

THE JOURNAL OF THE NATIONAL ATHLETIC TRAINERS ASSOCIATION

#### IN THIS ISSUE:

A Report from the Professional Education Committee Seven Years of Certification by the N.A.T.A. Developmental Assymetries of the Weightbearing Skeleton and its Implications in Knee Stress and Knee Injury

VOLUME 13 NUMBER 2 SUMMER 1978





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## THE JOURNAL OF THE NATIONAL ATHLETIC TRAINERS ASSOCIATION

#### NUMBER 2

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**SUMMER 1978** 

### articles

**Developmental Assymetries of the** Weightbearing Skeleton and Its Implications in Knee Stress and Knee Injury by Professor Karl K. Klein, C.C.T.

> A Report from the **Professional Education Committee** by Sayers J. "Bud" Miller, Chmn.

Seven Years of Certification by Lindsey McLean, Jr., and Sally W. Westphalen

> N.A.T.A. Membership Survey by Phillip B. Donley, A.T.,C.

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Editor-in-Chief and Journal Committee Chairman **Rod Compton Sports Medicine Division** East Carolina University Greenville, North Carolina 27834 Telephone: 919-757-6426

Editor Clint Thompson Jenison Gym Michigan State University East Lansing, Michigan 48824

Journal Committee Dennis Aten Eastern Illinois University

John Wells Louisiana State University

Ed Christman The College of William and Mary

Don Kaverman **Detroit Lions** 

Oklahoma State University

Indiana State University

**Editoral Board Bob Moore** San Diego State University

Ken Knight S.U.N.Y. Brockport

Dan Libera University of Northern Colorado

Jim Rankin

University of Virginia

Managing Director Mary Edgerley P.O. Box 1865 Greenville, North Carolina 27834

**Circulation Manager** Barbara Manning

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Jeff Fair

**Ray Baggett** 

Michigan State University

Joe Gieck

## The National Athletic Trainers Association

President Frank George Brown University Dept. of Athletics Providence, Rhode Island 02912



Executive Director Otho Davis Philadelphia Eagles Veterans Stadium Philadelphia, Pennsylvania 19148

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### to the editor

#### Dear Editor,

As a high school trainer I have found it necessary to use ankle wrapping in the place of tape, for budgetary reasons. Specific information on its employment appeared lacking however, beyond an illustration or two. I therefore want to thank you for publishing George J. Davies article "The Ankle Wrap: Variation From The Traditional" in the Winter 1977 issue of the Journal. It fills a long neglected need for an in depth discussion of the topic.

I do have one question regarding the article, however. Although the illustration of the "old style" of wrapping shows the ankle with a sock on, Davies photographs of his method use a bare foot. As there is no mention of this in the article I was wondering if the author felt wrapping should be done without socks? My experience suggests this would be impractical.

Sincerely, Ray J. Saltzman Athletic Training Advisor Wylie E. Groves High School Birmingham, Michigan

#### Dear Mr. Saltzman,

The pictures that accompanied the article: "The Ankle Wrap: Variation from the Traditional" were photographed with a black sock on the extremity so the ankle wrap would be better illustrated against the dark contrasting background. I was remiss in not actually mentioning that I also have always clinically applied the ankle wraps over socks. So I concur with Mr. Saltzman's experience.

Thank you for the opportunity to respond to Mr. Saltzman's letter.

#### Sincerely,

George J. Davies, MEd, RPT, ATC University of Wisconsin-La Crosse





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## calendar of events

#### June, 1978

**3** - Post-graduate course entitled "Sports Medicine", Lenox Hill Hospital, New York. Contact Mr. George Veras, The Institute of Sports Medicine and Athletic Trauma, Lenox Hill Hospital, 103 East 77 Street, New York, NY 10021.

#### 12-15 - Annual NATA Convention, Las Vegas MGM Grand Hotel, Las Vegas. Contact NATA, 3315 South Street, Lafayette, Indiana.

18-23 - Basic Ninth Annual Miami. University Sports Medicine Workshop. Contact Ken Wolfert, Millett Hall, Miami University, Oxford, Oxford, Ohio 45056.

19-21 - Student Trainer Workshop, University of Southern Mississippi. Contact Jim Gallaspy, P. O. Box 5248 S.S., Hattiesburg, MS 39401.

**21-24** - Post-graduate course on "The Art and Science of Sports Medicine", Charlottesville, Virginia. Contact Dr. Joe Gieck, Ed.D., A.T.C., R.P.T., Head Athletic Trainer, University of Virginia, Department of Athletics, Charlottesville, Virginia 22903.

25-28 - Seminar on Sports Medicine, Maine Maritime Academy, Castine, Maine. Contact Len Tyler, Coordinator Summer Programs, Maine Maritime Academy, Castine, Maine 04421.

25-29 - Advanced Ninth Annual Miami University Sports Medicine Workshop. Contact Ken Wolfert, Millett Hall, Miami University, Oxford, Ohio 45056.

**26-July 7** - Workshop on "Recognition and Management of the Acute Athletic Injury", Springfield, Massachusetts. Contact Charles J. Redmond, Head Athletic Trainer, Springfield College, Box 555, Springfield, Massachusetts 01109.

**30-July 5** - American Orthopaedic Society for Sports Medicine, Lake Placid. Contact H. Royer Collins, M.D., 575 E. Hardy Street, Inglewood, California 90301.

#### July, 1978

**6-10** - "Stress Syndrome in Athletics" Sports Medicine Program, North Adams State College. Contact Paul Grace or Dr. Arthur E. Ellison, Department of Athletics, North Adams State College, North Adams, Massachusetts 01247.

7-8 - District 9 Meeting, Atlanta Townhouse Motor Inn, Atlanta. Contact Steve Moore, Box 5102, Tennessee Tech, Cookeville, Tennessee 38501.

10-14 - American Corrective Therapy Association Annual Conference, Houston, Texas. Contact Henry Ostermann, Conference Chairman, 6013 Sunnycrest, Houston, Texas 77087.

