2911 Sycamore Springs, Apt. 919, Kingwood, Texas 77339.

It seems that Tom (I will just hit the high points) graduated from Hanover College in Indiana and worked as a student trainer under Dr. Richard Naylor. Tom had been told by Dr. Naylor that he could meet NATA requirements for certification by working at Hanover. After having completed the necessary clinical hours and upon graduation, Tom tried to make application for certification at which time he found that Dr. Naylor was not certified as he had been telling Tom. Dr. Naylor had at one time been certified, but had since allowed his certification to expire. As a result of all the "hoopla" that went along with this, Tom Lewis has been misled by a former certified trainer's misrepresentation of facts.

What we, as the Ethics Committee, are trying to voice to you in this letter are (1) Let you know of items we are being faced with and letting you know what actions we have taken on those things we feel we can act upon, (2) We are letting you know our feelings regarding those matters such as in Item #4, (3) We are recommending that you as our NATA attorney contact the individuals in question and the employees of those in question as in Item #2, #3 and #5. Let it be known to all concerned in those cases that membership misrepresentation is being done and we in the NATA are aware of such, and (4) We are asking you for guidance in these and all issues as to how you feel we should handle such.

We wish you a Merry Christmas and Happy New Year as we await your response.

Sincerely,  
Chris Patrick, Chairperson  
NATA Ethics Committee

CC: Mr. Bobby Barton  
President, NATA

Mr. Otho Davis  
Executive Director, NATA

A motion was made by District 8, seconded by District 2 and carried 8-0-1, with District 4 abstaining and District 1 absent to approve the appointment of Anita Wheeler, University of Oklahoma, as a member of the Ethics Committee.

#### IV. GRANTS AND SCHOLARSHIPS:

It was moved by District 4, seconded by District 6 and carried 10-0, that the letter written by Mr. Behnke concerning an update in relation to the Honors and Awards criteria be referred to Mr. Newell for study and possible development of the necessary criteria.

It was moved by District 4, seconded by District 6 and carried 10-0 to approve the concept of a proposal by G.E. "Moose" Detty, PRO Orthopaedic Devices, Inc. for a scholarship fund to benefit the education of children of deceased members. This consideration will be further discussed in June.

Other information from William "Pinky" Newell, Grants and Scholarships chairman are as follows:

Last summer, The American Orthopaedic Society for Sports Medicine presented a check for \$2,000.00 to the Grants and Scholarships Committee. This amount is \$500.00 more than had been indicated. The Committee asks the Board's permission to use this \$500.00 to establish a postgraduate scholarship on an annual basis designating AOSSM as the sponsor. This represents a grant to the Endowment in the name of the recipient of the Distinguished Service Award.

National Football League Athletic Trainers awarded \$1,000.00 to Grants and Scholarships for use in the scholarships program. This will be an annual award. The Committee asks the Board's permission to establish two new scholarships, one undergraduate and one postgraduate naming NFL Trainers as sponsor.

Last summer American Hospital Supply Company bought Kay Laboratories, Inc., Kwik Kare Products has been the sponsor of the Presidents Challenge Awards since 1977. Jim Cody has given permission to search for new sponsorship for the award so that there will be continuity of presentations. A new sponsor can and will be found, but there is a time element that will leave a void of one year. The Board is requested to fund the 1983 Award. This has been one of NATA's most prestigious awards and it seems desirable that it continue as it has in past years.

Committee work is progressing satisfactorily. The financial report will be presented in June. There has been more interest in scholarships shown by increased numbers of nominations. The individual districts are demonstrating scholarship responsibility through the establishment of district level recognition. The Endowment Fund and number of sponsored scholarships have shown steady annual growth.

William E. Newell, Chairman

#### V. LICENSURE:

Following the presentation of some brief update information concerning the present status of licensure legislation in the States of Virginia, Indiana and Massachusetts, it was moved by District 7, seconded by District 1 and carried 10-0 to receive the licensure report for information and with the financial request to be addressed at the Board's June meeting.

November 22, 1982

TO: Otho Davis

Enclosed please find the report from the NATA Licensure Committee.

The Chairperson again attended the "Clearinghouse on Licensure, Enforcement, and Regulation" sponsored by the Council of State Governments. The meetings were held in Chicago in September and the chair taped pertinent sessions with the intent of making these recordings available to committee members. Such recordings include:

- Strengths & Weaknesses of Autonomous Boards
- Using National Exams & National Testing Services
- Issues in Licensing Exams: Validity & Adverse Impact

- Measuring Continuing Competency
- Trends in Occupational Licensing

The wealth of materials, the professional contacts, and the general sessions of these annual CLEAR meetings is exceptionally informative and the chair recommends the Board continue its support of providing financial assistance to either the Chair (or Committee Member in the locale) for attendance. If either audio taping and/or extensive duplication of materials available at the meetings can be shared by the committee members, we'll benefit through a more informed membership regarding licensure efforts.

A projected 1983 Budget for the Licensure Committee should include the following:

- Expenses for attendance at CLEAR
- Duplication of materials
- Postage

Depending upon the site of the CLEAR meetings, travel, lodging, and meals will range from \$300.00 to \$500.00.

Duplication and postage of semi-annual reports, Model Legislation, Guidelines, and additional materials including copies of all 33 current bills either accepted, under consideration, or rejected, would be best estimated by Mary Edgerley. The amount of literature available which could be of value to NATA members is

almost endless. At the discretion of the Committee Chair and his Committee, the NATA informational packet on Licensure would be annually revised. Lengthy and/or costly materials could be listed in a bibliography of available materials for purchase at the member's expense. To provide this vast amount of material free to everyone requesting it would be costly and wasteful. It is very frustrating to get requests from many, many individuals in the same states to find there is no sharing of NATA materials. We cannot continue to provide the entire membership endless amounts of printed matter. The chair and the committee members also do not typically have endless access to duplication equipment and postal facilities.

Therefore, the NATA Licensure Committee requests approval of the Board of Directors to:

-provide (and annually revise) an informational packet on legislation for regulating the practice of athletic training. This packet to be made available directly through the National Office but requiring approval of the respective committee member from the district the request comes from. (This should help control the amount of requests from individual states.)

-funds for duplication and postage of informational packets. (These costs to be estimated by Mary Edgerley based upon current requests for such information from the membership.)

-funds for either the chair or local committee member to attend the annual meeting of CLEAR.

-future consideration, depending upon committee involvement, functions, and worth to the organization, of possible partial funding for the annual meeting of the committee at the NATA Annual Symposium and Business Meetings. (Some help will help compensate for the time, efforts, duplication, postage, etc. that committee members continually invest in serving their respective district members.)

Robert S. Behnke, Chair  
NATA Licensure Committee

#### WINTER 1982 NATA LICENSURE COMMITTEE REPORT

##### DISTRICT #1:

**Committee Member:** Louis DiNitto, University of Massachusetts-Boston

**Maine:** No contact person. No state organization. Some interest among several athletic trainers, but apparently no one motivated to make the effort to initiate action.

**Vermont:** Contact person: Lisa Mattei, Norwich University. The VAAT is developing a licensure bill. Still within the association at this time.

**New Hampshire:** Contact person: Dennis McManus, Plymouth State College, President of trainer's association. Current project is a questionnaire to assess athletic trainer interest in licensure.

**Connecticut:** Contact person: Paul Concialdi. No Report.

**Rhode Island:** Contact person: Frank George, Brown University. No formal organization. Introduction of a bill hopeful by Spring, 1983.

**Massachusetts:** Contact person: Bob Rouch, ATOM President. Two bills filed. One for A.T.s, one for re-organization of all health care professions. ATOM has hired a lobbyist. Louis DiNitto is also acting as a contact person.

##### DISTRICT #2:

**Committee Member:** John Sciera, SUNY at Cortland

**Delaware:** Contact person: Keith Handling, University of Delaware. Attempt underway to be brought under the physical therapy practice act.

**Pennsylvania:** Contact person: Joe Godek, West Chester State College. No report for second year. Personal letter to Bob Behnke from Paul Solcum, Bloomsburg State College, indicates introduction of a bi-level form of credentialing to be attempted in January, 1983. Everyone will probably qualify for first level with difficulty about grandfathering, educational and testing requirements, etc. still to be ironed out.

**New Jersey:** Contact person: Bill Battershall, St. Peter's College. Senate Bill 566 has support of state medical society and state Education Department. An amendment to the state medical practice act by the State Board of Medical Examiners would regulate athletic trainers.

**New York:** Contact person is Pete Koehneke, Canisius College. Bill died in Education Committee of the State Department of Education. If SED gives it's approval, Bill will be re-introduced. Certification rather than licensure is now being investigated.

##### DISTRICT #3:

**Committee Member:** J.J. Bush, University of Maryland

**District of Columbia:** No report.

**Maryland:** Contact person, J.J. Bush, University of Maryland. No new action since Spring report.

**North Carolina:** Contact person: Bill Prentice,

University of North Carolina. Much activity during November, 1982. NCHCA recognition might be stressed as an alternative to a State Licensing Board.

**South Carolina:** Contact person, Fred Hoover, Clemson University. Passage appears positive. Could be accomplished in January, 1983. Sunset legislation could prove the downfall.

**Virginia:** Contact person, Hollis Powers, Longwood College. Support from physical therapists has recently taken a very positive turn. Defining who, where, and upon whom athletic trainers work could establish a precedent for other states.

**West Virginia:** Contact person, John Spiker, University of West Virginia. No new action since Spring Report.

##### DISTRICT #4:

**Committee Member:** Bob Behnke, Indiana State University

**Illinois:** Contact person, Jerry Bell, University of Illinois. Nothing since Spring Report. Contacts made with State Board of Ed. and State APTA chapter. Sunset legislation reviewed.

**Indiana:** Contact person, William E. Newell, Purdue University. Bill re-written in summer, 1982. To be introduced in January, 1983. Specifically spelled out "who," "where," and "what" an athletic trainer is and where "athletic training" can be performed. Supported completely by Executive Committee of State APTA Chapter.

**Michigan:** Contact person, Ken Kopke, Central Michigan University. A coalition board for several health related occupations is before the State Health Occupations Council. Should be introduced after the first of 1983.

**Minnesota:** Contact person, Gordon Graham, Mankato State University. State committee re-organizing their efforts. Awaiting re-organization of state government following fall elections.

**Ohio:** Contact person, Gary Lake, Akron Sports Medicine Consortium. Athletic trainers are organized with the Ohio AHPERD. Attempt being made to amend the State Physical Therapy Act to exempt athletic trainers. The Ohio Dept. of Education has established educational standards for athletic trainers.

**Wisconsin:** Contact person, Brad Sherman, Woodruff, Wisconsin. No report.

##### DISTRICT #5:

**Committee Member:** Ed Crowley, University of Iowa

**Oklahoma:** Contact person, Jeff Fair, Oklahoma State University. Has licensure. Only five high school athletic trainers.

**Kansas:** Contact person, Lynn Bott, Kansas State University. Credentialing now being undertaken prior to introduction of a bill. NCHCA's position on licensure sought.

**Nebraska:** Contact person, Guy Shelton, Univ. of Neb. Med. Center, Omaha. Bill written. Special interest groups being contacted for support. Private sports medicine clinics are a concern.

**Missouri:** Contact person, John Omohundro, St. Louis Football Cardinals. Registration being investigated as more feasible than licensure. John suggests NATA provide literature and media materials to help support efforts.

**South Dakota:** Contact person, Barbara Moran, Univ. of South Dakota State, Brookings. Bill written and criticized by the State Legislative Research Committee. Definition of A.T. a problem.

**Iowa:** Contact person, Ed Crowley, University of Iowa. Iowa presented a Bill including both physical therapists and athletic trainers; opposed by the physical therapists. State is developing an Iowa State Society Licensing Program to organize and set standards for members of various professions.

**North Dakota:** No contact person, no report.

##### DISTRICT #6:

**Committee Member:** Spanky Stephens, University of Texas at Austin

**Texas:** Contact person, Al Wilson, Killeen, Texas. Has Licensure. Newly passed a temporary license for out-of-state individuals moving to Texas until the next possible examination date comes up.

**Arkansas:** Contact person, Dean Weber, University of Arkansas-Fayetteville. Licensure bill to be introduced in January, 1983.

##### DISTRICT #7:

**Committee Member:** Steve Antonopoulos, Denver Broncos Football Club

**Arizona:** Contact person, Mike Nesbit, Northern Arizona University. Re-writing Bill. Have support from State Medical Society. Will have to affiliate with an existing Board because of Sunset. Possible re-introduction early in 1983.

**Wyoming:** Contact person, Bill Lyons, Wyoming University. Developing a state association. No action on legislation.

**New Mexico:** Contact person, Tow Diehm, University of New Mexico. No state organization.

Re-introduce their Bill in January, 1983. Support from State APTA chapter.

**Colorado:** Contact person, Regg Swanson, Colorado Springs, 625 N. Cascade. State organization attempting a strong educational program geared towards parent, legislators, and educational administrators. Re-introduction hoped for in January, 1984.

**Utah:** Contact person, Tom Abdenour, Weber State College. No formal state organization but a committee was formed to investigate both organization and legislation.

**DISTRICT #8:**

**Committee Member:** Jerry Lewis, Antelope Valley College, Lancaster, Calif.

**California:** Contact person, Jerry Lewis, Antelope Valley College. Forming a state organization. Once organized, a Licensure Committee will present a position paper to legislators & State Chapter of APTA.

**Hawaii:** Contact person, Al Martindale, University of Hawaii. No report.

**Nevada:** No contact person, no state organization, no report.

**DISTRICT #9:**

**Committee Member:** Jim Murphy, McNeese State University, Lake Charles, La.

**Alabama:** Contact person, Sang Lyda, Univ. of Alabama, Tuscaloosa. Awaiting fall election outcome before initiating action.

**Florida:** Contact person, Mike Silverstein, Plant City, Florida. No state organization. Previous attempt for licensure met with apathy. No current effort to pursue legislation.

**Georgia:** Contact person, Warren Morris, University of Georgia. Licensure Act for athletic trainer currently undergoing a "sunset" review.

**Kentucky:** Contact person, Roy Don Wilson, Lexington, Kentucky. No change since Spring Report.

**Louisiana:** Contact person, Jim Murphy, McNeese State, Lake Charles. House Bill #409 defeated. Re-organizing underway. Legislative Committee of the LATA meeting in January, 1983 to develop approach for the upcoming legislative session.

**Mississippi:** Contact person, Doug May, Doctors Hosp., Jackson, Ms. No current effort in light of state's financial problems.

**Tennessee:** Contact person, Tim Kerin, University Tennessee, Knoxville. Meeting in January, 1983 to re-organize future efforts.

**DISTRICT #10:**

**Committee Member:** Rick Troxel, University of Oregon.

**Alaska:** No report.

**Idaho:** No report.

**Montana:** No report.

**Oregon:** No report.

**Washington:** No report.

**NATA Licensure Committee Members**

**DISTRICT 1:** Louis DiNitto, Athletic Trainer  
University of Massachusetts-Boston  
Harbor Campus  
Boston, Massachusetts 02125  
(617) 287-1900

**DISTRICT 2:** John Sciera, Athletic Trainer  
SUNY at Cortland  
Athletic Department  
Cortland, New York 13045  
(607) 753-4962

**DISTRICT 3:** J.J. Bush, Athletic Trainer  
University of Maryland  
Athletic Department  
College Park, Maryland 20740  
(301) 454-4819

**DISTRICT 4:** Robert Behnke, Athletic Trainer  
Indiana State University  
110 Arena  
Terre Haute, Indiana 47809  
(812) 232-6311

**DISTRICT 5:** Ed Crowley, Athletic Trainer  
University of Iowa  
Athletic Department  
Iowa City, Iowa 52242  
(319) 353-4096

**DISTRICT 6:** Spanky Stephens, Athletic Trainer  
University of Texas  
Athletic Department  
Austin, Texas 78712  
(512) 471-5513

**DISTRICT 7:** Steve Antonopolos, Athletic Trainer  
Denver Broncos Football Club  
5700 Logan Street  
Denver, Colorado 80216  
(303) 623-8778

**DISTRICT 8:** Jerry Lewis, Athletic Trainer  
Antelope Valley College  
3041 West Avenue K  
Lancaster, California 93534  
(805) 943-3241

**DISTRICT 9:** Jim Murphy, Athletic Trainer  
McNeese State College  
Athletic Department  
Lake Charles, Louisiana 70605  
(318) 477-2520

**DISTRICT 10:** Rick Troxel, Athletic Trainer  
University of Oregon  
Athletic Department  
Eugene, Oregon 97403  
(503) 686-4477

**VI. MEMORIAL RESOLUTIONS:**

Attention was called to a letter received from Jim Rudd concerning the difficulty in getting obituary information on a deceased member, either through correspondence or through that member's file, after which it was moved by District 3, seconded by District 6, and carried 10-0, that if he cannot get information on a deceased member for the purpose of preparing a memorial for that member within one year that he take no further action.

**VII. NATIONAL CONVENTION:**

It was moved by District 7, seconded by District 9 to direct Mr. Hoover to prepare a packet describing and detailing the procedure for selection of convention cities for presentation to the Board of Directors. The motion was carried 9-1-0, with District 3 in opposition.

**VIII. PLACEMENT COMMITTEE:**

After the consideration of the committee's request to consider reinstatement of the job vacancy notice and a brief discussion concerning the present status of the entire procedure concerning placements, the following actions were taken:

1. A motion was made by District 2, seconded by District 1 and carried 10-0, that the Placement Committee investigate the possibility of establishing some type of charge for service publications which would indicate job openings, this fee to be charged to the advertising institution or the employer.

2. A motion was made by District 7 and seconded by District 4 to reinstate the job vacancy notice free of charge and with distribution to be made upon request. A vote on this motion indicated Districts 1, 2, 4, 5, 7 and 8 being in favor; District 3, 9 and 10 being in opposition and District 6 abstaining.

3. A motion was further made by District 6, seconded by District 5, to discontinue the Hot Line as soon as the job vacancy notice was reinstated. A vote on the motion indicated District 6 being in favor and with the balance of the Districts being in opposition.

4. A motion was made by District 7, seconded by District 6, to request the Chairman of the Placement Committee to report to the Board at its June meeting the mechanics and the timetable as to when the job vacancy notice could be totally functioning. The motion was carried 8-2-0, with Districts 2 and 9 being in opposition.

**IX. PROFESSIONAL EDUCATION COMMITTEE:**

1. A motion was made by District 6, seconded by District 8 and carried 10-0, to table, until a further financial report is made, the request that Indianapolis, Indiana be established as the site of the 1985 NATA Eastern Regional Sayers "Bud" Miller Professional Preparation Conference and that this site be included in the three-year rotating schedule for future eastern conferences.

2. A motion was made by District 7, seconded by District 8 and carried 10-0, that the following policy be adopted: "Current NATA approved undergraduate and graduate athletic training education programs (curriculums) that fail to submit requested five-year evaluation materials by October 1 deadline first be advised of the delinquency and subsequently recommended for probation or withdrawal of NATA approval should the required materials not be submitted by December 1."

3. A motion was made by District 4, seconded by District 7 and carried 10-0 that the following policy be adopted: "NATA approved undergraduate and graduate athletic training education programs (curriculums) who are notified of possible Guidelines violations based on Professional Education Committee review of annual reports submitted by the institution will be provided a three-month period beginning with the date of notification in which to respond in writing, explaining the alleged violations and/or indicating steps taken to bring the program into compliance with NATA

Guidelines. Should the Professional Education Committee recommendation for probationary status be approved by the Board of Directors, cited violations must be corrected and compliance with NATA Guidelines demonstrated in the institution's next annual report."

4. It was moved by District 7, seconded by District 5 and carried 10-0, that the on-site visitation of the undergraduate athletic training education program at Northeastern University be delayed until the fall of 1983 due to the illness on the part of the program director.

5. It was moved by District 7, upon recommendation of the Professional Education Committee, that in addition to expenses for meals and lodging currently paid by the NATA for the Professional Education Committee Chairman's attendance at the June PEC meetings, the NATA pay for round-trip travel expenses, meals and lodging associated with the PEC Chairman's attendance at future PEC meetings and Board of Directors' meetings held in conjunction with the NATA Annual Meeting and Clinical Symposium in the event that university travel funds are unavailable. There being no Board member desiring to second this motion, no action was taken on the motion due to lack of a second.

6. It was moved by District 7, seconded by District 8 and carried, with District 6 abstaining and the other Districts voting in the affirmative, that an addendum to the 1982-1983 PEC budget request in the amount of \$350.00 be approved to cover the costs of round-trip airfare, meals and lodging associated with the PEC Chairman's attendance at the June, 1983 Professional Education Committee meeting and Board meeting in Denver, Colorado.