10-14 - Sports Medicine Conference - "The Injured Athlete", University of Southern Mississippi. Contact Jim Gallaspy, P.O. Box 5248 S.S., Hattiesburg, MS 39401.

17-21 - Sports Medicine Workshop, Orlando, Florida. Contact Ronald Ribaric, A.T.C., Head Athletic Trainer, Florida Technological University, Box 25000, Orlando, Florida 32816.

17-22 - Adult Athletic Training Workshop, University of Southern Mississippi. Contact Jim Gallaspy, P.O. Box 5248 S.S., Hattiesburg, MS 39401.

**24-28** - "Athletic Training Review Seminar", Center for Sports Medicine of Northwestern University Medical School, Chicago, Illinois. Contact Marianne Porter. Center for Sports Medicine, Northwestern University Medical School, 303 E. Chicago Avenue, 4-334, Chicago, IL 60611.

22-23 - Valuation Assessment of Sports Injuries. Mid-West Sports Medicine Continuing Education Program, Sports Medicine Institute, Cincinnati, OH. Contact Ken Reische. Sports Medicine Institute, General Hospital, 234 Goodmand Avenue, Cincinnati, OH 45267.

Cramer Workshops. See Announcements, page 69.

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, Athletic Department, Oklahoma State University, Stillwater, Oklahoma 74074.







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FROM THE PRESIDENT'S DESK This will be my last Journal letter and I would like to express my gratitude for all the assistance I have received in the nast four years. There are a number of

This will be my last Journal letter and I would like to express my gratitude for all the assistance I have received in the past four years. There are an another of N.A.T.A. members who contribute a great deal of time and effort to the association. the assistance I have received in the past four years. There are a number of N.A.T.A. members who contribute a great deal of time and effort to the association. Speaking for the association. I would like to thank Otho Davis, the Executive Direct N.A.T.A. members who contribute a great deal of time and effort to the association. Speaking for the association, I would like to thank Otho Davis, the Executive Director, the Board of Directors, the committee chairmen and committee members. Speaking for the association, I would like to thank Utho Davis, the Executive Directors, the Board of Directors, the committee chairmen and committee members, and the District Secretaries. Dear N.A.T.A. Member, Through education and certification the professional image of the N.A.T.A. and the certified athletic trainer have certainly improved. A number of factors are response Through education and certification the professional image of the N.A.T.A. and the certified athletic trainer have certainly improved. A number of factors are responsible for this. They are the association officers and the Board of Directors. the District Secretaries.

certified athletic trainer have certainly improved. A number of factors are respon-sible for this. They are the association officers and the Board of Directors, who had the foresight to establish the different committees that have done so much to imsible for this. They are the association officers and the Board of Directors, who had the foresight to establish the different committees that have done so much to im-prove this image. The excentional amount of time and effort devoted by Linds the foresight to establish the different committees that have done so much to improve this image. The exceptional amount of time and effort devoted by Lindsy McLean and the Board of Certification. Bud Miller and the Professional Education prove this image. The exceptional amount of time and effort devoted by Lindsy McLean and the Board of Certification, Bud Miller and the Professional Education Committee. Pinky Newell and the Grants and Scholarshin Committee Rod Common McLean and the Board of Certification, Bud Miller and the Professional Education Committee, Pinky Newell and the Grants and Scholarship Committee, Rod Compton and the Journal Committee, and Fred Hoover and the Convention Committee should Committee, Pinky Newell and the Grants and Scholarship Committee, Rod Compton and the Journal Committee, and Fred Hoover and the Convention Committee should all receive a special thanks. My own special thanks must go to Joe Castro Joanne and the Journal Committee, and Fred Hoover and the Convention Committee should all receive a special thanks. My own special thanks must go to Joe Castro, Joanne Dolcemashio, and Ed Jamiel. the trainers at Brown University who were burdened

all receive a special thanks. My own special thanks must go to Joe Castro, Joanne Dolcemashio, and Ed Jamiel, the trainers at Brown University who were burdened with extra duties so that I could attend to the responsibilities of the N.A.T.A. Dolcemashio, and Ed Jamiel, the trainers at Brown University who were bur with extra duties so that I could attend to the responsibilities of the N.A.T.A. All the members of the association have a tremendous responsibility which must be met in the very near future. There are many thousands of high-school athletes who All the members of the association have a tremendous responsibility which must be met in the very near future. There are many thousands of high-school athletes who need and would benefit from the services of an athletic trainer. If the concept of a met in the very near future. There are many thousands of high-school athletes who need and would benefit from the services of an athletic trainer. If the concept of faculty-trainer is understood, it should be accented. The N.A.T.A. describes a

need and would benefit from the services of an athletic trainer. If the concept of a faculty-trainer is understood, it should be accepted. The N.A.T.A. describes faculty-trainer as a person who would teach a regular class schedule and perform the faculty-trainer is understood, it should be accepted. The N.A.T.A. describes a faculty-trainer as a person who would teach a regular class schedule and perform the duties of an athletic trainer after school hours. This is the concept by which many of faculty-trainer as a person who would teach a regular class schedule and perform the duties of an athletic trainer after school hours. This is the concept by which many of the high school coaches are hired. The salary would be equal to that of the coach duties of an athletic trainer after school hours. This is the concept by which many of the high school coaches are hired. The salary would be equal to that of the coach This concept should not put an unreasonable strain on a high school sports budget. the high school coaches are hired. The salary would be equal to that of the coach This concept should not put an unreasonable strain on a high school sports budget. I sincerely wish to thank all those who have given me so much assistance the past four years. I have enjoyed serving as President of this great association and wish I sincerely wish to thank all those who have given me so much assistance the past four years. I have enjoyed serving as President of this great association and wish that more could have been accomplished. My best wishes to the next President of four years. I have enjoyed serving as President of this great association and wish that more could have been accomplished. My best wishes to the next President of N.A.T.A.

N.A.T.A.

FRANK GEORGE President NATA

Annual Meeting - Clinical Symposium June 12-13-14-15, 1978 June 12-13-14-10, 1970 MGM Grand Hotel, Las Vegas

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#### Kentucky Trainers' Law Passed

The athletic trainers in Kentucky are happy to announce that House Bill No. 86 was signed into law on March 30, 1978. This law certifies athletic trainers in Kentucky.

Editor's Note: Congratulations for a job well done.

#### State of Texas Advisory Board of Athletic Trainers

Any individual who accepts employment as Athletic Trainer in the State of Texas prior to licensing will be subject to prosecution as a violator of the State of Texas licensing law. Should the individual be found guilty of statute violations, any further attempts by the guilty party to become licensed will not be accepted. Effective date September 1, 1978.

#### Error Correction

In the Volume 12, Number 4 (Fall 1977) Issue of Athletic Training, we published the NATA Educational Programs Leading to Professional Certificate In Athletic Training. However, an error appeared on page 157 from which we have had to answer numerous complaints. Two schools have been combined into one presentation. The correct information is reprinted below. Our apologies to the folks at the University of Pittsburgh (Kip Smith) and the Slippery Rock State College (Dr. James R. Pennell).

This is how the listings for The University of Pittsburgh and Slippery Rock State College should have appeared: University of Pittsburgh (1); Health, Physical Education and Recreation; Pittsburgh, Pennsylvania 15261 (Kip Smith). Slippery Rock State College (1); Health Sciences Department; Slippery Rock, Pennsylvania 16057 (Dr. James R. Pennell).

#### Item Writers Needed

The certification committee is soliciting names of persons interested in writing test items for the NATA-PES licensure and certification examinations for athletic trainers.

Anyone interested in becoming an item writer is invited to send name and address to: Carl Krein, Department of Physical Education, Central Conneticut State College, New Britain, Conneticut 06050. New questions are especially needed in the areas of Prevention of Injury, Athletic First Aid, Ethics, etc. Information and instructions will be forwarded to you.

#### Certification

Persons wishing to be certified as an Athletic Trainer by the N.A.T.A. must fully qualify under the Procedures for Certification prior to taking the Certification Examination.

The examination is given four times yearly. It is administered one day prior to the annual convention in June at the convention site, the third Sunday of January (on a regional basis), the second Sunday of March (on a regional basis), and in early August, (applications are processed at the same time as for the annual convention.)

Persons desiring to take the examination may obtain application materials from N.A.T.A. Board of Certification, Valparaiso University Valparaiso, Indiana 46383, provided the individual meets the membership requirement. The application must be requested in writing four months prior to the date of the examination. No applications will be furnished to the applicants after that date in order to assure that the application deadline of sixty (60) days prior to the examination may be met. All August applications must be processed with the same deadlines as for the June annual convention site.

If further information is required, contact Rod Moore, Chairman NATA Board of Certification, Valparaiso University Valparaiso, Indiana 46383.





#### Scholarship Award

The Robert B. Jamieson Student Trainer Scholarship Award is a \$500 cash award presented annually to a North Carolina high school student trainer prior to that student's senior year in high school. The award includes a plaque that may be displayed by the recipient throughout his/her senior year as a student trainer and a cash award to be paid to the institution of his/her choice during first semester of the recipient's freshman year.

The award is named in honor of Mr. Robert B. Jamieson, Sr., of Greensboro, North Carolina. Coach Jamieson was the founder of the North Carolina Coaches Clinic in Greensboro and the North Carolina East-West All Star Games. He has served as director of the NCAA since its inception in 1949. He was a co-founder of the North Carolina Coaches Association Student Trainer Clinic in 1963



The 1977 Robert B. Jamieson Student Trainer Scholarship Award is present to Bambi Smith of Hillside High School in Durham, N.C. by Al Proctor.

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## died

#### Roosevelt "Rosev" Collins

Roosevelt Collins, who 50 years ago took the advice of a university professor and abandoned his medical career to become an athletic trainer because of poor eyesight, died March 19, 1978, in a Colorado Springs hospital at the age of 73.

"Rosey," as he was known by the many athletes he treated, was athletic trainer at Colorado College for 35 years and treated such personables as President Richard Nixon, former Notre Dame Football coach Frank Leahy, police chiefs, at-torneys, physicians and athletes before he retired in 1970.

Collins was a self-taught trainer, a charter member of the American Trainers Association, the first black to be appointed to a staff position at Colorado College, primary contributor to the cause of race relations within the Pikes Peak area, and a man to whom at least one athlete owes his life.

Surviving Collins are his wife, Amanda Collins and a daughter, Natalie, Colorado College class of 1964, a resident of Los Angeles.

#### Ross Moore

Ross Moore, 66 years old, died Dec. 11, 1977, at his home. On Nov. 9, he suffered a major heart attack and was hospitalized at Providence Memorial Hospital.

Born April 18, 1911 in Sarepta, La., Moore served the University for 38 years. During this span he was a student, teacher, coach and head trainer for the athletic department.

In recent years, Moore received prestigious recognition from the National Association Athletic Trainers of which he is enshrined in their Hall of Fame, and the University Alumni Association, which named him outstanding ex-student in 1975. 1975.

Included among the survivors are Moore's wife Kathleen; a daughter, Mrs. Marilyn Cromeans of El Paso; a brother, Billy; a sister, Mrs. John Wynn; and two grandchildren, David and Dana Cromeans.



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Hidden Causes of Injury, Prevention and Correction For Running Athletes and Joggers

> by John Jesse List Price - \$12.95 384 pages - Illustrated The Athletic Press P.O. Box 2314-D Pasadena, CA 91105

The increased interest in recent years in jogging and running has resulted in a sharp rise in the incidence of athletic injuries related to these activities. Consequently the need has arisen for an authoritative text dealing with the prevention and correction of injuries to running athletes. John Jesse has written a book, which, in this reviewers opinion, is the most informative and revealing book to date on running injuries and commonly encountered overuse syndromes. The emphasis of this text is prevention of injury and the author does an extremely commendable job in researching and documenting his material.