7. The proposed change in the undergraduate and graduate Guidelines (Section II, B, 4, page 8), to provide that athletic training education programs *should* (rather than the current *must*) assure equal opportunity for classroom instruction, clinical experience, and other educational activities for all students in the program, was moved for adoption by District 7 and seconded by District 1. Following brief comments concerning the restrictiveness of the proposed change, the motion was voted upon with Districts 1, 2, 4, 6 and 10 voting in the affirmative; Districts 3, 5, 7, 9 voting in the negative and District 8 abstaining, with the motion being declared as having failed.

8. The Board was then presented with a recommendation from the committee that future expenditures and revenues associated with conduction of the NATA Professional Education Committee Annual Workshop (formerly Continuing Education Workshop) appear as a budget item within the general PEC budget and that revenues received from the Workshop be accredited to the PEC account at the NATA National Office. It was moved by District 4 and seconded by District 7 to adopt this recommendation. Following brief discussion and an amendment to read that this apply to all PEC workshops, the recommendation, as amended, was carried 10-0.

9. Concerning the recommendation for an addendum to the 1982-1983 PEC budget request in the amount of \$1,095.00 be approved to cover the cost of conducting the 1983 NATA Professional Education Committee Annual Workshop in Denver, Colorado, it was moved by District 4 and seconded by District 7, that this recommendation be adopted. A vote indicated Districts 2, 4 and 7 as voting in the affirmative and Districts 1, 3, 5, 6 and 8 as voting in the negative, with the recommendation then being declared as defeated.

10. It was moved by District 10, seconded by District 1 and carried 10-0, that Mr. Jim Viola, Johnson and Johnson Company, be awarded a plaque by the NATA Professional Education Committee as a demonstration of appreciation for financial support for the NATA Sayers "Bud" Miller Professional Preparation Conference for the past several years and that a PEC representative be permitted to present this award at the June, 1983 National Business Meeting in Denver, Colorado.

Additional information in relation to the Professional Education Committee is as follows:

**National Athletic Trainers Association  
PROFESSIONAL EDUCATION COMMITTEE  
REPORT TO THE BOARD OF DIRECTORS  
DECEMBER 1, 1982**

Gary Delforge, Chairman

Information included herein should be considered as a progress report on Professional Education Committee activities since June, 1982. An addendum report including recommendations for Board action will be submitted immediately following the mid-year meeting of the Professional Education Committee scheduled for January 5-7, 1983, in Pittsburgh, Pennsylvania. No recommendations for Board action are included in this report.

**Professional Education Committee (General)**

**Committee Membership Changes/Committee Organization.** With considerable reluctance, the PEC Chairman accepted the resignation of Ron Sendre from the PEC this past November. We trust that the Board recognizes Ron's many contributions to the PEC during

the twelve years that he has served. Ron's recent resignation plus five additional resignations during the past year will probably necessitate recommendations for at least one, and possibly two, new PEC members in the near future. These recommendations will be forthcoming as soon as specific Committee needs can be assessed.

Jerry Bell has been appointed as acting chairman of the newly created subcommittee on internship programs. The current PEC organizational structure and respective committee member assignments are as follows:

- Professional Education Committee – Gary Delforge (Chairman)
- Kanda Koehler (Secretary)
- Sub-Committee on Graduate Education – Lou Osternig (Chairman)
- Sub-Committee on Undergraduate Education – Dan Foster (Chairman)
- Sub-Committee on Internship Programs – Jerry Bell (Acting Chairman)
- Education Program Evaluation – to be named Annual Reports – Jack Redgren (Project Director)
- Education Program Graduates – Joanne Dolcemaschio (Project Director)
- Ethics – L.F. "Tow" Diehm (Project Director)
- Sub-Committee on Conferences/Workshops – David H. Perrin (Chairman)
- Western Regional Conference – Lou Osternig (Program Coordinator)
- Joanne Dolcemaschio (Site Coordinator)
- Eastern Regional Conference – David H. Perrin (Program Coordinator)
- Jack Redgren (Site Coordinator)
- Annual Workshop – Glen Snow (Program Coordinator)
- Al Proctor (Site Coordinator)
- Athletic Training Educators Workshop – Dan Foster/Lou Osternig (Program Coordinators)
- Sub-Committee on Special Projects – Jerry Bell (Chairman)
- Liaison Activities – Bill Prentice (Project Director)
- Honors and Awards – Ken Murray (Project Director)

**Sub-Committee on Educational Planning.** In addition to the above, a Sub-committee on Education Planning was developed this past fall as a continuing component of the PEC. This six-member committee will automatically be composed of the chairmen of the sub-committee on graduate education, undergraduate education, and internship programs and the project director for education program evaluation. One additional member will be appointed for a one-year period from among PEC members. Jack Redgren was appointed for the 1982-83 academic year. The PEC Chairman will serve as chairman of the sub-committee. This sub-committee was created for the primary purpose of dealing specifically with issues and projects affecting education programs in a more efficient and effective manner.

**Committee Budget Report.** A PEC budget report for the six-month period May 1, 1982 through October 31, 1982 is attached (Appendix A).

#### Graduate Education

**Five-Year Program Evaluations.** Two currently approved graduate programs (Indiana University and Western Michigan University) are scheduled for five-year evaluations in the Spring of 1983. PEC action on these programs will be taken in June, 1983.

**Program Proposal.** A proposal for a NATA approved graduate program has been received from Colorado State University. Final determination regarding their readiness for an on-site visitation in the Spring of 1983 will be made at the mid-year PEC meeting in January 1983.

#### Undergraduate Education

**Five-Year Program Evaluations.** A total of nine undergraduate programs are scheduled for a five-year evaluation this Spring. These include Northeastern University, Ithaca College, Indiana University, Ohio University, Purdue, Western Illinois, Southwest Texas State, California State-Long Beach, and Louisiana State.

**Program Proposals.** Proposals for NATA approved undergraduate programs were received from three schools this past October. These include California State University of Pennsylvania, East Tennessee State University and Towson State University (Maryland). California State University of Pennsylvania and East Tennessee State University have been approved for on-site visitations in the spring of 1983. Determination of Towson State's readiness for a visitation will be made at the mid-year PEC meeting.

**SUNY - Brockport.** Because of failure to comply with NATA Guidelines after a one-year period of probation, NATA approval of the undergraduate program at SUNY - Brockport was officially withdrawn in June, 1982. Subsequently, after consultation with Bobby Barton, Otho Davis, and Larry Graham, SUNY - Brockport was given the opportunity to voluntarily withdraw their program from the list of approved schools. They chose to do so and their request was granted.

#### Experimental Programs

A list of students officially enrolled in the Faculty - Athletic Trainer program, state of North Carolina, as of June 16, 1982, was received and forwarded to the NATA President and Executive Director on October 19, 1982, as directed by the Board. A copy was also sent to Paul Grace for his records.

#### Education Program Projects

**Education Program Evaluation.** A review of future five-year evaluation schedules indicates a need for several additional evaluation team members. Thus, plans are being made to embark on a rather extensive evaluation team development program in an effort to train new evaluation team members. Letters have been sent to approximately forty-five certified athletic trainers who have been recommended as potential evaluation team members in order to assess their interest. An appropriate number will be selected for initial training at an Evaluation Team Workshop tentatively scheduled for Saturday evening at the NATA convention in Denver next June.

**Annual Reports.** Revised annual report forms instituted last year are providing more pertinent information from program directors relevant to compliance with NATA Guidelines. The PEC is making an attempt to notify program directors of possible Guidelines violations as reflected in annual reports in order that they may correct problems prior to their scheduled five-year evaluations. Hopefully, these efforts will help to reduce the number of programs that are put on probation as the result of violations identified during five-year evaluations.

#### Conferences/Workshops

**1983 Eastern and Western Professional Preparation Conferences.** Final plans have been made for the 1983 Eastern conference, January 7-9, in Pittsburgh and the Western conference, March 4-6, in Newport Beach, California. Assurance has been received from Jim Viola, Johnson and Johnson Company, for financial support in the amount of \$2,500.00 for each conference. David Perrin and Jack Redgren are coordinating the Eastern conference. Lou Osternig and Joanne Dolcemaschio are coordinating the Western conference. All certified athletic trainers were mailed conference brochures from the National Office in early November. An effort has been made to intensify local and regional publicity through direct mailings to sports medicine clinics, professional organizations, etc. from the PEC office.

Sessions at both the Eastern and Western Professional Preparation Conference will again be taped and subsequently made available for sale through the National Office.

**1979-80 Proceedings.** Notification from Human Kinetics Publishers indicates that sales of the publication, *Professional Preparation in Athletic Training* (1979-80 conference proceedings) are not as extensive as expected. Since they were published last April approximately 160 copies have been sold as of October, 1982. Human Kinetics plans to advertise the Proceedings again in the Winter and Summer issues of the *Journal* and will continue other advertisement avenues.

**Professional Education Committee Annual Workshop (formerly Continuing Education Workshop).** Plans for the 1983 Annual Workshop in Denver will be discussed at the mid-year PEC meeting in Pittsburgh. A discussion last June among the PEC chairman, Bobby Barton, and Otho Davis indicated the desirability of establishing the Annual Workshop as an item within the PEC budget. In the past, expenditures/receipts associated with the Annual Workshop have been included within the general budget for the national convention making it difficult to assess cost effectiveness. The PEC chairman is attempting to determine expenses associated directly with the Annual Workshop and will submit an addendum budget request at the mid-year meeting of the Board of Directors if deemed appropriate.

**Athletic Training Educators Workshops (formerly Program Directors Council Workshops).** As usual these workshops will be continued as part of the 1983 Eastern and Western regional professional preparation conferences on Friday afternoons with topics of particular interest to athletic training educators. A workshop is again being planned for Saturday afternoon preceding the 1983 national convention in Denver.

#### Special Projects

**Liaison Activities.** Full incorporation of liaison activities with allied educational groups currently being conducted by Bill Prentice into the financial structure of the PEC will begin in 1983. During the 1982-83 academic year, Bill is continuing to conduct liaison representation as previously directed by the Board of Directors.

**Honors and Awards.** Ken Murray, Project Director, is continuing with plans to implement the Distinguished Athletic Training Educator Award as approved by the Board of Directors this past June. Hopefully, criteria for selection can be finalized and nominations received in time for presentation of the first award at the 1983 national convention in Denver.

#### Educational Planning

**Sub-Committee Meeting.** The newly formed Sub-Committee on Educational Planning is scheduled to meet Wednesday evening, January 5, and Thursday morning, January 6, 1983, preceding the full mid-year PEC meeting in Pittsburgh. This sub-committee meeting represents a change in the previous format for the mid-year PEC meetings. It is hoped that comprehensive matters including revision of the behavioral objectives and development of guidelines for the athletic training major and internship programs can be dealt with more effectively on a small-group basis. Results of the sub-committee's efforts regarding revised behavioral objectives, guidelines for the athletic training "major," and guidelines/recommendations for internship programs will then be presented to the PEC for approval and finally to the Board of Directors with recommendations for acceptance.

As expected, the projects indicated above are proving to be major tasks requiring a considerable amount of thought. Originally, it was hoped that definite recommendations could be presented to the Board of Directors at their 1983 mid-year meeting. However, it is the strong feeling of the PEC chairman that recommendations regarding future education programs in athletic training should not be hastily developed but should be carefully thought out. Consequently, June, 1983, would appear to be a more realistic target date for presentation of specific PEC recommendations regarding behavioral objectives revisions, guidelines for the athletic training major, and recommendations/guidelines for internship programs.

#### National Athletic Trainers Association

#### PROFESSIONAL EDUCATION COMMITTEE ADDENDUM REPORT TO THE BOARD OF DIRECTORS FEBRUARY 27, 1983

Gary Delforge, Chairman

Information included in this report should be considered an addendum to the PEC progress report submitted to the Board of Directors on December 1, 1982. This report includes items discussed and actions taken at the January 6-7, 1983, Professional Education Committee meeting in Pittsburgh, Pennsylvania.

#### Professional Education Committee (General)

**PEC Meeting (January 6-7, 1983).** The following members were in attendance: (1) Gerald Bell, (2) Joanne Dolcemaschio, (3) Dan Foster, (4) Ken Murray, (5) Lou Osternig, (6) David Perrin, (7) William Prentice, and (8) Jack Redgren. "Tow" Diehm, Al Proctor, and Glen Snow were not in attendance.

**Sub-Committee on Educational Planning.** The newly created Sub-Committee on Educational Planning met for the first time on Wednesday evening, January 5, and Thursday morning, January 6, immediately preceding the full PEC meeting in Pittsburgh. This small group meeting proved to be a comparatively productive method of dealing with comprehensive educational matters confronting the PEC. Results of this sub-committee meeting and subsequent PEC actions will be presented later in this report.

#### Graduate Education

**Five-Year Program Evaluations.** Evaluation team assignments were finalized for on-site visitations to Indiana University and Western Michigan University this spring. Lou Osternig (chief) and Jerry Bell will conduct the visitation at Indiana University. John Schrader (chief) and Ron Sendre will conduct the visitation at Western Michigan University.

**Program Proposal.** The proposal for a NATA approved graduate program previously received from Colorado State University was reviewed. By a vote of 8-0, the PEC approved a recommendation from the Chairman, Graduate Education that an on-site visitation to Colorado State University be delayed until such time that the proposed program demonstrates compliance with NATA Guidelines and fulfills the one-year implementation period requirement. Appropriate personnel at Colorado State University have been advised of the PEC decision.

#### Undergraduate Education

**Five-Year Program Evaluations.** Evaluation team assignments were finalized for on-site visitations to eight (8) undergraduate NATA approved schools as follows:

- Ithaca College – Joe Godek (chief) / David Perrin
- Indiana University – Jerry Bell (chief) / Lou Osternig
- Ohio University – Ron Sendre (chief) / Bill Prentice
- Purdue University – Jerry Bell (chief) / Glen Snow
- Western Illinois – Dan Foster (chief) / Jerry Bell
- Southwest Texas State – Tow Diehm (chief) / Ken Murray
- CSU-Long Beach – Joanne Dolcemaschio (chief) / Lou Osternig
- Louisiana State University – John Schrader (chief) / Ken Murray

By a vote of 7-0, the PEC voted to recommend a delay in the visitation to Northeastern University until the fall of 1983 due to illness on the part of the program director, Phil Donley (chief) and David Perrin will conduct this visitation. Should this recommendation be approved by

the Board, PEC action on the visitation team's report will be taken at the January, 1984, meeting of the PEC. As a matter of PEC policy, should probation be recommended by the PEC and approved by the Board for Northeastern University at the January, 1984, PEC meeting, the period of probation would include the one-year period immediately subsequent to the mid-year meeting of the Board of Directors.

**Program Proposals.** Evaluation team assignments were finalized for initial on-site visitations at California State University of Pennsylvania and East Tennessee State University. Proposals for NATA approved undergraduate athletic training education programs were received this past fall from these two schools. Dan Foster (chief) and David Perrin will conduct the visitation at California State University of Pennsylvania. Jack Redgren (chief) and Tim Kerrin will conduct the visitation at East Tennessee State.

By a vote of 8-0, the PEC voted to accept a recommendation from the Chairman, Undergraduate Education, to delay an on-site visitation to Towson State University until such time that their proposed undergraduate program demonstrates compliance with NATA *Guidelines* and fulfills the two-year implementation period requirement. Appropriate personnel at Towson State University have been advised of the PEC decision.

**Programs on Probation.** The probationary status of undergraduate programs at Indiana University and the University of Montana were discussed at the January, 1983, PEC meeting. After a review of written materials to be submitted this spring, Dan Foster, Chairman, Undergraduate Education, will provide his recommendation regarding the necessity of hearings for these two schools at the June, 1983, PEC meeting in Denver.

#### Education Program Projects

**Education Program Evaluation.** A total of nineteen (19) new evaluation team candidates were selected for initial training as visitation team officers at an Evaluation Team Workshop to be held on Saturday, June 11, 1983, at the NATA Annual Meeting and Clinical Symposium in Denver. These candidates were selected for training after a careful review of personal resumes and an assessment of future manpower needs in each geographical district.

**Annual Reports.** Jack Redgren, Project Director, presented a summary of annual reports for the 1982-83 academic year submitted by NATA approved undergraduate and graduate athletic training education programs. By a vote of 7-0, it was decided that, in the future, the respective chairmen of the sub-committees on undergraduate and graduate education will notify the program director and the department chairman of potential *Guidelines* violations indicated on annual reports. Schools will be given a three (3) month period in which to respond to explaining perceived problem areas and/or indicating the steps taken to bring the program into full compliance with NATA *Guidelines*. Should *Guidelines* violations not be rectified within the allotted three month period, the PEC may vote to recommend probationary status at its next regularly scheduled meeting. Should probationary status for a particular school be approved by the Board of Directors, *Guidelines* violations must be corrected and compliance demonstrated in the school's next annual report. Current PEC policies governing probationary status for violations identified during regularly scheduled five-year evaluations of NATA approved programs would remain in effect.

Jack Redgren also presented recommendations for revisions in the Annual Report Form. These recommendations will be incorporated into new forms for use during the 1983-84 academic year.

**Education Program Graduates.** Joanne Dolcemaschio, Project Director, reminded the Committee of current procedures for awarding undergraduate and graduate certificates. Joanne also presented and discussed a 1982 Synopsis of Curriculum Graduates. It is unfortunate that data indicating job placement percentages among graduates certified through Section II (internship route) and previously available certification routes (special consideration and physical therapy) is not available as a basis for comparison. It should also be noted that all graduates of NATA approved education programs do not take the certification examination and thus do not, in effect, place themselves in the job market. Consequently, the actual placement percentage among curriculum graduates who are certified would be expected to be higher. For these reasons, caution is advised in interpretation of the data presented in curriculum graduates reports.

The PEC has received a comprehensive computer printout from Paul Grace, Chairman of the Board of Certification, providing certification exam results for graduates of NATA approved undergraduate and graduate curriculums and internship programs. Data will continue to be evaluated in an attempt to identify possible areas of weakness in curriculums among NATA approved schools.

**Guidelines Revisions.** The need for revisions in both the undergraduate and graduate *Guidelines* was discussed as the result of a review of the *Guidelines* by Larry Graham last spring. On his recommendation, a *Guidelines* revision was approved by the PEC and is presented to the Board as a recommended change.

A second *Guidelines* revision incorporating Larry Graham's recommendation for a change in appeal procedures for schools that are placed on probation or for which NATA approval is withdrawn was discussed and approved by the PEC. This recommendation, however, will be reviewed by Larry Graham before presentation to the Board at its June, 1983, meeting. Larry's review of our *Guidelines* and procedures and incorporation of his recommendations should enable us to function on a legally sound basis with respect to approval of educational programs.

#### Conferences/Workshops

**1983 Eastern Regional Professional Preparation Conference.** The NATA Eastern Regional Sayers "Bud" Miller Professional Preparation Conference was held January 7-9, 1983, in Pittsburgh, Pennsylvania. Attendance increased from 107 at the 1982 conference to a total of 129 this year. Attendance included 104 certified athletic trainers (including PEC members), 21 students, and 4 non-members. Revenues from registration fees at the Eastern conference totaled \$4,110.00. In addition, Mr. Jim Viola, Johnson and Johnson Company, presented the PEC chairman with two checks of \$2,500.00 each for support of the 1983 Eastern and Western conferences. David Perrin, program coordinator, should be recognized for his efforts in making the 1983 Eastern conference one of the most successful to date.

Conference sessions were audiotaped and tapes will be advertised for sale in future issues of the NATA Journal. Actual audiotape sales at the conference amounted to \$138.00.

**1983 Western Regional Professional Preparation Conference.** Lou Osternig, Program Coordinator, presented a summary of final plans for the NATA Western Regional Sayers "Bud" Miller Professional Preparation Conference to be held March 4-6, 1983, in Newport Beach, California. As of January 17, 1983, a total of 41 individuals had pre-registered for the Western conference.

**1985 Eastern Regional Professional Preparation Conference.** By a vote of 6-2, the PEC voted to recommend Indianapolis, Indiana as the site for the 1985 Eastern Regional Professional Preparation Conference. Board approval of this recommendation would complete the three-year rotating schedule of eastern conference sites.

**Professional Education Committee Annual Workshop.** Although not in attendance at the January, 1983, PEC meeting, Glen Snow, Project Director, previously reported progress being made with regard to the 1983 Annual Workshop in Denver, Colorado. As indicated in the December 1, 1982, report to the Board of Directors, inclusion of the Annual Workshop as an item within the PEC budget appears to be desirable. Consequently, a PEC recommendation in this regard and an addendum budget request to cover costs of the 1983 workshop is included.

**Athletic Training Educators Workshop.** Dan Foster and Lou Osternig, Project Directors, discussed plans for the Athletic Training Educators Workshop to be held Saturday afternoon at the 1983 NATA convention in Denver. Topics and speakers for the workshop will be identified and scheduled during the next few months with announcements regarding the workshop appearing in the Spring Program Directors Council Newsletter.