There are today a great number of books dealing with athletic injuries and their treatment. There are few however that enlighten the reader as to the means whereby injuries can be prevented before they occur. Mr. Jesse, in his book, reviews everything from muscular and bony imbalances to the psychological and environmental contributions to running injury. His text is divided into three parts, the first being an analysis of the background and causes of running injuries. He discusses neuromuscular coordination, the physical properties of soft tissue and types and causes of injuries. The first part concludes with a discussion of the mechanics of correct running form.

Part two of the book is concerned with hidden factors in various injuries and overuse syndromes and their effects. This is probably the most informative part of the book for it is here that that author enlightens the reader concerning many commonly overlooked factors. Often the sports medicine practioner approaches injury management simply by attempting to treat and relieve the acute symptoms. Mr. Jesse points out that there are a myraid of underlying factors - skeletal, muscular and neural imbalances - that may be the real cause of newly manifested acute trauma. It is the resolution of these underlying abnormalties, Mr. Jesse points out, that will result in the prevention of acute trauma and other overuse syndromes.

The last part of the book tells us how to prevent and/or correct the



King of Prussia, PA 19406 Phone: (215) 265-3333 Please send me the items marked. I am enclosing a check for \$\_\_\_\_\_\_ made out to PRO which includes \$1.50 for postage and handling. problems described in part two. There is a discussion of therapeutic exercise, manipulation, screening and preparticipation procedures and corrective exercise principles. There is also some discussion of strength and flexibility training, preventative and corrective exercise and the equipment necessary for comprehensive lower extremity exercises.

The text contains an appendix which includes joint strengthening exercises, a review of postural disorders, a glossary and a subject and biographical index.

This text is clearly one of the most rewarding books this reviewer has yet encountered. It is easily affordable by most coaches and trainers and is highly recommended as an addition to a sports medicine library.

Donald L. Kaverman

#### Strength Training By The Experts

Edited by: Daniel P. Riley List Price - \$6.95 220 Pages - Illustrated Leisure Press P.O. Box 3 West Point, New York 10996



This text represents an effort on the part of its contributors and editor to dispel the misconceptions concerning strength training and, in turn, enlighten practitioners as to its efficient application in sport. It contains the basic information needed by coaches, trainers, and athletes to formulate an efficient and practical muscular development program.

Initially, the text reinforces the need for muscular development in competitive athletics. It, in turn, describes how strength training can serve to improve an athlete's functional ability in any sport. Misconceptions surrounding strength training are clarified and dispelled. After a brief and simple discussion of muscular physiology, kinesiology, and the genetic factors affecting strength development, the fundamentals and techniques of strength training are explored.

It is the last ten chapters that prove valuable to the practitioner seeding an insight as to the development and administration of a strength training program. This is not a purely scientific manual, dealing only in the theoretical approach to muscle development. Rather, it attempts to spell out the practicalities involved in strength training. The

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book describes the principles involved in strength training and is specific in describing types of exercise, number of repetition, number of sets, amounts of weight, rest intervals, and frequency of exercise. Free weights, the Universal and Nautilus machines are all discussed. Specific routines utilizing these three types of resistance are outlined and explained.

It is this reviewer's opinion that this text could prove valuable in providing basic, yet specific information concerning strength training and development.

Donald L. Kaverman

#### A thletic Training Handouts, Vol. 1

Edited by: Richard L. Hoover, M.S., R.P.T., A.T.,C. Otho Davis, M.S., A.T.,C. List Price: \$6.95 161 Pages - Illustrated Beta Publishing Company, Inc. 2474 Dempster Des Plaines, Illinois 60016

The title of this book completely describes the format as these authors have collected, used and distributed these handouts as sports medicine at all levels of competition. This text is a collection of these handouts which should be shared by all.

The articles are divided into the following chapters:

- 1) The Ankle
- 2) Regional Survey and Standard
- Treatment Procedures
- 3) Diet
- 4) Modalities
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These articles are organized into the specific chapters making it an easy source to refer to or to just read to remain current. The articles are very informative and are of general importance to all with an interest in sports medicine.

The authors have done a very good job in putting these articles together and this book would make a fine reference for student trainers or a good addition to any athletic trainer's personal or school library. The articles provided in this book cover a wide range of material in each section and presents a tremendous amount of useful information.

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## Developmental Assymetries of the Weightbearing Skeleton and Its Implications in Knee Stress and Knee Injury

a continuing report by Professor Karl K. Klein, C.C.T.\*

This article is an extension of a previous publication (1) related to the problem of minor lateral asymmetries (short leg syndrome) and the incidence of knee injury in sports. This information covers an additional 100 cases for a total of 300 cases measured, evaluated and programmed for Progressive Resistive Exercise in the Rehabilitation Laboratory at The University of Texas. By and large the injuries were sustained in the contact sports especially at the high school level. The evaluations were made when the subjects became students at the University.

With the known information that the high school age athlete has a knee structure that has its poorest muscular support mechanism between: the quadriceps-hamstrings ratio (10-5) as compared with the college age player ratio (10-6), significantly looser collateral ligaments resulting in about 2° (34%) more lateral movement at the knee joint, as well as about 51% more anterior cruciate looseness than found in college players the greater injury potential is obvious (2). But all of this information may not be directly related to the continued high incidence of knee injury to the short leg side. It is this author's observation that the problem relates more to the mechanics of movement that produces the injury. The college football player is as susceptable to knee injury when lateral asymmetry exist.

The studies of Bender (3) and Klein (4) have demonstrated that the problem of significant leg strength imbalance is positively related to the incidence of knee injury in football but the relationship of muscle strength im-

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balance and the short leg syndrome has not been reported in the literature to date. There are indications that a high correlation relationship does exist when comparing both sets of data: i.e. 80% of the knee injury cases reported in one five year study of 515 college football (5) players were injured on the weak leg side, also a study of 200 post operative injury knee cases 81% were injured on the short leg side!

The remainder of this discussion will be limited to the problem of Lateral Postural asymmetries, the developmental processes and additional data since the 1973 report!

Major lateral postural asymmetries develop during the period of growth and may be recognized early in life thus eliminating young people with significant problems from participating in certain sports. Minor asymmetries are rarely recognized unless pain and/or stress indicate a problem to the attention of those concerned with the individual's health and welfare. Many times the potential athlete will attempt to hide or ignore the problem but lack of good function will be noticed by the coach or teacher. The prevelance of lateral asymmetries (short leg syndrome) has been shown in many studies (6,7,8,9) and others but has been rarely mentioned in Sports Medicine literature.

The technique for measurement and correction of lateral body balance was reinvestigated by Klein and Buckley (10) on growing children. Sixty-two percent (62%) of the children completely corrected their lateral asymmetry problem in a period of 4-6 months with the use of the heel lift procedure. The control group increased in lateral symmetry during the same period of time. These study findings conformed to the evidence presented by Redler (9).

(CONTINUED on page 80)



<sup>\*</sup>Professor, Department of Physical and Health Education, The University of Texas at Austin, Coordinator of the Rehabilitation Laboratory, Consult Physical Rehabilitation Student Health Center, Certified Corrective Therapist and a Fellow of the American Corrective Therapy Association, The American College of Sports Medicine and Affiliate member of the National Athletic Trainers Association.



(Left to right: Tom Ehlers, line backer, Otho Davis, trainer, Vinc Papale, receiver, Philadelphia Eagles)

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#### (DEVELOPMENTAL ASSYMETRIES, from page 78)

Rose (11) reporting on the effect of lateral asymmetries on injury potential in the field of sports emphasized "that abnormalities in the musculo-skeletal structure of young athletes should be caught early". Those with significant abnormalities should be discouraged from continued participation, especially in contact sports.

The basic measurement procedures for making determinations of lateral postural imbalance has been described in the literature so will not be reviewed here. Sources for the technique of measurement are listed in the references (6,9,10).

Observing the gait patterns of people with lateral asymmetry may be noted in the movement of the leg, ankle and foot. Common observations are: "Slue footed" movement of the foot on the short leg side, ankle pronation as the foot is placed on the ground. This ankle pronation factor actually forces the foot outward. The accompanying knee action will be forward producing a valgus position which results in an excessive Tibia torsion. This movement pattern is the basic mechanism for injury especially in cutting and turning in a direction opposite to the "toe out" foot. The neurological basis for this short side foot action is an effort to balance the body as the foot "steps in the hole" created by the shortness.

The additional 100 cases collected since the original 200 case report (1) continues to produce similar results, thus data for the 300 + cases being reported here has been collected over a seven year period; 261 post operative and 39 post injury. Table I illustrates the composite findings for the 300 cases evaluated.

#### **TABLE I**

#### Knee Injury Relationship to the Short Leg Syndrome - 300 cases

Short Leg Sa			Sacral Base L	acral Base Level				
Post R 92	op. L 110	Post R 11	Inj. L 26	P. Op. 5(L)	Post R 33	op. L 21	Post R 0	Inj. L 2
20	2	37		5		5	4	2
(67	%)	(12%)		(1.6)		(18	%)	(1%)
:	239 (7	9.6%)		5(1.6%)			56(18.6	%)
Mean To	Late Shor 3/8'	ral Imba t Leg Si '1 cm +	alance ide		Me	an La To Lo 3/	teral Im ong Leg '8" 1 cm	ibalance Side -
(on-or	erati	ve)	(in	i-injury)	(R-1	right)		(Laleft)

The percentages presented in this composite study are very similar to the data gathered during each of the previous years and strongly indicate that the factor of Lateral Postural Asymmetry is a potential factor in resulting knee injuries in sports.

The basic mechanism of injury is created by the following pattern of movement: toeing out, ankle pronation, everted foot and valgus knee on the short leg side creates chronic strain on the medial ligament of the knee and undue stress on the sacroiliac develops (12), mechanism for injury is established. This is described as the retarded leg syndrome by Fahey (12). Correction of the lateral asymmetry and ankle pronation by mechanical procedures i.e. heel lift and/or heel-sole lift and ankle prosthesis (rear foot orthotics) will markedly improve the mechanics of movement. A concentrated practice of running and cutting with "toe-in action" will reduce injury potential.

Through preventive concepts as expressed by Rose (11) and corrective procedures, injuries that result from skeletal asymmetries could be significantally reduced.

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## A Report From The Professional Education Committee

It has been a considerable amount of time since the Professional Education Committee has made a direct report to the membership of the NATA concerning its activities. Today it is most important that we make the following presentation not only to inform the membership of upcoming activities but also to clarify some of our important proposals and activities along with requesting your assistance in giving some of our programs an opportunity to be a success. So bear with me.

#### **High School Faculty Instructional Programs**

For the last two years the NATA has been approving athletic training instructional programs for high school faculty members in the hopes of producing highly qualified teacher-certified athletic trainers. At the present time only two programs have been approved by the NATA — The University of Northwestern and the State of North Carolina. Both of these instructional programs have met very rigorous standards and guidelines established by the NATA and are reviewed annually by the Professional Education Committee.

This type of experimental educational program has not been developed to oppose in concept any of our NATA approved colleges and universities offering athletic training educational programs. All of these programs, which require the high school faculty member to complete three summers of coursework, are required to be offered only on a short time basis. Approved instructional programs are limited to enrolling three separate classes. Therefore, the program should conclude at the end of six to eight years and then, hopefully, would convert into a continuing education program for certified athletic trainers. The primary objective of this type of educational program is to stimulate the creation of the teacher-trainer position at the secondary school that is unable to hire one of the NATA approved curriculum graduates because of several factors such as improper teaching combinations, lack of finances, etc. After the position has been created and filled by a qualified teacher-trainer from the faculty instructional program it is felt that the school would not allow this position to be dropped when a vacancy would become available and would fill the position with a graduate from one of our NATA approved curriculums.