#### Special Projects

**Liaison Activities.** Bill Prentice, Project Director, presented a summary of current liaison activities being conducted with allied education groups on behalf of the NATA and reported plans to attend a meeting of the National School Board Administrators in San Francisco, California, on April 22-25, 1983. In addition, Bill discussed the display booth and brochures that have been developed and presented the audiotape-slide presentation developed for use at meetings of various allied educational groups. The PEC was very impressed with the slide presentation that Bill has developed. Recommendations for expanded liaison activities and future projects were discussed briefly. A PEC budget request for 1983-84 liaison activities will be presented to the Board at its June, 1983, meeting, at which time educational liaison activities are scheduled to be fully incorporated as part of the PEC's responsibilities.

**Honors and Awards.** Guidelines and criteria for awarding of the *Distinguished Athletic Training Educator Award* approved by the Board of Directors at its June, 1982, meeting were discussed. A final draft of these guidelines will be prepared by Ken Murray, Project Director, this spring and presented to the Board of Directors at its June, 1983, meeting in Denver. The PEC approved a recommendation to delay presentation of the first award until June, 1984, in order to allow sufficient time for announcement of the award in the

Journal.

#### Educational Planning

The sub-committee on educational planning met on Wednesday, January 5 and Thursday, January 6 in Pittsburgh for the primary purposes of revising behavioral objectives for athletic training education and developing the academic components of the athletic training "major." The following is a summary of progress made:

**Behavioral Objectives.** The behavioral objectives currently used as a basis for curriculum development were revised considerably. It should be noted that the PEC is recommending that the "behavioral objectives" be referred to in the future as "Competencies in Athletic Training." A review of the cover page for the list of competencies should be self-explanatory with regard to the development and purposes of the competencies. Minor revisions will be made and committee members input will be incorporated into a second draft this spring. The competencies will then be incorporated into a revised edition of the manual, "Guidelines for Development and Implementation of NATA Approved Undergraduate Athletic Training Education Programs" and presented to the Board for action, hopefully at its June, 1983, meeting.

**Athletic Training Subject Matter "Core."** The sub-committee on educational planning also identified sixteen subject matter areas which it felt should constitute the academic "core" of an athletic training major, or its equivalent. These subject matter areas are (1) therapeutic exercise, (2) therapeutic modalities, (3) evaluation and recognition of athletic injuries/illnesses, (4) first aid and emergency care, (5) administration of athletic training programs, (6) training room techniques and skills, (7) prevention of athletic injuries/illnesses, (8) human anatomy, (9) human physiology, (10) exercise physiology, (11) kinesiology/biomechanics, (12) nutrition, (13) psychology, (14) personal/community health, (15) instructional techniques, and (16) statistics. The above subject matter areas were approved by the PEC by a vote of 7-0.

It should be noted that it is not the intent of the PEC to recommend that *separate* courses in all of the above areas be required as a condition of NATA curriculum approval. The intent is to require that all of the above subject matter areas be included to an appropriate extent as content within academic courses comprising the athletic training "major." For example, therapeutic modalities and therapeutic exercise *could* be taught in a single course if adequate opportunity for students to develop the "competencies" associated with these subject matter areas is provided.

The "core" subject matter areas will also be incorporated into a revised edition of the undergraduate *Guidelines* and presented to the Board for action at its June, 1983, meeting.

**Internship Guidelines.** A future PEC project is the development of a manual tentatively entitled "Guidelines for Development of Internship Programs in Athletic Training" which would be available from the PEC office for certified athletic trainers who are seeking guidance and recommendations for structuring internship programs leading to certification through Section II. The intent is to develop the manual based on close communication and collaboration with the Board of Certification in an effort to avoid inconsistencies. As is the case with the guidelines for development of the athletic training "major" recommendations for structuring education experiences in internship programs will be based on results of the role delineation study conducted by the Board of Certification and the Professional Examination Service.

#### X. AMERICAN ACADEMY OF PEDIATRICS:

It was moved by District 9, seconded by District 4 and carried, that NATA liaison be established with this group, with Districts 1, 2, 3, 4, 5, 9, and 10 voting in the affirmative; Districts 7 and 8 voting in tie and District 6 abstaining.

The Liaison to American Academy of Pediatrics report is as follows:

#### MEMORANDUM

TO: Robert Barton, President, NATA  
FROM: Richard F. Malacrea  
DATE: December 28, 1982  
RE: Liaison to American Academy of Pediatrics

The fall meeting of the Committee on Sports Medicine was held in Arlington, Virginia on November 9-10, 1982. A list of those members and liaison representatives in attendance is attached.

Dr. Robert Holland, Chief of Health and Human Affairs Section of the Ohio Department of Education, presented to the Committee the many booklets that allow a self appraisal of (1) programs in physical education at the elementary and secondary level, (2) intramural programs in both elementary and secondary schools, (3) school health programs, and (4) guidelines for improving physical education for the handicapped. This presentation was requested on a consultative basis to aid

the Committee in developing a Self Appraisal Checklist for the Medical Aspects of Interscholastic Sports in High Schools. The basic areas of examination will be (1) Philosophy and Principles, (2) Organization and Administration, (3) Activity Management, (4) Staff, (5) Equipment and Facilities (your liaison representatives area of responsibility), and (6) Education. The method of dissemination of this booklet will be decided at the spring meeting.

Committee Chairman, Dr. Thomas Shaffer, reported that he would contact Mr. Dewey Schring of Ross Laboratories to inquire if this corporation desired to follow-up with the Volunteer Coaches Education Program (see attachment). The Committee felt that although a good start had been made in Phase I & II, a national program would prove unmanageable.

The Committee has decided not to pursue Section status within the Academy. It seems that there would be few benefits and in fact would be a negative move.

Dr. Nate Smith reports that the manual that your liaison representative contributed to will be ready for publication in the spring of 1983. Dr. Smith also led a discussion on the development of a curriculum in Sports Medicine for pediatric residents. The dialogue that followed would seem to indicate that few pediatric residents are interested in sports medicine (unlike residents in family practice), and it is only after they are in practice that they recognize the need for education in this area of medical practice. Dr. John J. Murray will pick up this challenge and attempt to develop it.

The Committee reaffirms its stand as being opposed to any use of trampolines. Dr. Shaffer verbalized a minority opinion to point out the correct use and refers to statistics presented by "Casey" Clarke. (The accidents resulting in serious injury were sustained by skilled athletes or by "backyard" athletes.)

Your liaison representative reported on the growth of the NATA, licensure, certification and presented the good wishes of President Barton. The topic of licensure stimulated a great number of questions regarding relationships between athletic trainers and physical therapists. Dr. Pappas stated that professional baseball was quite concerned about these matters and the legal status of the athletic trainer. It was his opinion that teams were seeking out P.T.-A.T.'s or P.T.'s because of this concern. He cautioned that the NATA should do all that it can to hasten and encourage state licensure of the athletic trainer.

Dr. James Moller reported on testing for cardiovascular fitness in children. He recommended the guidelines to be published in *Circulation* in the December 1982 issue.

The Committee voted not to issue a statement on diving and diving injuries, but is filing a document of interest with the Academy to issue a statement on boxing. This was prompted by Dr. Smith's reading of a letter from the Boxing Federation regarding lowering the age for competitive boxing to 6-8 years. Dr. Luckstead also presented a pictorial review of children boxing from the Des Moines Register of 10/10/82.

There was a discussion on the medical checks on the disabled or impaired child athlete. It was pointed out that these children many times do not have the same medical screening (pre-participation physical) that their "normal" peers receive. No action was taken or planned on this issue.

This Committee is a viable group who are not only productive in many areas, but lend steady support to athletic training and the activities of the athletic trainer. Your representative recommends continued liaison.

Respectfully submitted,  
Richard F. Malacrea

RFM:wb  
Attachments

#### Appendix 1 THE AAP VOLUNTEER YOUTH COACHES EDUCATION PROGRAM

More than two million volunteer coaches, most of them having inadequate training for their responsibilities, are supervising and teaching 20 million young boys and girls in community-based youth sports programs.

Is it reasonable to continue to sanction those who have sketchy knowledge about children's health and development, sports medicine, exercise physiology and psychology of sports competition, and little basic knowledge of coaching skills and philosophy to deal so intimately with the physical and mental health of children in their formative years? The answer has to be "No," when there is the real possibility that games and sports can be a positive and enjoyable experience under proper leadership. The role of the American Academy of Pediatrics in helping to develop such leadership is the obvious one of providing opportunities for adult leaders to make determined steps toward learning more about children, sports science and philosophy of healthful friendly competition.

For most motivated talented young athletes, community-based youth sports programs provide an enjoyable introduction to sports. Others, not so gifted, do not profit from the experience. The difference usually

depends on the preparedness of the volunteer youth sports coaches. They have ordinarily had little or no preparation in the medical, physiological, and emotional aspects of sports, especially when applying these factors to immature participants. Perhaps the most worrisome circumstances are the lack of training coaches have had for coping with emergency first aid situations, prevention of injury and illness among their players and caring for their players when they return to action after injury or illness.

Coaching education programs, planned after surveys of the needs of coaches and designed to provide basic information about coaching young athletes are now available through several recognized academic institutions. The AAP Committee on Sports Medicine has agreed that the AAP has an undeniable opportunity to promote and facilitate training of coaches through a well planned program within the organization of the Academy's Districts and State Chapters.

There is considerable evidence from surveys and other studies that volunteer coaches need and want additional information to carry out the jobs they have agreed to do. The Academy has the organization and reputation to enable it to promote the first steps in promoting training seminars, on a national basis, for those many coaches who would welcome an opportunity to do a better job in improving health, fitness and skills of young athletes. The present proposal is only a beginning in a program that could easily become a major effort at state and local levels for better child health.

#### PHASE I

a. A seminar on the status of community-based youth sports and the needs for training of coaches (accomplished October 26, 1982).

b. An Academy sponsored booth exhibit at the annual meeting in October, 1982 (accomplished).

c. A survey of interests among Academy fellows in formation of a Section on Sports Medicine (in progress at annual meeting 1982).

#### PHASE II

a. Offer a pre-planned six-hour program in Volunteer Coaching Effectiveness for representatives from State Chapters at their district meetings, aimed at developing pediatric leadership at State Chapter level in the volunteer youth coaches education program.

b. One or more representatives from each chapter would be selected by the state chairman and provided financial assistance to attend the orientation course. The course would prepare one or more interested persons in each chapter to develop a plan for conducting coaching clinics in various localities in that state.

c. The District meetings for pediatric leaders ("facilitators") would be supported by a national sponsor. The state level courses, to be conducted primarily for volunteer coaches, at convenient localities and at appropriate times of the year depending on the currently popular sports, would be expected to have encouragement and financial support from state and local agencies (service clubs, recreation departments, hospitals, state AAP chapters, foundations, youth sports groups). Such support might vary from simply providing facilities for meetings, to media publicity, professional personnel for teaching and community financial support from youth organizations.

Primary concern at this time is the promotion of AAP District sponsorship of the orientation courses for interested pediatricians. A nationally recognized coaching education program at a large state university has agreed to participate in conducting these nine district meetings (fewer than nine if two or more districts could combine their efforts in one course).

A curriculum will be developed. The 6-hour program would include descriptions of the youth sports movement in this country, and discussions of coaching philosophy, sport psychology, sports medicine, sports physiology, and coaching methods. The educational needs of coaches, common problems among young athletes, individual differences among pre-adolescent and adolescent athletes, females in youth sports, various aspects of medical authorization to participate and management of medical emergencies would be additional topics for consideration at the leadership courses.

#### Proposed Budget for Phase I and II

Booth at AAP annual meeting	\$ 1,200
A \$100 stipend for travel expenses for each chapter representative (X 56)	5,600
\$200 tuition X 56 (includes instruction guides, and text)	11,200
Slide sets - 160 color slides, 9 sets (1 set for use within each district upon request for local meetings)	900
3 sets of 20-minute color sound films (5 different films per set*), to be distributed from AAP headquarters on request	4,200
<b>TOTAL</b>	<b>\$23,100</b>

\*Films have been prepared on the following topics:

- Youth Sports: Is Winning Everything?
- Sport Psychology for Youth Coaches
- Teaching Sport Skills to Young Athletes
- Conditioning the Young Athlete
- Prevention and Treatment of Sports Injuries

#### PHASE III

This phase of the program will vary from chapter to chapter. Leadership would stem from Phase II. Professional consultation and assistance and teaching aids will be furnished from District and national AAP sources.

It can be anticipated that a nominal fee for attendance at the local area to cover costs of materials, faculty and meals would be necessary.

#### XI. 1982 TRAINER OF THE YEAR:

Following a joint recommendation by Jerry Rhea, Otho Davis and Bill Chambers, it was moved by District 9, seconded by District 6 and carried 10-0, that the Board of Directors go on record as recommending to The Drackett Company that the recipients of the Trainer of the Year Award be limited to only one year during each four-year period.

#### XII. ATHLETIC TRAINER'S CREED:

In view of the present provisions concerning Ethics and a Policy Statement covering this issue, the Board, by general consensus agreed something such as this was not needed.

#### XIII. AMERICAN RED CROSS:

It was moved by District 5, seconded by District 8 and carried 10-0, that the NATA support this organization in its mission of better first-aid provisions for the junior and youth sports groups.

#### XIV. INTERNATIONAL GAMES:

It was moved by District 4, seconded by District 5, and carried 10-0, that Mr. Troy Young be granted transportation from Phoenix to Denver for the purpose of attending the first meeting concerning the International Games for the purpose of formulating the subsequent timetable.

Mr. Young's report is as follows:

#### NOTES FROM USOC SPORTS MEDICINE COUNCIL MEETING October 8, 1982 Colorado Springs, Colorado

1. It was moved by the Athletes Representative Wilhelm and seconded by Athletes Rep. Knudson a clinician skilled in manipulative mechanical kinesiology be among the 1983 U.S. Pan American medical staff. Motion carried.

2. A USOC/USS Medical Aspects of Swimming Conference is planned for Phoenix, Arizona, December 18-19.

3. A second co-conference is being held with USOC/Baseball Federation Conference regarding "Injuries to the Throwing Arm," in Atlanta, February 10-12.

4. The *Olympian* editor is wanting articles on sports medicine from Athletic Trainers.

5. USOC will sponsor a closed workshop of Chronobiology and athletic performance prior to ACSM Convention. Then a co-sponsored USOC/ACSM Seminar the day following the convention.

6. It was moved by Dr. Hanley and seconded by Dr. Zarins that the council endorse USOC financial commitment and leadership to the development of a manual on athletic training principles for coaches of disabled athletes. Motion carried.

Larry Leverenz, A.T.C., was appointed to that committee by the USOC Sports Medicine Council. Richard Malacrea will represent the NATA.

7. Next meeting will be held in Atlanta on February 12-13, 1983.

This was my first USOC Sports Medicine Council Meeting. It was, therefore, mostly an introductory meeting.

The Council seemed to be a very close group. However, they are very open to recommendations. I think the NATA will benefit a great deal in continuing liaison with the USOC Sports Medicine Council.

Respectfully submitted,  
Troy Young, Chairman  
International Games Committee

#### XV. JOURNAL:

It was moved by District 7, seconded by District 9 and carried 10-0, that \$250 be added to the presently allocated \$1,000 for secretarial help.

It was moved by District 7, seconded by District 2 and carried 10-0 that the proof-reading expenses be increased from \$300 to \$400 to defray additional costs.

JOURNAL COMMITTEE

**Ken Wolfert**

Committee Chairperson, Editor-in-Chief  
District 4

- A. Selects a printer, with approval of the Board of Directors to produce and distribute *Athletic Training*
- B. Edits copy appearing in each quarterly issue of *Athletic Training*
- C. Establishes and maintains a written statement of the editorial policies of *Athletic Training* subject to review and approval by the Board of Directors

1010 Marilyn Drive  
Oxford, OH 45056  
Phone: (513) 523-8535

**Dennis Aten**

Potpourri Column  
District 4

- A. Prepare and submit Potpourri Column
  - B. Attend Journal Committee meetings
  - C. Assist Chairman or other Committee members
- Athletic Trainer  
Eastern Illinois University  
Charleston, IL 61920  
Phone: (217) 581-5939

**T. David Burton**

Tips From the Field Editor,  
Member of Editorial Review Board  
District 6

- A. Approves articles related to Student Trainers' Corner or Tips
- Athletic Trainer  
Independent School  
Duncanville District  
802 S. Main Street  
Duncanville, TX 75137  
Phone: (214) 298-6139

**Paul Concialdi**

Current Literature Column  
District 2

- A. Submit a list of recent articles related to the field of sports medicine and athletic training
- B. Choose the articles to be included on the list from members, periodicals or from library, (Readers Guide, Education Index, or Index Medicus)
- C. Submit subjects and author indexes for all the articles in the Journal at the end of each year

Athletic Trainer  
Kiskiminetas Springs School  
Saltsburg, PA 15681

**Mary Edgerley**

Managing Director NATA

- A. Works with Editor-in-Chief, Editor, and Business Manager to coordinate all responsibilities
- B. Liaison with printer and layout department
- C. Handles all advertising sales and public relations with media
- D. Makes last minute decisions with Editor-in-Chief such as deletions or additions to volume
- E. Orders volume of printing
- F. Responsible for postage permit and submission to United States Postal Service
- G. Acts as Print Media and Production Liaison with Media
- H. Serves on Executive Committee

P.O. Box 1865  
Greenville, NC 27834  
Phone: (919) 752-1725

**Jeff Fair**

Calendar of Events Column

District 5

- A. Compiles and periodically revises a mailing list of organizations who sponsor meetings of interest to athletic trainers
- B. Organizes and continually updates a filing system to keep athletic training events in chronological order
- C. Share lists of current events with other organizations who reciprocate by announcing NATA events in their publications
- D. Compiles a Chronological list of current events stating contact for details for publication in each issue of the *Journal*
- E. Encourage participation in the current events portion of the *Journal*, by personal contact and by requesting such information in the *Journal*

Athletic Trainer  
Oklahoma State University  
Stillwater, OK 74078  
Phone: (405) 624-5837

**Kathy Fox**

Book Reviews Editor

District 9

- A. Soliciting new publications in sports medicine and examining them for possible review in the *Journal*

- B. Acceptable publications reviewed by editor or another certified trainer and submitted to the Editor-in-Chief for publication
- C. Edit all reviews before submitting them
- D. Send a copy of the review to the publisher

Athletic Trainer  
University of Central Florida  
Orlando, Florida 32816  
Phone: (305) 275-2031

**Sue Halstead**

Editorial Board

District 3

- A. Evaluate and recommend submitted articles for publication
  - 1. Accept or reject submitted articles based on content and quality
  - 2. Assist the authors in upgrading their format through grammar, restructuring, use of visual aids, expansion, deletion, and other methods which may more effectively get the author's point to the reader.