However, the high school faculty instructional program must still be considered experimental and must prove itself as a quality procedure for professionally preparing certified athletic trainers. Results on the certification examination will serve as an excellent evaluative tool. If the results are unfavorable, the Professional Education Committee will recommend elimination of this procedure.

Consequently, the Professional Education Committee along with the approval of the Certification Committee has requested that the Board of Directors approve the addition of a Section V to the Procedures of Certification that would strengthen the requirements for those faculty members desiring to qualify for certification under this route. Secondly, it would assist both committees in studying the certification examination results obtained by the graduates from this type of instructional programs. In studying these results, it would make the task of the two committees much easier if they did not have to weed out the results for the graduates of this program from the other methods of qualifying to meet the requirements of Section III. The requirements of the proposed Section V of the Procedures of Certification are:

- 1. Graduate from an approved program.
- 2. Pass the NATA Certification Exam.
- 3. Proof of a Bachelor's Degree from an accredited College or University.
- 4. Proof of one year continuous associate membership before applying to take the exam.
- 5. Proof of current CPR & first aid or equivalent.
- 6. Present a document of recommendation completed by the program director.
- 7. Letter of recommendation from the acting or supervising team physician.
- 8. Actively engaged in athletic training for a minimum of 800 hours for a two year period during enrollment in the program. No more than 400 clock hours in any one year.

We hope that you will support this proposal and let your district director know your thoughts on this matter. We feel that this program will not create a conflict with our Procedures for Certification. In fact, it will provide the NATA with a multi-faceted approach to certification that is favored by the Council on Post Secondary Accreditation, the body which we are seeking to gain national approval to be the accrediting body for athletic training.

#### Continuing Education Workshops To Be Offered At Las Vegas

This year the Professional Education Committee will provide you a greater opportunity to meet your own specific continuing education needs by presenting three outstanding workshops on June 12, 1978 to be held in conjunction with the NATA Annual Meeting at Las Vegas, Nevada. The topics to be presented at these workshops include Therapeutic Exercise in Athletic Training, Lower Leg Injuries, and Use of Modalities in Sports Medicine. You will be receiving further information about these workshops in the very near future.

In addition to these continuing education workshops, those of you interested in participating in the professional activities of the NATA will be given the opportunity to receive training to become a member of the Professional Education Committee's curriculum visitation team at the NATA's Annual Meeting to be held in Las Vegas. A specific workshop entitled "Curriculum Visitation Preparation" and under the direction of Gary Delforge and Ron Sendre will be presented for this purpose. The requirements for attending this workshop, which is limited to 50 participants, are that the interested person be a certified athletic trainer and have three years of experience in the field including experience in supervising student trainers.

#### Professional Preparation Conference To Be Held In January

In another effort to provide continuing education for all certified athletic trainers and at the same time professionally prepared athletic training educational program directors, the Professional Education Committee has set January 5, 6, and 7, 1979 for its Professional Preparation Conference to be held in Nashville, Tennessee. Phil Donley, West Chester State College, is the

![](_page_27_Picture_22.jpeg)

![](_page_27_Picture_24.jpeg)

![](_page_28_Picture_0.jpeg)

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Send a Catalog to my attention conference director. He welcomes any suggestions for topics or speakers. Additional information concerning this educational program will be announced at a later date.

#### Short-Term Courses

At the present time the following workshops and clinics that have primarily been designed for certified athletic trainers, have been approved by the Professional Education Committee:

January 7-8, 1978	Professional Preparation Con- ference "Basic Athletic Training Education"				
SPONSOR:	National Athletic Trainers Association				
	Professional Education Com-				
C.E.U.'s AWARDED:	mittee 1.5				
January 15-18, 1978	Instructor Certification: CPR and First Aid				
SPONSOR:	Sports Medicine Division, Department of Public In- struction, State of North				
C.E.U.'s AWARDED:	Carolina 2.4				
January 21, 1978	Ninth Annual Medical Aspects				
SPONSOR:	Division of Continuing Education				
C.E.U.'s AWARDED:	0.8				
March 13, 1978	Athletic Injuries Workshop				
SPONSOR:	American College of Surgeons Local Trauma Committee, Dallas Toyas				
C.E.U.'s AWARDED:	0.5				
June 12, 1978	Therapeutic Exercise in Athletic Training				
	Lower Leg Injuries				
	Use of Modalities In Sports Medicine				
	Curriculum Visitation				
SPONSOR:	National Athletic Trainers Association				
	Professional Education Com-				
LOCATION	MCM Grand Hotal				
INFORMATION:	National Athletic Trainers				
	Association				
	P.O. Drawer 1865				
C.E.U.'s AWARDED:	Greenville, NC 27834 0.3 each				
July 7.11 1978	Sports Modising				
SPONSOR:	North Adams State College, Dept. of Continuing Education, North Adams Magnachusetts				
LOCATION:	North Adams State College				
INFORMATION:	Paul Grace, Head Athletic Trainer				
	North Adams State College Church Street				
C.E.U.'s AWARDED.	North Adams, MA 01247 4.0				

As you may note many of these workshops and clinics have already been held. We have listed these programs so that you can see the number of C.E.U.'s earned to each of these programs in case you were a participant in one of these programs.

We encourage all athletic trainers to develop workshops, clinics, and other types of short term courses specifically designed for the continuing education of the certified athletic trainer. For information concerning the development or the approval of short term courses please contact Dr. Al Proctor, Sports Medicine Division, Education Building, Raleigh, North Carolina 27611.

#### **Continuing Education**

There has been a great deal of confusion concerning the implementation of the continuing education program approved by the NATA. Jack Redgren, Chairman of the Sub-Committee on Continuing Education notes that the continuing education program is in effect as of January 1, 1978. He asks that all certified athletic trainers collect all information concerning their continuing education activities that they participated in during this year. There has been a hold up in getting the forms for reporting continuing education activities to the certified athletic trainers due to finalizing the mechanics dealing with the computer, but in the very near future you will be receiving the forms, materials, and other information concerning the reporting of your continuing education activities.