Athletic Trainer  
University of Virginia  
Charlottesville, VA 22901  
Phone: (804) 924-3873

**Donald Kaverman**

Schering Symposium Articles, CEU Quizzes

District 4

- A. Complete all details in getting authors' papers, permission, editing final draft
- B. Submits each paper to editor-in-chief so that there is a Schering paper in each issue
- C. Works with editor-in-chief to get reprints of each article to NATA membership
- D. Will make up questions from suitable manuscripts & develop into a quiz to be published with same article and offered to NATA membership for CEU credit
- E. Will develop an arrangement for accounting for money received, grading and notifying NATA of CEU credit for those members who pass the quiz

Athletic Trainer  
Department of Athletics  
Ferris State College  
Big Rapids, MI 49307  
Phone: (616) 796-0461, ext. 5512

**Deloss Brubaker**

Student Writing Contest

District 10

- A. Mail information on preparing a journal manuscript to those student NATA members who request it
  - 1. Contest rules
  - 2. Common problems in previous years
  - 3. Reprint of "Writing Articles for the Journal" (*Athletic Training* 13: 196-198: 1978)
- B. Receive manuscripts from contestants
- C. Organize the judging of manuscripts
  - 1. Select judges
  - 2. Mail forms and manuscripts to judges
  - 3. Compile results from judges
- D. Inform Journal Committee Chairman of the winning entry
- E. Correct any problems with the winning manuscript and submit to the Editor-in-Chief for publication

Editorial Board

- A. Evaluate and recommend submitted articles for publication
  - 1. Accept or reject submitted articles based on content and quality
  - 2. Assist the author in upgrading their format through grammar, restructuring use of visual aids, expansion, deletion, and other methods which may more effectively get the author's point to the reader

Athletic Trainer  
Oregon State University  
Corvallis, OR 97331  
Phone: (503) 754-4188

**Dan Libera**

Editorial Board

District 7

- A. Evaluate and recommend submitted articles for publication
  - 1. Accept or reject submitted articles based on content and quality
  - 2. Assist the author in upgrading their format through grammar, restructuring, use of visual aids, expansion, deletion, and other methods which may more effectively get the author's point to the reader

Athletic Trainer  
University of Northern Colorado  
Greeley, CO 80639  
Phone: (303) 351-2282

**Barbara Manning**

Business Manager

- A. All work (public relations, bookkeeping, correspondence, etc.) necessary to handle the approximately 800 outside (non-members) subscribers to the *Journal*
- B. Handle *Journal* advertisers and their agencies (billing, collection, correspondence and bookkeeping) after each *Journal* is published
- C. Get out media kits to prospective advertisers and maintain a current file on the same

P.O. Box 1865  
Greenville, NC 27834  
Phone: (919) 752-1725

**Bob Moore**

Editorial Board

District 8

- A. Evaluate and recommend submitted articles for publication
  - 1. Accept or reject submitted articles based on content and quality
  - 2. Assist the author in upgrading their format through grammar, expansion, restructuring, use of visual aids, and other methods which may more effectively get the author's point to the reader

Athletic Trainer  
San Diego State University  
San Diego, CA 92182  
Phone: (714) 265-5551

**David Yeo**

District News, International News,  
Individual Accomplishment, Historical Flashbacks,  
Member Credits & Awards

District 2

- A. Editor of the Above
- Montgomery County Community College  
340 DeKalb Pike  
Blue Bell, PA 19422  
Phone: (215) 641-6510

**Jim Rankin**

Editorial Board

District 4

- A. Evaluate and recommend submitted articles for publication
  - 1. Accept or reject submitted articles based on content and quality
  - 2. Assist the author in upgrading their format through grammar, restructuring, use of visual aids, expansion, deletion, and other methods which may more effectively get the author's point to the reader

3910 Kendalwood  
Lansing, MI 48910  
Phone: (517) 394-4992

**Clint Thompson**

Editor

District 4

- A. Works with Editor-in-Chief, Director of Management to coordinate *Journal*
- B. Reviews all editorial material and rejects or submits editorials either for rejection or acceptance
- C. Works with Editorial Committee on upgrading articles submitted
- D. Serves as a member of Journal Executive Committee
- E. Handles all correspondence in reference to editorial matter

Athletic Trainer  
Jenison Field House  
Michigan State University  
East Lansing, MI 48824  
Phone: (517) 353-4412

**John Wells**

Abstract Column

District 3

- A. Solicits pertinent articles from state of abstractors
- B. Edit all abstracts
- C. Submit suitable abstracts to Editor-in-Chief

Drug Related Articles

- A. Writes and submits two drug related articles to editorial board annually for *Journal* publication

Athletic Trainer  
Mars Hill College  
Mars Hill, NC 28754  
Phone: (704) 689-1214

**XVI. AMERICAN ALLIANCE OF HEALTH, PHYSICAL EDUCATION, RECREATION AND DANCE:**

Attention was called to Mr. Joe Godek's request in the amount of \$650 for the purpose of attending the next meeting of this organization to be held at Minneapolis.

It was moved by District 5, seconded by District 6 and carried 10-0, to approve the expenses in the amount of \$650, as requested by Mr. Godek for his attendance at the next meeting of this group and the direction that he

likewise, while in attendance at this meeting, be directed to make a critical evaluation as to the advisability of continued liaison with this organization — his report to be evaluated by the Board at its June meeting.

The liaison report to the AAHPERD is as follows:

November 23, 1982

TO: Otho Davis, Executive Director  
National Athletic Trainers Association  
FROM: Joseph J. Godek  
Liaison Representative to AAHPERD  
SUBJECT: Liaison Report 6/82 - 12/82

#### I. Significant Meetings

The only meeting of significance since the last report was a joint meeting of the Executive Councils of the National Association of Girl's and Women's Sports (NAGWS) and the National Association of Sports and Physical Education which was held at AAHPERD Headquarters in Reston, VA. This meeting was important to NATA because the two executive councils approved the formation of a single athletic training council that would be jointly governed by the two associations. The new council would consist of four members (two from NASPE and two from NAGWS). The operating code for the newly formed structure will be written by representatives of the two existing athletic training councils (The Athletic Training Council of NAGWS and the National Athletic Training Council of NASPE) and will be presented for approval at the national meeting of AAHPERD in Minneapolis from April 7 to April 11, 1983. The implementation of this single athletic training council will culminate years of efforts on the part of myself and the former NATA Liaison to AAHPERD, the late Bud Miller. The single council will eliminate the needless duplication of services, administrative inefficiency, and petty bickering that was obvious during the years of dual athletic training councils.

#### II. Projects

A. The "feature" on athletic training which was mentioned in the last report was printed in the June volume of the Journal of Physical Education, Recreation, and Dance.

B. NASPE has continued an ongoing project which results in physical educators, coaches, and athletic trainers being sent to Mexico to instruct Mexican counterparts. Several athletic trainers participated in this program during the past summer.

C. The pamphlet on athletic training advice and techniques for youth sports programs that has been a NASPE project is at least temporarily "on hold" until further consideration can be given to similar publications now available. The feasibility of completing this project will be discussed at the Minneapolis meeting.

D. The multi-authored publication on basic athletic training for coaches is still a viable project. An editor for the various chapters will be named soon along with a probable publication date.

E. The liaison representative continues to serve as one of eighteen contributing editors to the Journal of Sport and Physical Education. In this capacity he reviews all articles submitted for publication that are related to the profession of athletic training. This very important role cannot be overlooked. Recently an article was reviewed by the liaison representative which referred to knowledge obsolescence on the part of athletic trainers. Investigation revealed that the athletic trainers to which reference was made were not NATA certified. The liaison representative in his capacity as a contributing editor recommended against publication of the article until it was written in a manner that would clarify the facts as they related to certified athletic trainers.

F. The NAGWS Tennis Guide for 1984-1986 will include a section on injury prevention, recognition, and care. This guide is utilized by numerous public school and college tennis teachers and coaches.

G. At least eight program slots at the AAHPERD National Meeting in Minneapolis have been allotted to topics related to athletic training.

#### III. Special Note

In an attempt to have the NATA establish an official affiliation with the American School and Community Safety Association (ASCSA) in lieu of continued affiliation with NASPE and NAGWS the Board of Directors of ASCSA offered a list of eight commitments. Each of these proposed commitments along with appropriate comments from the liaison representative are listed below:

1. ASCSA offered to conduct a pre-convention workshop related to athletic training prior to each AAHPERD National Meeting.

*Comment:* The athletic training councils of NASPE and NAGWS have separately and together conducted pre-convention workshops of this type in the past. As will be verified later in this report the resources of NASPE and NAGWS far exceed those of ASCSA making successful conferences which reach a large audience somewhat more probable if conducted by the proposed NAGWS-NASPE combined athletic training council.

2. Each year a minimum of 3 program slots would be set aside for Sports Safety.

*Comment:* Presently 6 program slots are available through NASPE and NAGWS.

3. A slot on the ASCSA Board of Directors will be allotted to an NATA Certified Trainer.

*Comment:* This proposal is irrelevant. I do not believe that the NATA should become directly involved in the administration and/or politics of the Alliance or any of its associations. The NATA is and should be the professional association for athletic trainers and no "parallel structures" in other organizations should be encouraged. There is no need for the NATA to assume such positions by prior agreement. Should an NATA member who is active in the Alliance or a given association be elected or appointed to a position of leadership because of his professional activities within the Alliance or a given association, that is well and good and will reflect most favorably on the individual, the profession of athletic training and the NATA. Also, consider if you will the absurdity of the NATA offering a position on our Board of Directors to a member of ASCSA or any other association simply because he/she is a member of that professional group.

4. An NATA certified trainer would be placed on all committees of ASCSA.

*Comment:* There would be no need for this. There are certain committees that would have little relationship to athletic training.

5. The ASCSA will allocate at least one page of each of three yearly issues in the Safety Forum, its professional publication, to athletic training.

*Comment:* The Journal of Physical Education, Recreation, and Dance is the major publication of the Alliance. Past records clearly indicate that there are ample opportunities for publication of athletic training articles in this publication. Also, consider the following:

a. The Safety Forum is published only three times each year while JOPERD is published nine times yearly.

b. The Safety Forum is published in a small (4-6 page) newspaper format, whereas JOPERD is an 80 or so page professional journal.

c. The circulation of JOPERD far exceeds that of the Safety Forum.

6. The ASCSA representative to the Alliance Legislation and Public Affairs Committee will provide assistance to the NATA in attempts to achieve its legislative goals.

*Comment:* The Alliance Legislative and Public Affairs Committee itself is available for assisting in the achievement of such goals. Also, in the past various associations within the Alliance have been helpful in this regard. It is probably worthwhile to point out at this time that Ross Merrick now the Executive Director of NASPE and that segment of the former American Association of Health, Physical Education and Recreation (which is now the American Alliance of Health, Physical Education, Recreation and Dance) were most instrumental in cooperating with the NATA and the Professional Preparation Committee of NATA in getting various institutions to implement formal educational programs for the preparation of athletic trainers.

7. The Board of Directors of ASCSA will respond to all position statements regarding Sports Safety.

*Comment:* This same mechanism is presently operative in NASPE and NAGWS.

8. There will be a liaison from ASCSA to NATA.

*Comment:* It is almost a certainty that a liaison to NATA will be named by the proposed joint athletic training council of NASPE and NAGWS.

There are a few other facts that should be considered in an attempt to properly analyze the impact of accepting the ASCSA offer. These facts are:

A. The number of professional members in the various associations in September of 1981 were as follows:

ASCSA	1,351
NASPE	18,557
NAGWS	7,752

B. The 1982-1983 budget allocations for the various associations were as follows:

ASCSA	\$ 7,479
NASPE	59,700
NAGWS	45,742

C. The average attendance at ASCSA convention programs that were related to athletic training during the 1981 Convention in Houston was 24 people. The average attendance at the Convention Programs related to athletic training during the same meeting was 60 persons for NAGWS and 75 for NASPE.

D. Through the past years that the liaison representative has been actively involved in both the NATA and AAHPERD athletic training has primarily been associated with NASPE and NAGWS. The membership of the Alliance has come to associate activities related to athletic training with these associations. Both NASPE and NAGWS have an interest area check off list for members. This list includes the area of athletic training. No such option is available through ASCSA

#### IV. Recommendations

A. Because of the various activities within AAHPERD that are related to athletic training, and because of the need on the part of Alliance members for more information regarding the prevention, recognition and care of athletic injuries, it is recommended that the NATA continue its long standing liaison with this organization.

B. It is recommended that the NATA recognize the joint athletic training council of NASPE and NAGWS. The formation of this single council within the Alliance shows an interest on the part of both associations and the Alliance in general in providing a more efficient structure for attending to the needs of members as they relate to athletic training. It does not seem that these interests can be served as well through the American School and Community Safety Association.

C. It is recommended that the NATA instruct the liaison representative to request that the new jointly governed athletic training council that will be formed this spring not be called the National Athletic Training Council. There have been occasions in the past when the use of this name has caused some people to confuse the National Athletic Training Council of NASPE with the NATA.

D. In order to keep the NATA abreast of related activities within AAHPERD and in order to maintain direct contact with this most important professional organization, it is recommended that the liaison representative attend the 1983 meeting of the Alliance which will be held in Minneapolis from April 7 to April 11.

XX. The report and minutes of the Medical Liaison Meeting held at the President's Council on Physical Fitness and Sports in Washington, D.C. on December 2, 1982 was discussed and accepted as information. The report is as follows:

#### MINUTES OF SPORTS MEDICINE LIAISON MEETING Washington, D.C., December 2, 1982

PARTICIPANTS: Joe Bangiolo (National Cancer Institute), Jack Bell (AMA), Bernard Cahill, M.D. (PCPFS), Kenneth Clarke, Ph.D. (USOC), Don Cooper, M.D. (PCPFS), Irving Dardik, M.D. (USOC), Chris Geletkanycz (PCPFS), Alison Godfrey (USOC), Paul Grace (NATA), Ash Hayes, Ed.D. (PCPFS), Henry Miller, M.D. (ACSM), Tom Miller (ACSM), Tom Nelson (AOSSM), Gerald O'Conner, M.D. (AOSSM)

The meeting was convened at the offices of the President's Council of Physical Fitness and Sports, 450 Fifth Street, N.W., Suite 7103, Washington, D.C. 20001.

Topics discussed were as follows:

1. *Liaison Organization of Various Sports Medicine Interest Groups.* There was agreement that the field of sports medicine would be served more effectively if various national agencies and organizations with extensive responsibilities in the area were to have some formal liaison. Advantages of such an organization mentioned include the following: sharing information, cooperative scientific research, reduce duplication of programs and conferences and provision of better service to publics.

ACSM representatives, Henry Miller and Tom Miller, presented the attached "Proposal for a U.S. Sports Medicine Liaison Council." Reactions to the proposal were admittedly cursory but positive. Some of the thoughts expressed were thanks to ACSM for the work and thought; the proposal should be carefully reviewed by each organization; the right balance between loose and formal organization must be sought; the interests and views of organizations not included must be carefully considered; areas of common interest and responsibility must form basis of liaison so individual organizational uniqueness is upheld; the legality of some organizations participating in a corporation; and what would representation from each organization be.

2. *Clearinghouses.* Joe Bangiolo of the National Cancer Institute who has extensive experience with clearinghouse services gave an overview of various governmental clearinghouses. He agreed to send a packet of information to each participant. There was limited, but positive discussion regarding cooperative efforts in this area. Participants agreed that this topic needed more extensive study and discussion.

3. *White House Symposium on Physical Fitness/Sports Medicine.* There was general consensus that a White House Symposium is valuable in getting national attention to a particular program. Dr. Cahill had suggested muscular strength as a focus for such a meeting. There was general agreement that this is a good topic for such a symposium. Concerns raised were how to provide sessions which meet the needs and interests of different participants (teachers, scientists, medical personnel) with different interests (i.e., sports, fitness, rehabilitation, different ages).

It was suggested that there be regional meetings rather than one national symposium.

Dr. Cahill and PCPFS staff have had some discussion

with the U.S. Chamber of Commerce television by satellite network (B12NET) staff regarding that potential.

Jack Bell mentioned the AMA continuing Medical Education Committee has a set of criteria and an application procedure for CMA credits.

The many national and international meetings scheduled on the west coast in 1984 was mentioned. It was suggested that a major meeting in the East might meet some needs.

4. *Next Meeting.* Irving Dardik and Kenneth Clarke invited the group to meet next at the USOC Center in Colorado Springs, April 21-22, 1983.

It was agreed that representatives from the organizations listed below would be invited to send one staff member and one elected representative:

a. *National non-profit professional societies:*

American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD)  
American College of Sports Medicine (ACSM)  
American Orthopaedic Society for Sports Medicine (AOSSM)  
National Athletic Trainers Association (NATA)

b. *U.S. Government Agencies or U.S. Government Chartered Organizations*

President's Council on Physical Fitness and Sports (PCPFS)  
United States Olympic Committee - Council on Sports Medicine (USOC)

c. *National Non-profit Amateur Athletic Governance Organizations*

National Collegiate Athletic Association (NCAA)  
National Federation of State High School Associations (NFSHA)

It was agreed that the American Medical Association should be represented by Jack Bell serving the liaison group as a special advisor.

5. *Miscellaneous Items*

a. AMA sponsored conference on medical aspects of Boxing, Las Vegas, February 18, 1983.

b. Cable Health TV is in production seven days a week, 24 hours a day and will be open to suggestions for programs. Casey Clarke who is on their advisory board indicates their interest in sports medicine. He will send information regarding this.

c. USOC is building an information retrieval program which Casey will send information on.

d. Tom Miller reported the ACSM hopes to be moved to new quarters in Indianapolis in the fall of 1983.

Ash Hayes, Ed.D.  
January 1983

DECEMBER 2, 1982  
SPORTS MEDICINE LIAISON MEETING  
PARTICIPANTS

*American College of Sports Medicine*

Henry Miller, M.D.  
Past President, ACSM  
Bowman Gray School of Medicine  
Winston Salem, NC 27103  
(919) 748-4467

Tom Miller  
Executive Director, ACSM  
1440 Monroe Street  
Madison, WI 53706  
(608) 262-3632

*American Medical Association*

Jack Bell  
Associate Director, AMA  
535 North Dearborn Street  
Chicago, IL 60610  
(312) 751-6529

*American Orthopaedic Society For Sports Medicine*

Gerald O'Conner, M.D.  
President, AOSSM  
P.O. Box 994  
Ann Arbor, MI 48104  
(313) 434-6466

Tom Nelson

Executive Director, AOSSM  
70 West Hubbard Street  
Suite 202  
Chicago, IL 60610  
(312) 644-2623

*National Athletic Trainers Association*

Paul Grace  
Massachusetts Institute of Technology  
P.O. Box D  
Cambridge, MA 02139  
(617) 253-5272

*President's Council on Physical Fitness and Sports*

Bernard Cahill, M.D.  
PCPFS Sports Medicine Committee  
Great Plains Sports Medicine Foundation  
416 St. Mark Court

Peoria, IL 61603  
(309) 676-5546

Donald Cooper, M.D.  
PCPFS Sports Medicine Committee  
Oklahoma State University Hospital and Clinic  
Stillwater, OK 74078  
(405) 624-7031

Chris Geletkanycz  
Research Analyst, PCPFS  
450 Fifth Street, N.W. - Suite 7103  
Washington, D.C. 20001  
(202) 272-3424

Ash Hayes, Ed.D.  
Director, Sports Medicine, PCPFS  
450 Fifth Street, N.W. - Suite 7103  
Washington, D.C. 20001  
(202) 272-3424

*United States Olympic Committee*  
Irving Dardik, M.D.  
Chairman, USOC Council on Sports Medicine  
375 Engle Street  
Englewood, NJ 07631  
(201) 894-0405

Kenneth Clarke, Ph.D.  
Director, USOC Sports Medicine Division  
1750 E. Boulder Street  
Colorado Springs, CO 80909  
(303) 578-4574

Alison Godfrey  
Coordinator, Elite Athlete Project of USOC  
Council on Sports Medicine  
375 Engle Street  
Englewood, NJ 07631  
(201) 894-0405

PROPOSAL FOR A UNITED STATES  
SPORTS MEDICINE LIAISON COUNCIL

Proposed by  
Henry Miller, M.D., Past President  
Tom Miller, Executive Director  
American College of Sports Medicine  
December, 1982

I. *Introduction*

During the past several years, we have all witnessed a tremendous explosion of interest in sports medicine. This explosion of interest undoubtedly parallels the commitment and enthusiasm of those tens of millions of Americans involved in competitive and recreational sport and exercise. Sports medicine has been viewed by many as that branch of medical services which makes it possible for: (1) competitive and recreational athletes to attain greater levels of performance in their particular sport or exercise, (2) injured athletes to receive proper treatment and rehabilitation in order to return to their particular sport or exercise, (3) deconditioned as well as chronic or degeneratively ill persons to undergo exercise rehabilitation leading to significant improvement in functional capacity and daily living.

Because sports medicine has many facets, it also has many advocates or spokesmen, each promoting a limited or specific aspect of sports medicine. Because sports medicine has so many proponents, it has become one of the most misunderstood branches of medicine. It can be likened to a marvelous elixir of life; nobody knows exactly what it is, but everybody wants one.

Who really speaks for sports medicine? Although the answer is simple, there is a problem. Although there is a virtual chorus of spokesmen, the problem seems to be that their voices are discordant; they are not in harmony. Let us describe here what that ensemble of spokesmen resembles.

1) *Professional/medical/scientific non-profit membership societies* such as: The American Alliance for Health, Physical Education, Recreation and Dance; The American College of Sports Medicine, The American Orthopaedic Society for Sports Medicine, The National Athletic Trainers Association, and nearly 70 more such societies.

2) *Governmental agencies or organizations chartered by the Congress of the United States* such as: The various Governor's Councils on Physical Fitness and Sports, the President's Council on Physical Fitness and Sports and the United States Olympic Committee.

3) *Non-profit organizations involved in the governance of amateur sport* such as: The National Collegiate Athletic Association and the National Federation of High School Associations.

4) *Non-profit trade, management, or labor associations* such as: The NFL Players Association, the NFL Owners Association, the Sporting Goods Manufacturers Association, etc.

5) *Non-profit and for-profit medical and fitness providers* such as: YMCA's, Jewish Community Centers, commercial fitness centers, sports medicine clinics, etc.

6) *For-profit Publicists* such as: The Physician and Sportsmedicine, Runner's World, Running Times, Sports Illustrated, etc.

7) *For-profit manufacturers of drugs, apparel and equipment* such as: Bristol Myers, Adidas, Nautilus, Beckman, etc.

8) *Individuals representing no specific organization* who shall go unnamed in this report, etc. ad infinitum.

With so many potential spokesmen for sports medicine and exercise science, the potential exists for mixed messages, contradictory, erroneous (sometimes harmful) information, duplication in some areas, lack of effort in other areas, overlap, and inefficiency.

II. *What Has Been Learned to Date*

Under a grant by the Lilly Endowment, the American College of Sports Medicine undertook the task of identifying the several organizations involved in sports medicine and exercise science. To our surprise, we were able to identify approximately 90 non-profit organizations who are, by their own definition, involved in or deeply committed to sports medicine and exercise science. Albeit, the level of commitment varies and some organizations are on the periphery, but all impact on or are affected by what goes on in the profession.

An extensive yet incomplete list is found in the appended interim report which was presented to a meeting of 22 organizations convened by the AMA in May of 1982. The interim report also contains the responses of nearly 50% of those organizations to a questionnaire prepared and distributed by the American College of Sports Medicine. Those responses clearly point to the need for greater cooperation among the various organizations.

The prominent areas of cooperation identified to date include:

- 1) The need to share information on:
  - a) organizational position papers
  - b) scientific research
  - c) types and levels of certification for individuals
  - d) types and levels of standards for equipment, facilities, personnel
  - e) public information materials
- 2) The need to enhance knowledge in the field and the need to educate professionals through:
  - a) more research
  - b) dissemination of scientific information
  - c) interdisciplinary forums on issues of extreme relevance
  - d) agreement on nomenclature
- 3) The need to reduce duplication of effort through:
  - a) coordination or identification of major meetings
  - b) coordination or identification of the information generation and dissemination sources
  - c) identification of the purposes and personnel involved in the several professional organizations

III. *What Needs to Be Done*

Chance and intermittent gatherings of representatives of the various organizations seems to be insufficient to gain the kind of cooperation that is required. Abdication by the professional societies to formally coordinate these efforts will leave the field open to private for profit entrepreneurs to fill the voids. Significant formal permanent liaison among the professional societies therefore seems to be appropriate and warranted. One such approach could be through the establishment of a liaison council.

A formal liaison mechanism could be developed in such a way that each organization would be enhanced and not diminished or overshadowed. A liaison council would not be an umbrella but rather a conduit. Its visibility as a separate entity would be limited and its accomplishments would be through its participants. It would not become yet another spokesman, but rather it would become a vehicle for spokesmen to communicate with one another. It must not have any authority or prerogative over any participating organization. Its role would be to enhance the profession through improved communication and coordination of effort. Coordination would be achieved through free and open communication and attempts to compel would be inappropriate.

IV. *How Should Such an Organization be Formed?*

If it is deemed appropriate that such a liaison be formed, then there are a series of steps which should be followed. The first step would seem to be to convene a gathering of the representatives of the "most involved organizations" to review the needs and voids and to agree upon an organizational vehicle to accomplish those purposes defined. If the gathering of "most involved organizations" perceives that there is a need to develop a formal liaison body, then the next step would be to incorporate in order that the body would have legal status. To continue this scenario, the next step would be to accomplish organizational by-laws, goals and responsibilities, and then to invite eligible member organizations to join the liaison council. Once formed, the liaison council would be directed by a governing body that would derive its authority and responsibility from and would be accountable to the liaison council.

It has been suggested that there are eight organizations, which because of their charters, are "most involved" in the profession. It would seem to be appropriate that these eight organizations convene to discuss the need for and possible structure of a United

States Sports Medicine Liaison Council.

Those eight organizations by the type of organization are as follows:

- 1) *National non-profit professional societies:*
  - American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD)
  - American College of Sports Medicine (ACSM)
  - American Orthopaedic Society for Sports Medicine (AOSSM)
  - National Athletic Trainers Association (NATA)
- 2) *U.S. Government Agencies or U.S. Government Chartered Organizations*
  - President's Council on Physical Fitness and Sports (PCPFS)
  - United States Olympic Committee - Council on Sports Medicine (USOC)
- 3) *National Non-profit Amateur Athletic Governance Organizations*
  - National Collegiate Athletic Associations (NCAA)
  - National Federation of State High School Associations (NFSHA)

Therefore, this proposal suggests the convening of the above identified eight organizations for the purpose of: (1) reviewing and analyzing the needs/voids in the field of sports medicine and exercise science, (2) reviewing and analyzing the list of organizations (providers) already in the professions, (3) reviewing and analyzing the potential organizational structures needed to fill those needs/voids, and (4) acting (if deemed appropriate) to organize or incorporate to begin the process of developing a formal or permanent liaison organization.

#### REPORT ON THE MEETING OF THE PRESIDENT'S COUNCIL ON PHYSICAL FITNESS

On December 2, 1982, representatives from the following associations and organizations met in Washington, D.C.:

- (1) President's Council on Physical Fitness - Ash Hayes
- (2) AMA - Jack Bell
- (3) ACOSM - Tom Miller, Henry Miller
- (4) NATA - Paul Grace
- (5) AOSSM - Gerald O'Conner, Tom Nelson
- (6) USOC - Kenneth "Casey" Clarke, Irving Dardik

The same representatives from the meeting on sports medicine at the AMA Headquarters attended this meeting.

The purpose of the meeting was to discuss the feasibility and need for developing a clearing-house on sports medicine. Additionally, the ACOSM proposed that a liaison council be established in the area of sports medicine to assist in this clearing-house. Needless to say, the prospect of such a council developing in the next few years is real. It appears there is an excellent opportunity for the NATA to strengthen its existing role as a delivery mechanism of care to the athlete. By being recognized as one of the eight "most involved," as the ACOSM proposed and reinforced at this meeting, the NATA can be on the forefront of sports medicine care. The agenda for the April 22, 1983, meeting will be submitted by the participating associations and organizations. I am including in this report the ACOSM proposal and subsequent materials received from Casey Clarke for your review.

#### SUMMARY

As this is my third mid-year report, I can see, and am pleased by the progress we have made. I believe as we move further in our relationship with the NCHCA, our visibility as health care professionals can only be enhanced.

#### RECOMMENDATIONS

- (1) That the NATA investigate the feasibility of utilizing the Cable Health Network (see enclosed flyer on CHN) to promote athletic training to the general public via this medium.
  - (2) That the NATA participate in the USOC meeting in April at their headquarters to establish a sports medicine clearing-house and possibly a liaison council.
  - (3) That the NATA make use of the results of the Role Delineation validated six domains of our profession, with the accompanying task statements. It would seem appropriate that all NATA conferences should be planned to address one or more of the domains and specific task statements as well.
- It is recommended that the NATA conference be planned on the basis of meeting specific domains and/or task statements of the profession and be advertised as such.

*XXI. The report from Richard Malacrea, NATA representative, on the NATA involvement in the USOC-AAHPERD development of a manual on athletic training aspects of sports medicine for the athlete with a disability was discussed and accepted as information. The report is as follows:*

#### REPORT TO NATA BOARD OF DIRECTORS

TO: Robert Barton, President

FROM: Richard F. Malacrea

RE: NATA involvement in USOC-AAHPERD proposal to develop a manual on athletic training aspects of sports medicine for the athlete with disability

In April 1982 the USOC Committee on the handicapped in Sports, in cooperation with the USOC Sports Medicine Council, conducted a workshop with representatives of various organizations for handicapped athletes. (Report of this meeting is attachment A.) The result of this workshop was that it was decided to bring together an editorial advisory group to discuss the feasibility and need for developing a handbook for the athlete with a disability. This meeting was held in Chicago, IL on December 17, 1982. (Participants in attachment B.)

Kenneth "Casey" Clarke presided over the meeting, laid out a brief history of the genesis of the meeting, had each participant identify himself, his background and affiliation. There was some cross table dialogue after these introductions, then Casey stated two thrusts of the USOC. The first, that the USOC was attempting to enhance combined competition between the able and the disabled (i.e., wheelchair v. standing archery) and second, provide the opportunity for adapted competition.

Casey then gave the charge to the group. It was to talk through the outline of a text, previously described, with identification of generic and specific components as well as some resource material. He suggested as a model the table of contents of *Fundamentals of Athletic Training*, a joint project of the NATA, Athletic Institute, and the Committee on the Medical Aspects of Sports of the AMA.

A table of contents was discussed with ample opportunity for unlimited comments on a schematic for subheadings. The only real addition to the model would be a section on overuse syndromes. The Appendix would include resource materials, resource organizations and agencies, and resource persons.

At this point, Casey asked if (1) a book or manual of this type exists, and (2) would it be used. The consensus of the group was that there was no one book that was as all inclusive, and that this type of book would be quite valuable to the many lay and volunteer coaches, present and future, involved with athletic activity for the disabled. I stated that I could see this book used by athletic trainers involved with sports for the disabled, as a text in athletic training curriculum and in courses of study in adapted physical education.

The focus then shifted to Ross Merrick (AAHPERD) as he posed a series of questions regarding the potential market, number of sales, costs of printing and marketing, and potential financial contributors to underwrite a "short-fall" for a limited edition publication. (AAHPERD is studying the feasibility of sales volume and profit to determine, in fact, if this is a viable project. If not, commercial backers may provide funding to offset any loss to the AAHPERD. The USOC would commit to funding all "seed monies," cost of editorial board meetings, and editing the manuscripts. Contributors would not receive honoraria.) It seemed that Mr. Merrick was not impressed with the size of the projected market and was very interested in suggestions for commercial support (10,000 copies seem to be the "magic" number for an initial printing.)

It was agreed that the style would be one book rather than a series of manuals and a 6" x 8" paperback size. The request from contributors would be for "draft chapters" not "finished chapters." That editing would be done by Al Morris, and that each agency would have input into each chapter through their representative on the editorial advisory committee.

The next order of business was to discuss potential contributors for the various chapters and sections. The two areas that fell into our (my) jurisdiction were the section on physical therapy - treatment and rehabilitation and the section on taping. It was agreed that it would be wise to have P.T. specialists have some input in the first area. This was at my suggestion that we should not "teach" lay coaches how to "treat" or "rehab," but to state how certain problems have been treated or managed. The wording would, of necessity, be carefully monitored to prevent from being drawn into a legal arena. (Charlene Curtiss is an attorney as well as a wheelchair athlete and was intrigued, as were the others at the table, by the legal standing of the actions of the athletic trainer and state licensure.) The second area of taping would have some general principles, materials available, and special procedures for prophylaxis or enhancement. Previous work in the latest manual produced for Johnson & Johnson would serve as a base for this section.

My recommendation is that the NATA, through its membership, involve itself in this project. Certainly, there are many athletic trainers already involved in sports for the disabled who would be able to contribute and provide insights to produce a meaningful publication that, according to those in administration and active

contact with sports for the disabled, has not been done and is needed.

Respectfully submitted,  
Richard F. Malacrea, A.T.C.

*XXII. The minutes presented by Bob White, NATA representative to the National Operating Committee on Standards for Athletic Equipment were accepted for information purposes. They are as follows:*

November 18, 1982

Otho Davis  
Philadelphia Eagles  
Veterans Stadium  
Philadelphia, PA 19148

Dear Otho,

Enclosed please find notes from the July 1982 meeting of NOCSAE.

I would like to assure the Board that it is desirable for NATA to continue its relationship with NOCSAE. We were important members in its inception and the NATA representative continues to be looked to for the "athletic trainers" view regarding STANDARDS to be established for athletic equipment. Last January I accepted the presidency of NOCSAE. I will be renominated this January and probably re-elected (if I have the continuing approval of NATA).

The next meeting is in San Diego, January 10 & 11, 1983. I am on a NCAA committee and will be there for that meeting so my NATA expense to that meeting will not include transportation, just room and meals.

I hope the Board chooses to continue our association with NOCSAE and I would be pleased to continue as the NATA representative.

Sincerely,  
Robert C. White, ATC  
President

Minutes of the  
National Operating Committee on Standards  
for Athletic Equipment  
(NOCSAE)  
Board of Directors Meeting  
O'Hare Airport, Rotunda Building  
July 22, 1982

The meeting was called to order at 9:30 a.m. by President White with the following Board members present: John Miller, ACHA; Bill Kelly, AEMA; Charles Morris, NAIA; Harry Olree, NAIA; Byron Goldman, NAERA (Treasurer); Don Gleisner, NAERA; Carl Blyth, NCAA; Eric Zemper, NCAA; Ray Ball, National Federation (Vice President); Dick Schindler, National Federation (Secretary); Kermit Smith, NJCAA; Frank Gordon, SGMA; John Axford, SGMA; Ken Baldwin, The Sports Foundation; Robert White, NATA (President); John Macik, NFLPA.

Guests attending: Dr. Voigt Hodgson, Principle Investigator for NOCSAE; Sebastian DiCasoli, SGMA; William Rovani, Kendall/Bike; Jim Faltinek, NSGA; Lorine Caveness, Face Guards, Inc.; Rick Black, Attorney, Jim Van Deusen, Bike; Rick Ball, Attorney; Robert Wolfe, American Baseball Cap, Inc.; Walt Tomczak, Medalist Gladiator; H. Mitchell, Rawlings; Lindsay Wolfe, American Baseball Cap, Inc.; Thomas Doyle, NSGA; Jay Rawlings, Nokona Athletic Goods; Stan Jorga, George Frost Company.

The first order of business was to approve the Minutes of the January, 1982 meeting. Upon motion by Gordon and Second by Gleisner, the Minutes were approved.

Byron Goldman then gave the treasurer's report which was properly approved.

President White handed out the NOCSAE Public Statement which had been developed and clarified the function of NOCSAE. The NOCSAE Public Statement is as follows:

"Because of advertising taken recently regarding the use of the NOCSAE football helmet test standard as an actual or implied measurement regarding which brand of helmet was "better than" or "best"; we (NOCSAE) would like to remind the industry and general public of the history and the importance of NOCSAE and the value of standards it establishes.

NOCSAE was founded by a diverse group of organizations interested in improving football helmets and other athletic equipment to ensure that athletes have the opportunity to use the safest possible equipment. The football helmet test standard was not designed to test the relative merits of helmets. It was developed to provide a measure or guideline which could be voluntarily adopted by manufacturers to ensure that their helmets when new meet acceptable levels of performance. Confidentiality of test results was assumed. NOCSAE test standards should never be used for commercial advantage for comparison of one brand against another."

Don Gleisner then gave a report on his committee (Axford and Zemper) who had worked on developing a

written policy on the use of the NOCSAE logo or name. On motion by Goldman, Second by Gordon, the following statement was approved:

"The NOCSAE logo or name shall not be duplicated or used by any organization, group, individual or concern without first obtaining written permission from the NOCSAE Board of Directors. The NOCSAE name and logo is to be used by manufacturers and reconditioners of athletic equipment only. The purpose is to verify adherence to the certified or recertified NOCSAE test standard."

Don Gleisner then gave a report concerning some reconditioners who are not adhering to the recertification procedure outlined by NOCSAE. Mr. Gleisner questioned whether the procedure is in tune with the times. He reported that NAERA is recommending or will recommend a change in the testing procedures. Mr. Gleisner then circulated a list of reconditioners who have the NOCSAE testing equipment.

Ace Reconditioners — Washington, Pennsylvania  
Alamo — San Antonio, Texas  
All American — Burgettstown, Pennsylvania  
All American — Chicago, Illinois  
All American — Elyria, Ohio  
All American — Fort Valley, Georgia  
All American — Fort Worth, Texas  
All Sport — Lakeland, Florida  
Athletic Equipment Repair — Milwaukee, Wisconsin  
Capital-Varsity — Oxford, Ohio  
Century — Carbondale, Illinois  
Circle System — Easton, Pennsylvania  
Continental — Gridley, California  
Davis — San Francisco, California  
Dix — Valparaiso, Indiana  
Grant Athletics — Wheeling, Illinois  
Gunther — Los Angeles, California  
La Blanc — Lewiston, Maine  
Marba, Inc. — Buffalo, New York  
Mar-Can — Fort Erie, Ontario  
Murray — Lawrence, Massachusetts  
Olympic — East Stroudsburg, Pennsylvania  
Raleigh — New Rochelle, New York  
Richeo — San Bernadino, California  
Royal — Yankton, South Dakota  
Southwestern — Shawnee, Oklahoma  
Sportbilt — Summerville, Massachusetts  
Stadium System — New Canaan, Connecticut  
Sunvalco — Goodyear, Arizona  
Tucker — Batesville, Mississippi  
Vulcan — Leeds, Alabama  
Yogi — Saugus, California

Mr. Goldman also reported that he was concerned regarding the problem of non-NAERA members who do not contribute to NOCSAE. These reconditioners recertify helmets but do not send in reports on their testing as do the NAERA members. There was no action taken following this report.

Sebastian DiCasoli reported on a survey taken to determine the number of baseball batting helmets sold in 1981. He also reported that presently there appeared to be no unanimous approval of the idea of a baseball helmet surcharge but that most manufacturers appeared to be willing to start the program next year. Mr. DiCasoli also brought the members up-to-date on the payments made through the football surcharge.

Dr. Hodgson reported about his concern on testing air-inflated helmets and whether or not the backup system should assure that the helmet pass the NOCSAE test even though the helmet might be tested at zero-degree pressure. It was his recommendation that they be tested at zero pressure. Much discussion following but no action was taken to change the standard.

Dr. Hodgson reported on the Hockey Face Mask. The CSA and ASTM standards have both been developed and are practically identical. He indicated that at the present time, there would appear to be no reason for NOCSAE to establish a separate standard. No further action was taken on this.

President White circulated the resolutions sent from the AMA. Discussion followed and it was agreed that each group should disseminate the information as they felt necessary.

Mr. Gleisner reported that a new NAERA membership list will be prepared in September and brought to the January meeting of NOCSAE.

During a discussion, it was pointed out that there is a problem of putting the NOCSAE seal on some of the helmets because of the curvature of the helmet. There was a motion by Miller, Second by Gordon, to allow the wording to be put in a vertical plane rather than horizontal plane as long as all words are there in proper sequence. The wording of the warning and the sequence of the sentences was discussed. Motion by Gordon, Second by Goldman, to change the warning label as follows: that the last sentence of the former statement become a separate first paragraph and the rest of the statement become a second paragraph.

A discussion then followed regarding the plastic warning labels and whether a program should be

initiated making labels available for distribution by the high school and college members to their schools. Basically, it would involve putting the warning label on the outside of the helmet and calling attention to the fact that a player may be injured while playing football. The plan would be to have the SGMA fund this through the surcharge from the helmet manufacturers. Discussion followed as to how quickly this could be done and whether or not the institutions would, in fact, send these out and whether or not the labels would be put on the helmets. The college and high school groups represented indicated they would send the labels to their membership with the suggestion or recommendation that they be affixed to the back of the helmet on the outside. Motion by Gordon to go ahead with the plan as discussed and have the labels made up and distributed to the college and high school members and they, in turn, get them out to their member associations or institutions. The funds for this should come from the helmet manufacturers surcharge. Second by Goldman and carried.

The group then discussed the football helmet poster and football helmet inspection list poster which has been sent out by the National Federation a few years back. It was the feeling that both of these were good projects and perhaps should be instituted again. Dick Schindler was to send a copy of the helmet poster and the helmet inspection poster to Mr. Gordon with the possibility that these 2 posters could be revised and large quantities printed by the SGMA football helmet surcharge program or another sponsor and distributed by each member organization.

President White then reviewed copies of a letter which had been sent to all baseball helmet manufacturers concerning the release of the list of baseball batting helmets which have passed the NOCSAE test standard. Dr. Hodgson reported the blueprints for the testing device are now available for the manufacturers and that they may now set up their own testing equipment. One manufacturer reported that he felt they did not have time to gear up for the NOCSAE seal being put on helmets since they did not have access to the testing equipment until the present time. Another felt that manufacturers should have been more a part of determining when to begin selling NOCSAE approved helmets. The group then discussed the possibility of the SGMA administering a surcharge program from baseball batting helmet manufacturers who wish to be a part of funding NOCSAE. A show of hands revealed that 6 of the manufacturers present would be willing to take part in a voluntary program (at perhaps a charge of 5 cents per helmet) on all helmets shipped on or after October 1, 1982. It was agreed that the president would be contacting all baseball batting helmet manufacturers to make them aware of what had transpired at this meeting and Mr. DiCasoli agreed to go ahead and begin working on setting up a plan similar to the football helmet plan to have a surcharge on baseball batting helmets which would be ear-marked for NOCSAE.

A letter was read from Mrs. Malavase requesting NOCSAE to adopt a standard for Equestrian riding helmets. Motion by Gleisner, Second by Baldwin to invite Mrs. Malavase to attend the next meeting of NOCSAE.

The Board then reviewed a copy of an ad which appeared in the Sports Merchandiser calling attention to NOCSAE and their efforts and the fact that funds were needed in order to keep the organization going. Some of the people in attendance agreed they would run this type of a promotional ad in their publications.

John Maciek of the Sports Rehabilitation Foundation made a report as to the progress of the Foundation. He reported that there has been no positive endorsement by either the college or high school communities. Private groups are reluctant to become involved since the college and high schools have not endorsed the program. Maciek reported that they are now targeting small groups for funding to keep the Foundation going.