However, at the present time it looks full-go for the computer and the first computer cards to record continuing education activities will be ready for the annual meeting to be held in Las Vegas. Jack would like to impress the fact that only six (6) C.E.U.'s will be required to be obtained in any three (3) year period of time. In addition, members may receive C.E.U.'s for educational programs (workshops, clinics, conferences, etc.) that have not been approved as an NATA short term course.

For futher information concerning the continuing education program please contact Jack Redgren at Athletic Department, Vanderbilt University, P.O. Box 12158, Nashville, Tennessee 37212.

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## Seven Years of Certification By the NATA

#### by

Sally W. Westphalen Program Associate Professional Examination Service

#### and

Lindsy McLean, Jr. Chairman, Board of Certification National Athletic Trainers Association Ann Arbor, Michigan Nineteen Sixty-nine was a singular year in sports! A New York baseball team won the series against all odds. A fledgling New York football team won the super bowl, and the University of Michigan upset Ohio State to go to the Rose Bowl. In August of that year, an agreement was signed between the National Athletic Trainers Association and the Professional Examination Services (PES), a testing agency in New York City with long-term experience in health and related fields. This agreement initiated the development of a long-awaited certification program for athletic trainers.

The Journal of the NATA published an article in the spring issue, 1969, by J. Lindsy McLean, Jr. entitled, "Does the National Athletic Trainers Association Need a Certification Examination?" In this article, Mr. McLean listed the accomplishments of the NATA to date - active membership requirements for a college degree, suggested academic curricula, official recognition by the AMA - and then asked, "Do these past accomplishments mean that

(CONTINUED on page 88.)

![](_page_31_Picture_8.jpeg)

The first N.A.T.A. Examination Committee meeting at the P.E.S., in New York, in 1969 to develop the first certification examination.

Top Row, left to right, George Sullivan, University of Nebraska; James Feurig, M.D., Michigan State University; Sayers "Bud" Miller, Ball State University and Joseph Altott, Columbia University.

Bottom Row, left to right, Chris Patrick, University of Kentucky; Lindsy McLean, University of Michigan and Ruth Shaper, Professional Examination Service.

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#### (SEVEN YEARS of Certification, from p. 86.)

the NATA has arrived or just initiated its climb to responsibility and respectability as a paramedical professional?" He concluded that the climb had just begun and that a certification examination "would give our Association a unity of purpose and direction at a time (when) it is sorely needed. Let us proceed now!"

William G. Newell, then Chairman of the NATA Professional Advancement Committee, appointed a reluctant McLean as chairman of the sub-committee on certification within the committee and at the same time persuaded Sayers "Bud" Miller to concurrently develop a sub-committee program in Professional Education. Newell took his proposals to the Board of Directors of the NATA to establish two full fledged Committees in both areas the following year.

With the continued encouragement of Newell and the Board of Directors, McLean chaired the movement which led to the agreement to develop a certification program with PES. The first meeting was attended by Mssrs. Joe Altott, Dr. James Feurig, Lindsy McLean, "Bud" Miller, Chris Patrick and George Sullivan, who after many hours of conversation and compromise, agreed on the basic format of written and oral/practical tests which has remained valid for seven years with only minor alterations.

The methodology utilized by PES was adhered to stringently by the NATA Committee because it was timetested and provided valid and reliable questions for the written examination. To conform to this methodology, the NATA asked well-respected people who were currently working as athletic trainers to write approximately 10 questions on topics which had been determined by the Committee to cover all aspects of the job. Other questions were selected from the extensive files of PES. The new questions were screened by a consultant appointed by the NATA and by psychometricians and editors on the PES staff. They were then subjected to the critical inspection of three independent reviewers, again persons with years of experience as athletic trainers. When finally approved for use in the certification examination, these questions had been scrutinized by a minimum of 10 separate individuals.

While PES went to work soliciting questions, editing and reviewing them for use in the written examination, the Sub-committee on Certification, consisting of Mssrs. McLean, Patrick, Sullivan, Ken Rawlinson and Ed Pillings, began work on the oral/practical examination. James Dodson and Joe Altott joined the work. It was hard and thoughtful and time-consuming. Correspondence cascaded between the two organizations. Meetings were held and details dissected. Finally publicity of the new test was disseminated and a set of procedures for Certification approved. An initial test date was set for August, 1970 in Waco, Texas and the Board waited to see who would apply. Quite a few did. In Waco, 14 candidates took the first examination. Their average score on the written test was 57.57%.

The subsequent three years saw a small but gradual increase in the number of candidates:

1971	28 candidates tested
1972	46 candidates tested
1973	56 candidates tested
Then the breakthrough	gh:
1974	187 candidates tested
1975	295 candidates tested
1976	396 candidates tested
1977	506 candidates tested

Currently

As has been seen, after seven years of testing, the number of annual candidates has increased by more than 1800%. The examinations still follow the same format (the written test has 150 questions in four subareas, the oral/practical consists of three exercises) but have had three major revisions in content. Examined statistically, the written test in use in 1977, when subjected to four reliability measures, scored .823, .903, .894, .877. On tests of 150 questions, a satisfactory reliability coefficient is considered to be over .825. Ninety-seven percent of the questions asked distinguish significantly between low-and high-scoring candidates.

Several recent statistical analyses have been performed that present a clearer picture of the current status of the NATA examination process. One produced in September, 1977 by the Professional Examination Service is a correlation study between the written and oral/practical examinations, i.e., how they relate to each other.

Table 1 depicts the descriptive data on the scores on the written examination and the oral examination between January 1973 and June 1977. A total of 804 candidates were examined with 150 written multiple-choice questions, each of which scored one point and three oral/practical questions on which the score was a maximum of 50. Thus, a candidate could achieve a score of 200 if every question were answered correctly. The lowest and highest scores on the written examination were 45 and 142 respectively, out of 150. On the oral/practical, they were 18 and 49 out of 50. The average candidate scored 71.98% on the written examination and 74.31% on the oral/practical. The correlation study was considered particularly relevant to the question of the degree to which a relationship exists between knowledge of the principles of athletic training as are able to be tested by a written examination and the application of such principles as exhibited in performance in a practical setting.