Mr. White then reported that the NFL Charities had made a donation of \$10,000 dollars and a letter from Commissioner Rozelle to this affect was read to the group.

For your information: Dick Schindler reported an addition to the list compiled by NOCSAE of those helmets that have met the NOCSAE Helmet Standard.

Rawlings LMD (7th grade and below) 1982

The Board discussed whether the baseball batting helmet standard should be changed to be called just a batting helmet standard or if, in fact, a different standard needs to be developed for softball batting helmets. Dr. Hodgson reported that all of the testing had been done with a baseball. He felt that if it was going to be called a batting helmet standard that testing would have to be done with a softball to determine if there would be any difference or if the standard would be acceptable for softball. No further action was taken on this, but a report is to be made in January by Dr. Hodgson.

Dick Schindler next pointed out that the NOCSAE manual is already outdated as to the helmets appearing on the list and also the fact that the baseball batting helmet standard is not part of the manual. Discussion

followed as to whether or not a new manual should be printed in the future. Dick Schindler was appointed chairman of a committee made up of himself, Eric Zemper and Charlie Morris to study the manual and to make a report at the January meeting as to the feasibility and content revision that would be made in a new manual.

Eric Zemper then reported on a Supreme Court Decision which has been made which affects standard setting organizations. From the results of this decision, he made the following comments: That officers and members of the NOCSAE group should not issue interpretations on their own but all interpretations of the NOCSAE standard, etc. should be made by the president only. If any new policies are formulated, that they only be formulated through the Board of Directors.

Dr. Hodgson requested that the baseball batting helmet standard adopted in July of 1981 be revised as it concerns the distance that the ball is propelled and also the fact that a filtering device is being used. Motion by Morris, Second by Gordon to approve the revision as of July 22, 1982. Carried.

The date for the next meeting was set for January 10th p.m. and 11th in San Diego, California.

After no further business, the meeting was adjourned.

Respectfully submitted,

Dick Schindler

Secretary

#### MINUTES

National Operating Committee on Standards  
for Athletic Equipment  
(NOCSAE)

Board of Directors Meeting  
Town & Country Hotel, San Diego, California  
January 10-11, 1983

#### MONDAY, JANUARY 10, 1983

The meeting was called to order on Monday, January 10, 1983 at 2:30 p.m. by President Robert C. White with the following Board members present: Bill Kelly, AEMA; Harry Olree, NAIA; Byron Goldman, NAERA (Treasurer); Don Gleisner, NAERA; Robert C. White, NATA (President); Carl Blyth, NCAA; Eric Zemper, NCAA; Ray Ball, NF (Vice President); Dick Schindler, NF (Secretary); Kermit Smith, NJCAA; John Axford, SGMA; Dwight Hauff, Sports Foundation; Harry Fritz, NATA — attended in the place of Charles Morris.

Guests attending: Voigt Hodgson, Principle Investigator for NOCSAE; Sebastian DiCasoli, SGMA; Walt Acosta, Liberty Mutual; Dick Lista, SGMA-Riddell; Rick Black, Attorney; Jim Van Deusen, Bike; Allen Hager, Rawlings; Daniel Patterson, Rawlings.

The first order of business was to approve the Minutes of the July, 1982 meeting. Upon motion by Goldman and second by Smith, the Minutes were approved.

The next item was the Treasurer's Report given by Byron Goldman. After discussion there was a motion by Gleisner and second by Hauff to approve the Treasurer's Report. The motion carried.

Discussion was held concerning the continuation of the helmet warning label project. Mr. Axford spoke about how the manufacturers viewed it. Dick Schindler explained what the Federation did last year and how the program was favorably accepted by the high school Federation. A motion by Axford to send, by registered mail, 100 labels to each of the teams in the 2 pro football leagues asking them to put the labels on their helmets since they have the TV exposure so that people will get used to seeing the labels. Also, that all of the colleges be supplied with a sufficient quantity of the labels to put on all their players, and that the National Federation be sent 300,000 to 400,000 labels for their use during the 1983 season. The expense should be taken out of the SGMA helmet surcharge fund. Second by Harry Olree. Motion carried. It was understood that the labels would be ready for mailing sometime before June.

The Board then reviewed a note being sent out by All American in their helmet package requesting the use of the word NOCSAE relative to the importance of keeping the warning labels on the helmets and not taking them off, etc. There was no objection to All American doing this.

The Board then spent considerable time discussing the wording of the warning labels. It was suggested that perhaps the wording should be changed from time to time and put in just a little different order as a way of getting attention or calling attention to the label. There was much discussion on this and after considerable time, a motion was made by Gleisner to change the wording of the warning label and that the revised label wording was adopted to draw more attention to the warning and the continuing education concerning the proper use of the helmet. Second by Goldman and carried. The revised wording is as follows:

"Do not use this helmet to butt, ram or spear an opposing player. This is in violation of the football rules and can result in severe head, brain or neck injury, paralysis or death to you and possible injury to your opponent."

There is a risk these injuries may also occur as a result of accidental contact without intent to butt, ram or spear. *NO HELMET CAN PREVENT ALL SUCH INJURIES.*"

Note: The wording was sent to George Gangwere for review following the meeting. Mr. Gangwere's opinion is that it is fine.

The new NAERA members were discussed. The updated list is attached.

Gleisner reported that some nonNAERA member reconditioners and some companies that do not have the NOCSAE testing devices are recertifying helmets. The Board agreed that the President of NOCSAE should contact the NOCSAE attorney in regard to the fact that some companies are using the NOCSAE logo and recertification procedure without having the testing devices. It was felt that there is certainly a chance that fraud is involved or that use of the NOCSAE logo is illegal.

The Board also discussed possible recertification of baseball helmets after the 1985 season. Gleisner and Goldman reported that they will work on this at the NAERA meeting and present the plan in the future.

The Board examined the helmet inspection list poster and the National Federation's football safety poster and decided that the project should continue. It was agreed that Dick Schindler and Frank Gordon would communicate on this and that possibly the Sporting Goods industry would make these posters available to the schools.

Dick Schindler reported that a number of football helmets had been added to the NOCSAE approved list. These helmet models were given to the committee verbally and no further action was taken.

There was discussion on whether the NOCSAE manual should be reprinted. It was agreed that it would be a good project. It was also agreed that each of the representatives would survey their membership to determine how many manuals would be sold at approximately 20 cents each. Each representative is to bring these figures to the July meeting at which time it will be determined whether the project will be continued. Prior to this meeting, Schindler, Morris, Zemper are to work on redoing the contents and report back at the July meeting as to changes that will be made in the manual itself prior to reprint.

The Board reviewed the Writ of Summons served on Bob White representing NOCSAE regarding a football player who sustained an injury. The NOCSAE attorney's written response was handed out. Discussion was held but no action was taken.

Sebastian DiCasoli of the SGMA reported on the helmet surcharge project and advised the members as to the amount of money in the helmet surcharge fund. John Axford explained proposals for a surcharge on baseball batting helmets, football pants, shoes and possibly on footballs.

Dan Patterson gave a brief report on progress of the Sports Rehabilitation Foundation. He reported that the Foundation at present time is on hold and certainly not dead. They met with the NFL in March and could not get endorsement from them and since the NCAA and the National Federation have not endorsed the project, they felt at the present time the Foundation would go forward by going back to amateur clubs, etc. for support.

Dick Schindler then reported on progress being made by the Federation membership in taking out insurance as a way of dealing with catastrophic injuries. A plan is already in effect in Washington through Ruedinger, Inc. during this school year and this plan will be made available to all states for the next season. It is a plan that provides lifetime benefits for catastrophically injured athletes.

At this point, the meeting was recessed until 8:00 a.m. Tuesday, January 11.

TUESDAY, JANUARY 11, 1983

The meeting was called to order by President White. The first order of business was a report by Carl Blyth on football fatalities and catastrophic injuries. The preliminary report as supplied by Fred Mueller and Dick Schindler indicated that there were 7 direct high school fatalities and 2 little league direct fatalities in 1982 and at the present time figures show indirect - 7 for high school and 3 for college. The catastrophic at the present time shows 6 for high school, 2 for college, 1 semi-pro and 1 alumni game. Dr. Blyth also made a report on research that is being done concerning fatalities and catastrophic injuries in all sports besides football. He reported that there are at the present time 12 deaths in other sports and 4 injuries of a paralyzing type. A complete report on the fatalities and the catastrophic injuries will be made available by Mueller, Blyth and Schindler to their membership when all the figures are in.

A report by President White on a request from Berlin Productions to use NOCSAE information in a film was discussed. He reported that the company spent some time with Dr. Hodgson, but when the film was viewed, it was found to be very negative concerning football and contained incorrect and misleading information. President White also reported the Athletic Institute is

making a "failure to warn" film at the present time which should be available for the next school year.

The letter which President White had written to the baseball helmet manufacturers following the July, 1982 meeting was reviewed by the committee. No further action was taken.

The Board also acknowledged receipt of a letter from Dennis Poppe following his receipt of a plaque which NOCSAE presented to him in July. No further action was taken.

The Board then reviewed the NOCSAE ad which appeared in the *Sports Retailer* calling attention to NOCSAE, its purpose, function, etc. In all, it was a very complimentary ad and the Board was happy with the free advertising which had been provided. No further action was taken.

Dr. Hodgson, the Principle Investigator, then reviewed the entire NOCSAE research program, including hockey helmet standard, hockey face guards standard, football face guard standard, zero-degree pressure when testing air helmets, the equestrian riding helmet, softball helmet standard, changes in the football helmet recertification procedures, baseball helmet list and also continuation of various neck injury research. Dr. Hodgson suggested that an Ad Hoc committee be appointed to formulate a football face guard standard. Motion by Ball to appoint a committee to work on a possible football face mask standard, second by Gleisner and carried. President White then appointed the following committee: representing the mask industry - a representative from Schutt and Riddell; representing equipment people - Bill Kelly; representing NAERA - Goldman; representing the trainers - White; representing the schools - Zemper and Ball; Voigt Hodgson representing NOCSAE. This committee is to meet and report at the July NOCSAE meeting.

Dr. Hodgson then reviewed his testing of various football air helmets at zero-degree pressure and he recommended that NOCSAE stay with the present testing procedure of keeping the helmets inflated at the time of testing.

Mrs. Malavase did not reply to the invitation to attend, however, Dr. Hodgson reported that she was told that perhaps the best thing to do would be to adopt the polo helmet standard.

The Board then discussed the softball helmet question and whether a standard needed to be developed specifically for softball batting helmets. Dr. Hodgson recommended that in fast pitch games where the velocity of the pitch and the ball get to speeds above 70 mph that helmets should be worn. His recommendation was that if the sponsoring organization requires a batting helmet, that the standard being used in baseball be adopted. Since there is no softball helmet as such, the baseball helmet is actually used in softball and since that now requires a NOCSAE approval, the sponsoring organization need simply to say the batter must use a batting helmet approved by NOCSAE.

The Board agreed that they would like to have a list of the baseball batting helmets which have passed the NOCSAE test standard and these are attached.

Dr. Hodgson then reviewed the current football injury research which is being done involving the head and neck. Dr. Hodgson explained different types of apparatus which he is using to see how it affects impacts to the head and the neck. Some test apparatus is encouraging and he felt such data should be sent to helmet and shoulder pad manufacturers or to have these people contact him in regard to his work in this specific area.

Dr. Hodgson then reviewed the annual report. He suggested that the following major items be continued during the 1983 research period:

1. Neck injury study to continue. Work with helmet and shoulder pad people in this area.
2. Set a football face mask meeting and try and develop a standard.
3. Do some testing on 2-point versus 4-point chin straps.
4. Review baseball helmet standard with possibility of elevating the standard.
5. Implementation of round robin testing for baseball helmets.
6. Continue the football helmet round robin testing with reports.
7. Calibration of helmet testing devices in baseball.
8. Serve as an information center for all requests regarding NOCSAE.
9. Continue work with the ASTM to keep in touch with them and cooperate with them.
10. Do more work on the hockey helmet standard, if requested.
11. Begin work on standard for lacrosse as people are suggesting a standard is necessary for that helmet.

Dr. Hodgson reported that the research budget for the next year would be \$100,000 dollars. Motion by Gleisner to have NOCSAE enter into a 6-month contract for \$50,000 dollars, second by Goldman and carried.

It was suggested the President reactivate a committee which would work on fundraising in a continual manner rather than sporadically. Many companies need to be

contacted for donations. President White appointed the following people to serve on a committee to see if there are ways in which NOCSAE could raise some additional funds: Dwight Hauff, Byron Goldman, John Axford.

Carl Blyth then made the nominating report and reported that all present officers had agreed to stay for another year. Motion by Zemper, second by Olree to approve the report of the nominating committee. Carried.

The Board then reviewed a football helmet "crash pad" summary describing an invention by William Winnewisser. Discussion followed. Motion by Goldman to refer this matter to Voigt Hodgson for evaluation and to have Voigt have the inventor contact him regarding this proposal. Second by Blyth. Carried.

The next meeting was set for Chicago O'Hare at the regular meeting room in the Rotunda Building on July 21, 1983 beginning at 9:30 a.m.

Being no further business, the committee was adjourned.

Respectfully submitted,  
Dick Schindler  
Secretary

*XXIII. The report by Warren Morris, NATA representative to the NCAA NMOOTBALL Rules Committee was accepted for information purposes. The report is as follows:*

TO: Otho Davis  
Executive Director, NATA  
FROM: Warren Morris, ATC  
NCAA Football Rules Committee  
RE: NCAA Rules Meeting  
January 16-18, 1983  
Scottsdale, Arizona

The NATA was included for the first time in the NCAA Football Rules questionnaire. I felt that the trainers response was good and that the trainers appreciated being asked their opinion.

January 16, 1983, the Injury and Equipment Committee: Dr. Russell Lane, AMA Medical Aspects (replaced Dr. James Arnold); Warren Morris, NATA; Rocky Carzo, Chairman Equipment and Injury NCAA rules committee; Ray Ball, Colorado High School Association; Herman Scott, National Federation of Alabama; Dave Nelson - Chairman of NCAA Rules Committee, met and discussed problems that affect the game of football. The manufacturers then met with this committee to discuss any problems that might be discussed by the NCAA Rules Committee.

Attached is my report and the results of our NCAA questionnaire. I've also enclosed a copy of the letter from Dave Nelson concerning the article in Referee Magazine.

The trainers input at the Rules Committee is well received and the doctor and trainer at the meeting is the conscience for the safety of the players.

TO: Hugh D. Hindman  
Chairman  
NCAA Football Rules Committee  
David M. Nelson  
Secretary-Editor  
NCAA Football Rules Committee  
FROM: Warren Morris  
Athletic Trainer Certified  
National Athletic Trainers Association  
RE: 1983 Football Rules Committee Meeting

The National Athletic Trainers Association wishes to thank this committee for being included in the 1982 questionnaire for football rules changes. The trainers responses are attached to this report.

Injury prevention and safety is our main concern and we would like to comment on the following:

Stricter enforcement on late hits, spearing, chop blocks, hitting out of bounds always seems to head our list. Disqualification has helped the high school rules.

Officials are inconsistent in allowing a soft cast (RTV-11) to be used to protect an injury. We would like for a cast to be worn—if padded adequately and certified by a doctor, as is done in the NFL.

All helmets should be required to be fitted with the swing-away type facemask.

We would like for someone, (commissioners, etc.) to certify the playing fields for safety before each season. Pad end zone fences, benches too close to sideline, grass too tall, holes in the field, field marking too abrasive (both natural and artificial), TV cameras, photographers tripods, etc., are hazards to the safety of the players and can be avoided.

We feel the majority of the rules and procedures are in the rule book and that stricter supervision and enforcement is the key.

The poster put out by this committee on mandatory equipment has been very helpful and should be continued with emphasis on shared responsibility (i.e. player, trainer, coach, school) to help prevent injuries.

1983 NCAA FOOTBALL RULE CHANGES  
The 1982 NCAA college football season was evidence

that the annually improving skills of players are at an all-time high. For the first time, passing yardage for both teams in a game exceeded rushing yardage, 364.8 to 338.5, points scored per game (43.8) was the most ever and field goals in Division I totalled 2203 with a 63.9 percent successful completion average.

After careful analysis, the NCAA Football Rules Committee, satisfied with the game's offense, defense and kicking, made no rule changes to alter the balance between rushing, passing and kicking.

The Football Rules Committee's 1983 changes focus on improved player safety and more efficient rule enforcement through adjustments in game administration.

Punters and kick receivers were the major beneficiaries of safety changes but punters guilty of simulating being roughed by an opponent will be penalized 15 yards for unsportsmanlike conduct.

The roughing a punter, place kicker or holder penalty is unchanged with a 15 yard penalty and first down, but running into a kicker or holder carries a five yard penalty with no first down.

A second change concerning the protection of the kicker and holder provides a penalty for roughing or running into the kicker or holder. When a defensive player was forced into the kicker or holder, the 1982 rules provided an exception for the defensive player forced into the kicker or holder.

To assist officials in judging an unmolested opportunity to make a catch of a scrimmage or free kick, all players of the kicking team must remain two yards in all directions from the receiver while the ball is in its downward flight.

A seventh official, a side judge, is permissible in 1983 to better enforce all rules but especially those related to safety and illegal use of hands. The additional official will also provide opportunities for advancing more officials to varsity status, a problem another NCAA committee is studying.

Since 1958, more changes have been made in Rule 1 - The Game, Field, Players and Equipment - than any other rule and this year is no exception. Although most were minor, 19 changes ranging from limiting dangerous equipment at the limit lines to making cheerleaders, mascots and band members subject to the rules are now official NCAA football rules.

All mandatory equipment violations will require a charged timeout, which for the first time makes all equipment infractions, illegal and mandatory, charged timeouts.

The NCAA Competitive Safeguards Committee recommended a change in the mandatory mouthpiece definition to assure players with the best possible protection against concussions. The new regulation requires all teeth of the upper jaw to be covered.

The ethical consideration of offensive players intentionally wearing gloves colored to match the jerseys of opponents was prohibited by a new rule stating it is an illegal equipment violation to wear such hand coverings.

To provide coaches and officials protection from liability charges, a provision concerning certification of equipment is now a part of the rules.

To accommodate as many as 150 players, coaches, and other persons authorized in the team area on fields where the stadium crowds the field, a team area from 25 yard line to 25 yard line was made optional. To accommodate the media where necessary, member institutions may retain the 30 yard line to 30 yard line team area.

The timing of the game underwent significant changes with the extension of any period the major alteration. For most persons associated with the game, extending a period has caused much confusion. The 1983 change simplifies the situation by extending the period if either team accepts a penalty.

All coin tosses will be at midfield three minutes prior to the kickoff, and the winner of the toss will have an option at the first or second half.

Confusion at the lines of scrimmage before and as the ball is snapped has been an annual problem and the Rules Committee took a major step toward remedying the situation. The 1983 change provides a penalty if any offensive player false starts or is in or beyond the neutral zone before or at the snap. There are no defensive player changes this year.

This change at the line of scrimmage will eliminate several approved rulings and interceptions and provide a more understandable and enforceable rule.

Intrusion on the field by persons not subject to the rules while the ball is in play and while it is dead prompted the Rules Committee to vote rules concerned with suspended games, removed goal posts and delegating the referee authority to enforce any penalty he deems equitable.

Several adjustments were made in an attempt to reduce the disruptions on the field that delays the game or engenders ill will after scores or any other time.

The five yard penalty for substitutes entering the field for purposes other than replacing a player was increased to 15 yards and moved from the substitution rule to

unsportsmanlike acts.

The acts associated with not returning the ball to the nearest official, including leaving the field with an opponent's ball, were moved from the interpretation book to the rule book for emphasis and more enforcements.

Illegal participation by the defensive team will be penalized with an automatic first down in addition to the 15 yard penalty and illegal participation by the offensive team will have a loss of down in addition to the 15 yard penalty.

With a change that penalizes fouls at the snap at the kickoff, all fouls that occur during a down in which there is a score will be penalized. Until this year, a foul at the snap was the only foul not penalized during the scoring down.

Two changes were made in the passing game and both relate to foul enforcement. Defensive fouls in the secondary for holding or illegal use of hands when a forward pass is not in the area will carry an automatic first down only if the foul occurs before the pass is thrown.

The last change provides enforcement from the previous spot for penalties against the offense for holding or illegal use of the hands fouls behind the neutral zone during a forward pass play. Other fouls during a forward pass play behind the neutral zone are penalized from the spot of the foul.

There are 44 rule changes this year including major changes, new definitions and clarification of present rules as the NCAA Football Rules Committee attempts to keep pace with ever-increasing skills, size and speed of the players and the need for greater safety while providing more efficient administration of the rules by the officials.

November 1, 1982

Mr. Warren Morris  
Head Trainer  
Department of Athletics  
The University of Georgia  
Athens, GA 30613-2199

Dear Warren:

The recommendations listed in Referee Magazine are a partial list from pages 18 and 19 of the minutes. The list was compiled from the survey of the CCA trainers. The source of the recommendations was not given, and I believe it is beneficial for the officials to know what some trainers think. Trainers cannot expect to provide constructive criticism and not be identified as the source.

The Football Rules Committee cannot be critical of officials without a source, and I believe the trainers are one of the committee's best sources of information. They shouldn't be so sensitive to what Referee Magazine says. The officials are not aware that the trainers have input into the writing of the rules. For several years, the CCA trainers complained that no one paid attention to the comments they made on the questionnaire. It was at that time we began to list their comments in the minutes. If they don't want their comments recorded in the minutes, I will be happy to leave them out.

Sincerely,  
David M. Nelson  
Dean

G

Enclosure

The minutes are in the public domain and available to anyone on request.

XXIV. A motion was made by District 5, seconded by District 6 and carried 9-0-1, with District 4 abstaining, to grant permission to Patti Whiteside, ATC, Doctoral Student at the Pennsylvania State University to do research utilizing the materials of the Professional Education Committee and the Certification Committee.

XXV. The letter from Dr. Fred Mueller in reference to the National Center for Catastrophic Sports Injury Research was accepted for informational purposes.

November 18, 1982

Mr. Otho Davis  
Philadelphia Eagles Football Club  
Veterans Stadium  
Broad Street at Pattison Avenue  
Philadelphia, PA 19148

Dear Otho:

Thank you for the information you have been sending concerning football catastrophic and fatality data. Our job would be extremely difficult without your help.

As I stated in a previous letter dated August 1982, we are expanding our data collection system to include all public school, college, and university male and female sports. The study will be continuous, as are the football catastrophic and fatality studies, and data will be collected year round. Data to be collected will be catastrophic injuries and fatalities.

The purpose of this letter is to solicit your help in the expansion of our data collection system. If you will send

me a note or newspaper clipping as soon as a sport fatality or catastrophic injury comes to your attention, it would be sincerely appreciated. Your contribution to this effort will be realized in making sports at all levels safer for the participants.

Thank you for your help and if I can be of service to you, please call upon me.

Sincerely yours,  
Fred Mueller

XXVI. The report from Joe Gieck, NATA representative to the American Orthopaedic Society for Sports Medicine, was accepted for information purposes. The report follows:

TO: Board of Directors, NATA  
FROM: Joe Gieck, Liaison AOSSM  
RE: 1982 Annual Meeting  
DATE: July 26, 1982

The 1982 annual meeting of the American Orthopaedic Society for Sports Medicine was held July 11-15 at Lake of the Ozarks, Missouri. Actions of the society are as follows:

Gerald O'Connor, MD replaced Fred Allman, MD as President for 1982-83.

The two most important efforts by the society were reported as education of the membership and the liaison with the NATA. This was reflected by their gathering of members to be in liaison with each NATA district, as was discussed at the NATA Seattle board meeting. Also, Pinky Newell was presented the first AOSSM Distinguished Award for Athletic Training at the President's dinner. The scholarship of \$1500 will be increased to \$2000 in the future. Otho Davis will be the recipient for 1983. This award, similar to our President's Challenge Award, is to be presented at each annual meeting to an NATA hall of fame member. A nominee from each district director should be in the hands of Joe Gieck by January 1 of each year.

In other activities, I participated in their liaison meeting, in their book project for athletic trainers, and presented a paper at the clinical meeting. They have a 10 year bibliography of sports medicine coming out at the end of this year. Other action resulted in the separation of their education and research committees.

#### XXVII. FINANCIAL REPORT:

Following a lengthy explanation by Mr. Brooks McIntyre, NATA Accountant, as to the present financial condition of the NATA and also mention of some changes in the accounting procedures for better understanding of his reports, it was moved by District 6, seconded by District 7, and carried 10-0, that the report be accepted for informational purposes.

It was moved by District 6, seconded by District 9 and carried 10-0, that the District Directors go back to their respective districts for a \$75 total dues increase, plus district dues and that Mr. McIntyre furnish the financial information previously presented to the Board as to the justifications for this increase.

#### XXVIII. NATA FUTURE GOALS:

It was moved by District 5, seconded by District 7 and carried 9-1, with District 9 in opposition, that Mr. Barton and Mr. Davis bring to the Board meeting in June a list of goals concerning the NATA for the next five years based on the foresight, projected desires and goals established by each committee chairman, present members of the Board of Directors, financial advisor and legal counsel.

#### XXIX. PRESIDENT'S CHALLENGE AWARD:

It was moved by District 4, seconded by District 7 and carried 10-0, that the NATA sponsor the President's Challenge Award for one additional year.

#### XXX. TRADITIONAL ATHLETIC TRAINERS: SPORTS MEDICINE CLINIC TRAINERS AND PHYSICAL THERAPISTS:

Following a lengthy discussion concerning these categories, it was moved by District 9, seconded by District 7 and carried by a vote of 9-0-1, with District 3 abstaining, to delete Article I, Section 7, in the Code of Ethics.

Following further lengthy discussion concerning the above subject categories, it was moved by District 5 and seconded by District 10 and carried by a vote of 10-0 to accept the By-Laws Article XXX proposed change for informational purposes with the Board of Directors instructed to discuss the problems in the mentioned areas with their members and be prepared to take action at the first Board meeting in June, 1983.

#### XXXI. INCORPORATION:

Upon advice of both the legal and financial advisors, it was moved by District 1, seconded by District 2 and carried 10-0, that the NATA and Board of Certification be immediately incorporated.

*continued on page 184*

# The Role of Management in Athletic Training

Terry D. Morse, MA, ATC

Athletic training — a business? Athletic training is a career to many people. In most cases it is, directly or indirectly, a revenue producing facet of the organization or institution receiving the service. Trainers provide a service and product. Quantity and quality of that product, rehabilitated and participating athletes, remain the overriding objectives of the entire training staff. The training personnel acquire lines of responsibility and accountability, as in other business organizations. The larger the staff, the greater the need for establishing well defined activities, responsibilities, and expectations.

The management question is not of accessibility of new techniques or modalities. It is of staff management, the available human resources, for the most effective treatment and rehabilitation of injured athletes. The effectiveness depends on the organization and utilization of each individual involved with the training program.

Varying levels of experience come hand-in-hand with increasing staff size. Do student, assistant, and head trainers assume different responsibilities? Responsibilities should not be assumed, but rather acquired. Assumptions leave open cracks in which things may fall. Clearly defined expectations close the cracks, and more so if accountability is also defined. This ensures a well managed and controlled training program. What more could a head trainer ask?

Professionalism is practiced daily when the training facility is well managed. The visibility and credibility of the profession will be constantly enhanced. Developing and maintaining control is always a challenge. The result and rewards, as well, are never few or far between. Challenging expectations require specific knowledge and

experience qualifications. Most important, however, are the demands made if the qualifications are to be realized. In doing so, the practical aspect of a training and development program has been established for institutions offering an athletic training emphasis as an educational tract.

Only the obvious benefits of a well managed training facility have been discussed. These included: (a) tight control by the head trainer; (b) defined expectations and qualifications; and (c) the basic training and experience requirements identified. The following benefits are often hidden, being neither realized nor used; (d) trainers held accountable for specific activities provide opportunity for staff and personal development and (e) require these opportunities be available; and (f) providing for recognition when objectives are attained, which increases motivation and interest in athletic training as a career choice.

Most everyone has held jobs which were loosely managed. As a result, working time was not utilized to the degree employers could have expected. What was accomplished and learned was not optimized. These jobs are short term, by nature, because genuine pride in work accomplishment is never provided for.

Systematic and progressive opportunities, and expectations, must be established and communicated in providing job pride and development. This may include treatment stations based on difficulty, knowledge or experience requirements. Naturally, these must be accompanied by work controls for the maintaining of treatment activity and individual injury history files. Expectation and communication, of the same, are vital to controlled management of the athletic training business. Of no less importance is the staff involvement when developing the guidelines and parameters within which all will work. +

*Mr. Morse is presently a management consultant in Eden Prairie, MN 55391.*

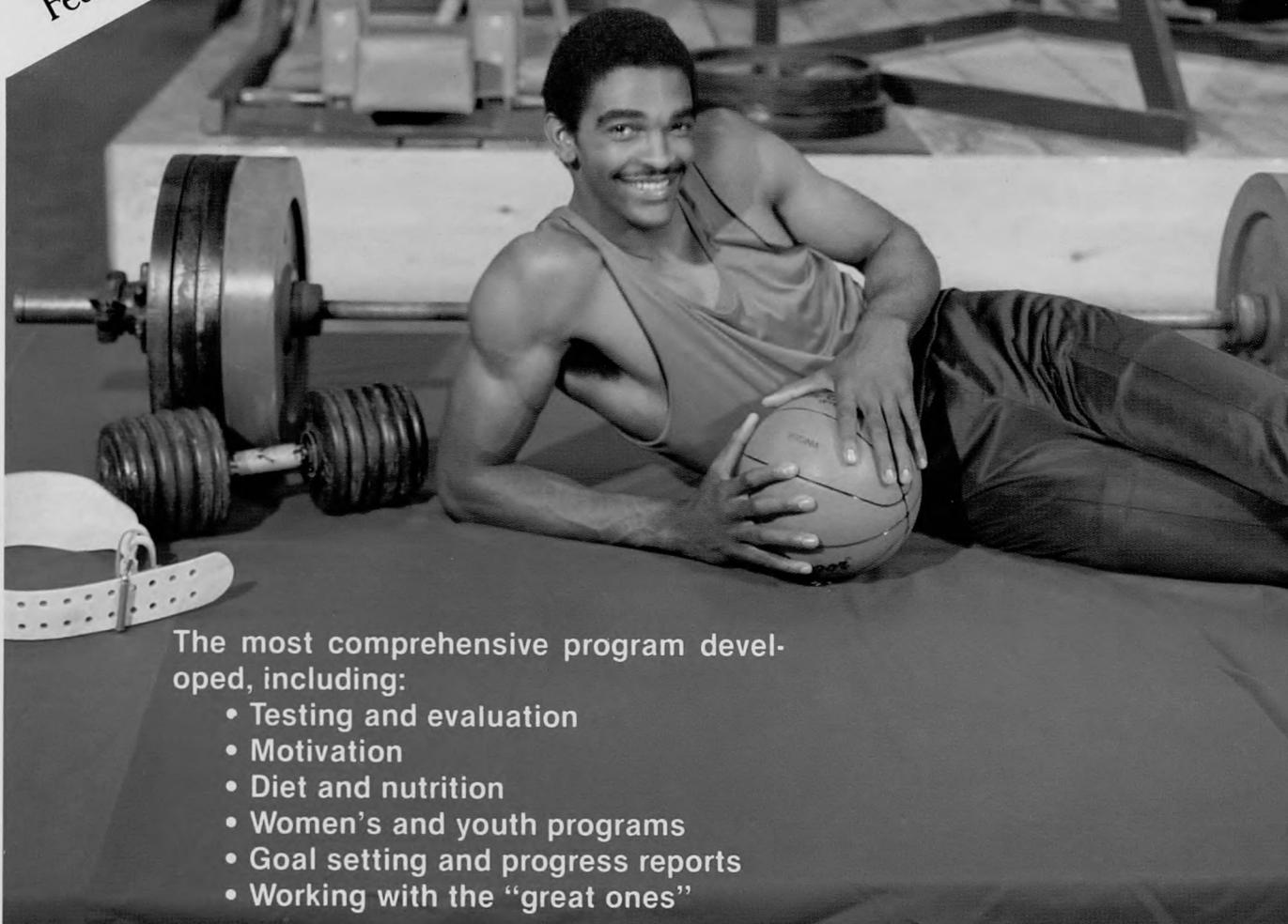
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# Design of a Computer Based System for Isokinetic Testing and Analysis

Richard J. Potash, BS, Stephen K. Burns, PhD,  
Paul Grace, ATC, MS, Bette Ann Harris, RPT, BS,  
Bertram Zarins, MD, Mary P. Watkins, RPT, MS

This paper describes a system developed at the Massachusetts Institute of Technology (M.I.T.) and the Massachusetts General Hospital (M.G.H.) to perform quantitative exercise measurement. The system includes an APPLE II PLUS (1) personal computer, a CYBEX II (2) isokinetic dynamometer, a special interface circuit (3) and a set of programs to perform athlete testing and analysis. The system can be used to perform a number of different tests. The knee extension/flexion test is presented here as an example.

## Background

The CYBEX is used to exercise an athlete's limb isokinetically (at a constant speed). Isokinetic exercise allows the measurement of variations in torque development which occur throughout the range of motion. The CYBEX develops two electrical signals proportional to the torque produced and the position of the limb. These signals are recorded on a dual channel strip chart and describe torque production in relation to joint angle.

In order to objectively evaluate and compare isokinetic tests, a testing protocol was developed along with a set of parameters to quantify the torque and position curves. The parameters define torque, position and time factors on the curves. The torque parameters measure limb strength, the position parameters measure range of motion and define the position in the range the limb is strongest, while the time parameters are used to quantify the shape of and relationship between the torque and position curves. The protocol, which is an extension of the original CYBEX protocol, was developed at the Physical Therapy Department of M.G.H. in 1977 (4).

The testing procedure involves testing the limb at two speeds. First a low speed test is performed in which the athlete does 6 repetitions at a speed of 30 degrees per second. This is followed by a high speed test in which the athlete does as many repetitions as possible in 20 seconds at a speed of 180 degrees per second. The low speed test measures "strength" parameters, while the high speed

test measures "endurance" as well as torque parameters.

Measured parameters include: peak-torque, joint-angle-at-peak-torque and range-of-motion-flexion/extension. Derived parameters include: flexion/extension ratio, time-to-peak-torque, time-peak-torque-held, force-decay-time, time-between-reciprocal-motions, time-to-accelerate-to-the-test-speed, decline-in-peak-torque-production and work-done. These parameters are defined later in the paper.

## Method

These parameters provide a good method for quantifying the data but require more than an hour to calculate. This made their use impractical in the clinical situation, thus they were used only for research.

In order to aid in the collection and analysis of isokinetic test data and to provide enhanced feedback to the athlete during exercise an APPLE II PLUS personal computer was interfaced to the CYBEX. The complete system is shown in Figure 1.

## Hardware Selection

In selecting a computer on which to develop this system a number of requirements were defined. These can be divided into two groups: those defined by the engineer or system developer and those defined by the administration or system purchaser.

Probably the most basic of the engineering requirements is the ability to read and store the CYBEX torque and position information. The computer must perform A-D conversion, i.e. convert the analog signal (or voltage) from the CYBEX to a digital signal (or number) useable by computer. Also, the computer will need a means of measuring time (a clock) to assure that the CYBEX data is sampled at regular intervals. There must be a medium for storing programs and data to provide the opportunity of keeping a permanent record of the athlete-test data. The system should be able to produce high-resolution graphic displays to allow plotting of torque and position curves.

Other engineering considerations were the languages available in which to develop the programs, how well "proven" the computer is and the ability to communicate with other computers.

Among the requirements set down by the purchaser were service, flexibility and cost. There had to be a mechanism for repair should problems occur with the system. The purchase of a computer could be more readily justified if the system has uses outside of the collection and analysis of exercise data. Finally, all this had to be available for what the department considered a reasonable price.

An extensive search and review of the currently available computers was performed. The APPLE II PLUS was chosen because it meets these technical and administrative requirements.

There are a number of manufacturers producing specialized hardware for the APPLE. A-D converter and clock cards which plug directly into the computer were



Mr. Potash received a B.S. in Computer Science from M.I.T. in 1981. Since then he has been working as a consultant to the Physical Therapy Department at Massachusetts General Hospital and as a Visiting Engineer at Massachusetts Institute of Technology, Cambridge, MA 02139. Dr. Burns and Mr. Grace are on staff at M.I.T. Ms. Harris, Dr. Zarins and Ms. Watkins are on staff at Massachusetts General Hospital.

readily available. This reduced the amount of engineering needed to interface the computer to the CYBEX. Modems, which allow the computer to communicate with other computers via phone line, were also available. This would allow the computer to access the resources of larger computers, anticipating M.I.T. and M.G.H. building a shared data base in which the computer would serve as an input device and terminal.

The computer uses two diskette drives; one diskette stores the system programs and the other stores data associated with the athlete. As improvements are made to the programs and new programs are developed, they can be added to the diskette containing the system programs. Thus the system is easy to modify and upgrade. The diskettes used to store athlete data can provide a permanent record of the test if desired. The diskettes provide the user the option of setting up a data base on the computer for doing studies, group comparisons or saving test results.

The APPLE computer can produce high-resolution graphic images. The monitor (T.V.) displays these images to the user. The system can display plots of test data and provide various feedback displays to the athlete during exercise. The printer produces the final copies of the test results and has the ability to produce graphic images. Thus copies of the athlete's torque and position curves can be placed on the final report. Along with the graphic images, the printer can produce enhanced characters. The enhanced printing can be used to highlight sections of the final report, e.g. large variations between right and left side parameter values.

The APPLE supports the Pascal programming language along with many others. The availability of the Pascal programming language was a key factor in the choice of the computer. Pascal was the preferred language for this project because it encourages modular programming. That is, defining modules to perform each task and then combining them to form a large program. For example, testing an athlete can be thought of as a number of individual tasks (collecting background information, setting baselines, exercising the athlete, etc.). By defining each task as a stand-alone module, individual pieces of the program can be updated and added as needed.

One such module is real-time data acquisition. This is typically done using a special feature of the computer which interrupts the normal execution of the program and attends to a new data sample as it occurs. The program which does this is called an interrupt-routine and the architecture of the computer must allow the programmer to write sections of a program in assembly language. This is the native language of the computer and is used when a program must execute quickly. Because of the speed at which they must run, the interrupt-routine and feedback displays are written in assembly language. In addition, Pascal has features which facilitate the building of data bases.

The APPLE has been in use for a number of years in both the technical and non-technical communities. Thus, the reliability and usability of the computer is well established.

In terms of administrative requirements, service contracts are available from APPLE distributors. This provides a mechanism for repair should any problems occur.

The amount of commercial software (programs) available for the APPLE along with its' wide and diversified use by the non-computer professional community suggested a variety of uses beyond the acquisition and processing of exercise data. There are software packages available to perform statistical

analysis of data, build data bases, aid in keeping department records and perform word processing.

### Software Development

A set of programs which implements the protocol were developed for the system and allow the user to choose from a variety of testing and analysis options. Among the options available to the user are programs to test a limb, analyze the data and print the results, print extra copies of the results and provide feedback displays to the athlete during exercise sessions.

There are a number of steps involved in testing an athlete's limb. First the computer collects background information on the athlete. The system then leads the user through the test. The computer displays the correct switch settings for the CYBEX and chart recorder including: the test speed, damping, direction switch and position scale. Then the system reads in the torque and position baselines and presents the test procedure to the user, 6 repetitions (low speed test) or 20 seconds (high speed test) along with the final instructions for the athlete. The athlete is then allowed a final chance to warm up before the test is started.

During the test, the computer collects the torque and position data from the CYBEX and stores the values on the diskette for later analysis. In this way a permanent record of the athlete's test is produced. The user is given the option of skipping any test, or repeating the test if something goes wrong, e.g. the athlete stops in the middle of the test.

During the data analysis, the computer reads the torque and position data from the diskette, computes the values of all the parameters, saves the results on the diskette and produces a printed copy of the results. The final results are saved on the diskette to provide for additional copies of the results without reanalysis (analysis of the data takes three minutes). Also, one of the long range goals of the system is to build athlete data bases. Saving the results makes them readily available to add to the data base when it is implemented.

Feedback is provided with programs which simulate a strip chart display of the athlete's torque-curve on the screen. The user can freeze the display to point out specific sections to the athlete and then continue the display. The user may also magnify the display for weaker athletes. This program has provided a good motivational factor during exercise.

Development of the system began in June 1980. It has been in use at M.G.H., M.I.T., and the United States Olympic Training Center (U.S.O.T.C.) in Colorado Springs, Colorado, undergoing testing and further refinements. Some of the original goals of the system were reliability of results, ease of use and general benefits to the department.

The algorithms used for data analysis were developed with the goal of reliability of results. To evaluate the accuracy of the system, twenty subjects were tested and the data was analyzed by the computer and by hand. The values obtained by computer analysis were the same as those calculated by hand (differences were not satisfactorily significant) but were produced in a much shorter time.

In order to produce a system which would be easy to use and allow the user flexibility in its operation, the system was designed around a menu. When the system is turned on, it displays a menu or list of programs from which the user may choose. When the selected program is complete, the computer returns to the menu so the user may make another selection. Each program provides directions to lead the user step by step through its

operation and checks for incorrect user input.

Perhaps the main advantage of using the computer for data analysis is the time it saves. Using the computer, the time required for data analysis and recording is reduced from over one hour for hand analysis to seven minutes. This allows review of the results with the athlete immediately after the test. Also, using the computer to analyze the data frees time normally spent by staff members performing the analysis by hand.

### Report Form

A copy of the final report is shown in Figures 2 and 3, with an explanation below.



Figure 1

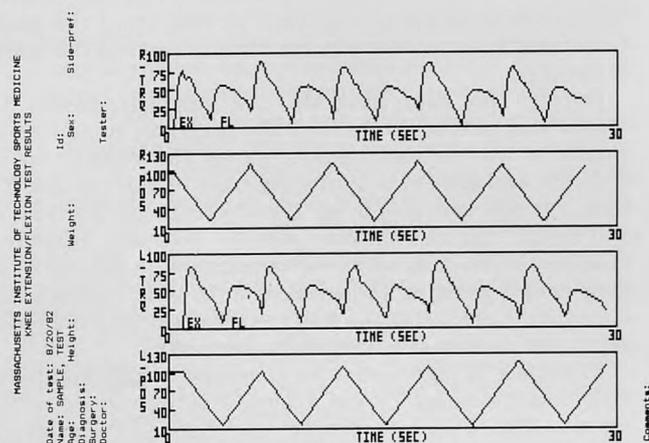


Figure 2

MASSACHUSETTS INSTITUTE OF TECHNOLOGY SPORTS MEDICINE  
Name: SAMPLE, TEST Date of test: 8/20/82

Test speed: 30 deg/sec

	EXTENSION AVERAGE (STD. DEV.)		FLEXION AVERAGE (STD. DEV.)	
Peak Torque (foot-pounds)				
Right:	93 (5)		60 (4)	
Left:	94 (3)		62 (3)	
Flexion/Extension ratio				
Right:	65			
Left:	66			
Range of Motion at Peak Torque (degrees)				
Right:	77 (2)		46 (3)	
Left:	75 (3)		37 (3)	
Maximum Flexion/Maximum Extension Limits (degrees)				
Right:	101 (2)		18 (1)	
Left:	98 (4)		14 (1)	
Time Rate of Tension Development (seconds)				
Right:	0.68 (0.08)		0.88 (0.08)	
Left:	0.74 (0.11)		0.72 (0.11)	
Time Peak Torque Held (seconds)				
Right:	0.07 (0.02)		0.17 (0.08)	
Left:	0.10 (0.10)		0.18 (0.10)	
Force Decay Time (seconds)				
Right:	1.96 (0.07)		1.69 (0.12)	
Left:	2.00 (0.07)		1.92 (0.21)	
Reciprocal Delay (seconds)				
Right:	0.02 (0.01)		0.06 (0.01)	
Left:	0.04 (0.01)		0.04 (0.01)	
Delay Time (seconds)				
Right:	0.01 (0.00)		0.02 (0.01)	
Left:	0.02 (0.01)		0.02 (0.00)	

Test speed: 180 deg/sec

	EXTENSION	FLEXION
Initial Peak Torque (foot-pounds)		
Right:	44	33
Left:	51	35
Fatigue Index		
Right:	21	11
Left:	25	9
Total Work Done (measured as area under torque curve)		
Right:	197	155
Left:	234	193
Percent Decline in Peak Torque From Low to High Speeds		
Right:	52	45
Left:	46	44

Figure 3

### REPORT FORM

The test results summary is divided into three sections: a header containing the athlete background information, plots of the low speed torque and position data, and the values of the low and high speed parameters.

The report header contains the following information: date of test, athlete name, id, age, height, weight, sex, side preferred, diagnosis, surgery, doctor, and tester.

The plots of the low speed test data show the right and left side athlete torque and position curves. Each torque plot is marked with an EX and an FL showing the sections of the curve corresponding to extension and flexion.

The second page of the report contains all the calculated parameter's values. The low speed parameters are broken down into three groups: torque parameters, position parameters and time parameters.

#### TORQUE PARAMETERS

Peak Torque (foot-pounds):

The maximum torque produced by the limb during extension/flexion.

Flexion/extension ratio:

The ratio of the peak torque produced during flexion to the peak torque produced during extension.

#### POSITION PARAMETERS

Range of Motion at Peak Torque (degrees):

The point in the range of motion where peak torque first occurs. This shows the angle of the knee where torque development is the greatest.

Range of Motion Flexion/Range of Motion Extension (degrees):

The maximum limb excursion during flexion/extension. This shows the range the limb traveled through during the test.

#### TIME PARAMETERS

Time Rate of Tension Development (seconds):

The time from the beginning of torque development until the point where peak torque is first developed.

Time Peak Torque Held (seconds):

The time during which peak torque is maintained.

Force Decay Time (seconds):

The time from the end of peak torque development until the end of the motion.

Reciprocal Delay (seconds):

The time from the end of an extension/flexion until the beginning of the next flexion/extension. Basically, the time required to change direction.

Delay Time (seconds):

The time from the initiation of an extension/flexion until the beginning of torque development. In other words, the time required to accelerate to the test speed.

#### HIGH SPEED PARAMETERS

Initial Peak Torque (foot-pounds):

The average of the peak torque values for the first three repetitions.

Final Peak Torque (foot-pounds):

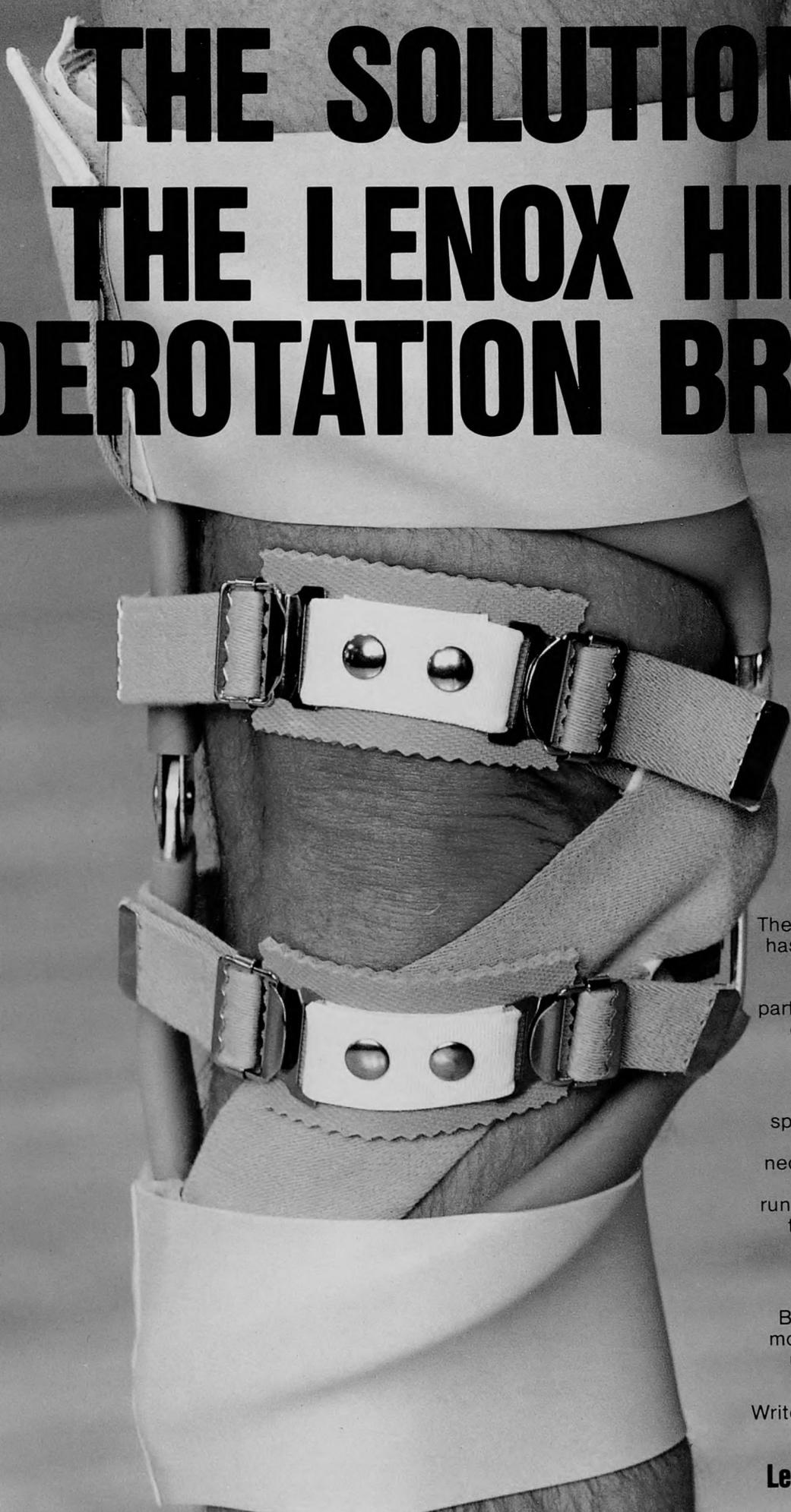
The average of the peak torque values for the last three repetitions of the 20 second trial. This parameter does not appear on the final report, but is used in the calculation of the fatigue index.

*continued on page 182*

#### References

1. APPLE Computer Inc. 10260 Bandley Drive, Cupertino, CA 95015.
2. CYBEX, a division of LUMEX, Inc., 100 Spence Street, Bay Shore, N.Y. 11706.
3. Internal Technical Report, M.I.T., Biomedical Engineering Center for Clinical Instrumentation, 18 Vassar Street, Cambridge, MA 02139
4. Watkins MP, Harris BA: Analysis of Quadriceps and Hamstrings Torque, Timing, Speed and Fatigue under Isokinetic Conditions. Submitted to Physical Therapy, July 1982. +

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# Sports Medicine In Northern Virginia High Schools

Ed Mathews, BS, ATC, EMT  
Perry Esterson, MS, RPT, ATC

Many investigators (1,2) have shown a high injury rate in high school athletics. Kalenak and Kelly (3) have found that coaches lacked basic athletic training knowledge. A certified athletic trainer has the background and experience to identify and treat athletic injuries. In the Fall of 1981, the Northern Virginia Sports Medicine Association investigated the incidence of injury to Northern Virginia high school athletes. The report was presented to one local school board to demonstrate the high incidence of injury and the need for certified athletic trainers and better medical care. The purpose of this paper is to briefly describe the Northern Virginia Sports Medicine Association (NVSMA) and to give a short history. The second is to publish the results of a survey concerning the certified trainers presently working in Northern Virginia high schools.

The educational system in Northern Virginia is setting a lofty standard in athletics by providing a certified athletic trainer in one out of every two high schools. In 1978, the three original certified athletic trainers in Northern Virginia formed the Northern Virginia Sports Medicine Association (NVSMA). This was the start of an organized association of professionals who have come together in professional interests and good fellowship to promote Athletic Training and Sports Medicine in Northern Virginia high schools. The NVMSA name was selected to attract interested physicians and allied medical personnel. Monthly meetings developed during the school term with various speakers engaged to discuss their specialty.

Northern Virginia is comprised of Fairfax, Arlington Counties, Alexandria, Falls Church, and Fairfax City. These are suburban communities outside Washington, D.C. A total of 29 public schools plus several private schools comprise the educational system. Of these schools, 15 have certified athletic trainers working with their respective athletic teams. One other school has two certified trainers, one men's and one women's trainer.

All of the local school jurisdictions use the same method of compensation for athletic trainers. The individual receives his/her salary for teaching then, in addition, receives an extra-duty supplement. These supplements vary widely, however, they are comparable to coaches supplements. Table I item two shows the breakdown of teaching classes and present educational levels of responding members of NVSMA.

Item one of Table I shows that over one-half of the members became certified through NATA curriculum schools. Of special note is the one special consideration case. All educational criteria had been met, therefore the member was permitted to take the certification test.

Special attention should be given to the teaching areas of the members. Twenty-eight point six percent (28.6%) of the population is presently teaching science. This statistic

---

*Mr. Mathews is a science teacher and athletic trainer at Hayfield Secondary School in Alexandria, VA 22310. Mr. Esterson is Director of Sports Medicine at National Orthopedic Hospital in Arlington, VA 22206.*

is in comparison to coaches who teach primarily PE classes. Physical education classes are, as a rule, saved for coaches. The not applicable category of the table pertains to the members of the group who are physical therapists. These members are both certified trainers and licensed physical therapists.

The remaining categories express the diversity of the group members. Some of our members are EMTs and most attend two or three conventions per year. Three-fourths of these have M.S. degrees and are members of an average of three different professional organizations.

A trend can be seen in the types of modalities used. Six different modalities are shown in the table but four have across the board acceptance — hot and cold whirlpool, hydrocollator and cryotherapy. Item nine has statistically the widest range of all the survey's items. An average of 25 hours per week is shown; however a range of 15-40 hours was given. Quite a variance in personal interpretation is shown for the athletic trainer.

Table II, High School Sports Medicine Survey, was developed to show the medical care presently given to high school athletes. A significant number of surveys were returned: 87%. Item 3 shows that 90% of surveyed schools have a designated team physician. However, only 70% of these physicians ever attend varsity football games. For junior varsity football a physician is present at only 3% of the games. This number further decreases to zero for 9th grade football. On any given night there are 20-25 football games at each level. These percentages show few are attended by physicians.

Item 2 of Table II shows the present availability of ambulance crews at football games: seventy-eight percent (78%). Freshman and Junior Varsity games are not covered due to local Emergency Services policies.

Our survey shows 85% of the student athletic trainers are formally trained at workshops. Of these students, 80% are in an organized student trainer program.

Seventy-five percent (75%) of the schools stated they have a facility designated as a training room. Virtually all responding have a whirlpool available as a therapeutic modality. These schools also have a medical budget for supplies.

These statistics are artificially high due to the number of certified trainers in our area. A nationwide sample would undoubtedly be different in many respects from this data. One large difference would be the number of schools with a training room and separate medical budget. Most coaches use a percentage of their individual supply budgets for tape and other medical needs. However, it is felt this data is representative of Northern Virginia and surrounding areas.

The NVSMA has some continuing functions which are felt to be very positive. One of the largest assets of the association is the annual volume purchase of medical supplies. Each year the association collects all the individual supply orders and submits a group bid for the total amount. This saves hundreds of dollars per year and also enables each school to buy more supplies. In the coming year, schools without trainers will be invited to

Table I

CERTIFIED TRAINER SURVEY  
NORTHERN VIRGINIA HIGH SCHOOLS  
NOVEMBER 1981

1. Method of Certification	Curriculum	57.1%
	Apprentice	28.5
	Spec. Consideration	7.1
	P.T.	14.2
2. Subject areas taught	Health	21.4%
	Biology	14.3
	Gen Science	14.3
	P.E.	14.3
	L.D.	7.1
	Social Studies	7.1
	NA	14.2
3. Licensed Emergency Medical Tech./Ambulance		28.6%
4. Number of clinics or conventions attended per year	3	42.8%
	2	50.0
	1	7.1
5. Highest degree obtained	M.S.	78.6%
	B.S.	21.4
6. Membership in Professional Organizations per member	Mean	3.3
7. Number of Journals subscribed per member	Mean	3.0
8. Types of Modalities used regularly	Whirlpool (hot)	12
	(cold)	10
	Hydrocollator	12
	Cryotherapy	12
	Massage	2
	Paraffin	1
9. Approximate number of hours in training room weekly performing duties	Mean	25.1

Numbers rounded to the nearest tenth

N - 13

Members responding - 87%

take part in the volume purchase thus saving even more money to the school systems.

During the first month of each school term, an open meeting is held for all interested persons. CEUs are earned toward re-certification for participants. Each month a physician or an allied professional speaks to the group discussing his or her specialty.

The association has accepted a Constitution and By-laws, therefore establishing acceptance and purpose in the community. An annual Student Trainer Workshop is held during the first week of August. Enrollment increases each year. This service is provided to the community to improve the quality of care given the local student-athletes.

In the Fall of 1981, the NVSMA studied the incidence of injuries to high school athletes. The report was presented to one local school board to demonstrate high incidence of injury and the need for certified athletic trainers and medical care. Kalenak and Kelly (1) have found that coaches lacked basic athletic training knowledge.

A Certified Athletic Trainer has the background and experience to identify and treat athletic injuries. As a result of the study, several metropolitan newspapers examined the role of athletic trainers. Community awareness was heightened due to this exposure. Through the NVSMA, improvements in the quality of health care

Table II

SPORTS MEDICINE SURVEY  
NORTHERN VIRGINIA HIGH SCHOOLS

Conducted November 1981

1. Football games attended by licensed physician	V	70%
	JV	3%
	F	0%
2. Football home games attended by an ambulance	V	78%
	JV	3%
	F	0%
3. Schools with a designated team physician		90%
4. Schools that have a student trainer program		80%
5. Percentage of above students trained formally at a course or clinic		85%
6. Schools which have a room designated as a training room		75%
7. Schools which have a whirlpool available		85%
8. Schools which have a separate medical budget		75%
Percentage of schools responding to survey		87%

\*\*\*\*\*Note \* Percentages are rounded to the nearest whole number

have been received by Northern Virginia athletes and athletic training and sports medicine have been promoted in the Northern Virginia High Schools.

## References

- Blyth CS, Mueller FO: *Football Injuries*, Minneapolis. Physician and Sports Medicine, 1974.
- Garrick JG: Sports Medicine, *Pediatric Clinics of North America* 24:4:737-747.
- Kelley EJ, Kalanek A: Knowledge Obsolescence: Need for Sports Medicine Education Among Physical Educators and Coaches, *J of Sports Medicine* 3:6:277-281, 1975. +

## Potash, continued from page 178

## Fatigue Index:

The percentage peak torque declined over the 20 second trial. More specifically:

$$100 * \frac{1 - \frac{\text{Final Peak Torque}}{\text{Initial Peak Torque}}}{1}$$

For example: if the athlete developed 200 foot pounds of torque in the beginning of the test and then only 140 foot pounds at the end of the test, he would have a fatigue index of 30. His peak torque production declined 30 percent over the 20 second trial.

## Total Work Done:

The total area under the torque curve for the 20 second trial. Because the exercise is constant velocity, this corresponds to the actual work the athlete is doing.

## Percent Decline in Peak Torque from Low to High Speeds:

The percentage the peak torque declined as the athlete went from low to high speed exercise.

$$100 * \frac{1 - \frac{\text{initial peak torque at high speed}}{\text{average peak torque at low speed}}}{1}$$

For example: if the average peak torque at the low speed was 200 foot pounds and the initial peak torque at high speed was 100 foot pounds, then the decline in peak torque was 50 percent.

**National Athletic Trainers Association  
P. O. Drawer 1865, Greenville, NC 27834  
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for NATA membership \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Position in District of  
present record – Name  
and Address of Institution  
or Organization \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Transfer from District No. \_\_\_\_\_ Last year for which dues have been paid:

Transfer to District No. \_\_\_\_\_

Membership Class:

- \_\_\_\_\_(1) Certified    \_\_\_\_\_(2) Associate    \_\_\_\_\_(3) Retired    \_\_\_\_\_(4) Student  
\_\_\_\_\_(5) Affiliate    \_\_\_\_\_(6) Advisory    \_\_\_\_\_(7) Allied    \_\_\_\_\_(8) Honorary

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\_\_\_\_\_  
\_\_\_\_\_

New position, name and address  
of Institution or Organization \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Information Verified by National Office: \_\_\_\_\_  
Date Signature

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Date Signature

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**Proceedings, from page 173**

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**XXXIII. ADJOURNMENT:**

There being no further business, the meeting of the Board of Directors was at 11:00 a.m., Monday morning, February 28, 1983, declared to be adjourned.

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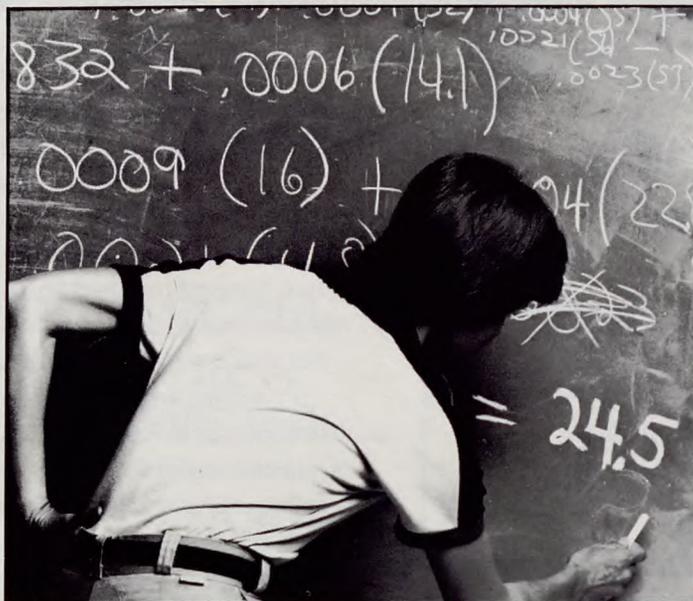
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