The results of this study are indicated in Tables 2 and 3. In Table 2, it can be seen that moderately high, statistically significant (the asterisk\* indicates a degree of significance) correlations exist among the four subareas of the written examination. The Basic Science and Therapeutic Modalities and Techniques sections showed the highest intercorrelation (.65) while the lowest was found between the Theory and Techniques and Therapeutic Modalities and Techniques sections (.55). Considering the degree of consistency among the numbers and the relationship of each section to the total, these data suggest that the test is composed of sections that are jointly measuring a common factor of knowledge in the field.

Table 3 reports that the correlations between the written and oral/practical sections of the test are of a significantly low order ranging from .22 to .30.

The important finding indicated by this table is that the two types of tests are apparently measuring different aspects of overall competence, therefore jointly contributing to an improved assessment of the competency of the athletic trainer.

#### Table 1

Descriptive Statistical Data on NATA Certification Examination (N = 804)

	Maximum raw score	Range of raw scores	Average % score
Written Total	150	45 - 142	71.98
Oral Total	50	18 - 49	74.31

![](_page_33_Picture_19.jpeg)

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ATHLETIC TRAINING • Summer 1978

#### potpourri

by Dennis Aten, A.T., C. EASTERN ILLINOIS UNIVERSITY

#### Moratorium on Trampolines

Several universities have placed a moratorium on the use of trampolines in physical education classes and by cheerleaders. These decisions have been made primarily as a result of the American Academy of Pediatrics recent stand against the use of the trampoline in schools and colleges. It is felt, because of the Academy's statement, that offering the opportunity itself might be legally judged as negligence no matter how well the activity is supervised.

Since most spinal cord injuries occur during unsuccessful attempts of somarsaulting, it might be possible to develop guidelines for trampoline use that could meet the approval of the A.A.P. Dr. Kenneth Clarke, University of Illinois, feels that the moratorium should remain in effect until such guidelines can be agreed upon.

#### **Medical Deans Protest**

Deans of medical schools are still locking horns with the DHEW over the Health Professions Educational Assistance Act, which requires that medical schools reserve an "equitable number" of third-year positions for Americans who have studied medicine abroad for two years and can pass Part I of the examination given by the National Board of Medical Examiners. The Act, in addition, gives the DHEW Secretary authority to determine where students would be placed rather than allowing the medical schools to apply their own admissions standards. Some deans are threatening to ignore the law and sacrifice federal grants amounting to as much as \$800,000.

#### Pain!

The following are several excerpts from the February 5, 1978, issue of "Family Weekly" regarding pain.

- University of California School of 1. Medicine studies show that the "style or manner in which a person responds to a painful stimulus is often confused with pain tolerance or pain thresholds. The stoic person usually has a pain sensitivity and tolerance level quite similar to the person who is exaggerating his pain." Findings showed that people who complain the loudest about aches and pains tend to be strongly extroverted types. Introverts, on the other hand, often suffer moderate amounts of pain in silence.
- Studies at the University of 2. Melbourne (Australia), where pain sensitivity tests were made on men and women of various ages and from all walks of life, showed a significant difference in the pain thresholds of blonds and brunettes. The latter leads a more painful existence in terms of the amount of "hurt" produced by garden-variety mishaps and assorted types of trauma. A further finding: the blonder a blond the less the sensitivity to pain, and the darker a brunette the more sensitive.
- 3. At the University of Texas Medical School, investigators made a study of the type of patient whose pain is a symptom of a "need to suffer." Such a need was found to be characteristic of many persons afflicted with aches and pains of a psychogenic nature, that is, pain resulting from emotional rather than organic causes. "Careful scrutiny," the investigators report, "reveals that such individuals have repeatedly placed themselves in situations in which they were bound to fail (resulting in painful circumstances). A striking feature is the onset of painful symptoms when things are going well and the remission of symptoms in times of external stress.

4. A study conducted by medical specialists at the University of California indicates that patients with complaints of chronic low back pain comprise at least 70 percent of referrals to pain clinics. The specialists present evidence showing that in a large percentage of cases, chronic low back pain is associated with emotional conflicts, negative selfconception and depression. The specialists are careful to note, however, that "low back pain is not usually associated with 'tension' or 'nerves,' and orthopedists and neurosurgeons do not seem prepared yet to view chronic low back pain as a symptom of a psychophysiological disorder." It's further noted that some of these patients play a game with doctors and actually attempt to defeat their doctors' efforts to relieve their suffering. For example, the medical team makes this observation in summarizing its findings: "When saying to our chronic low back patients, 'It looks as though the doctors can't help you,' we often observe tight smiles of satisfaction."

#### Sports Reorganization, Athletes' Bill of Rights Proposed in Congress

A bill to restructure amateur sports in the United States in order to eliminate disputes among sports organizations and make it easier for athletes to compete in international contests was introduced in Congress last August 5.

It would expand the powers of the U.S. Olympic Committee so that it could serve as a coordinating authority for amateur sports in the United States, resolve disagreements among national athletic organizations, and protect the rights of athletes to enter international contests. The bill authorizes the U.S. Olympic Committee to recognize one amateur sports organization to serve as the national governing body in each individual sports, so that swimmers would make decisions affecting swimmers and boxers would make decisions affecting boxers.

The measure also would provide \$10 million for the construction and administration of national sports training centers and \$10 million for the U.S. Olympic Committee. It also creates an "Athletes' Bill of Rights" that would prohibit any national sports organization or educational institution from denying an athlete the right to participate in specific competitions.

![](_page_35_Picture_18.jpeg)

#### Table 2 Intercorrelations Among Subareas

of the Written Portion of the

NATA Certification Examination (N = 804)					
Subareas	Basic Science	Applied Science	Theory & Technique	Therapeutic Modalities & Techniques	
Basic Science	+				
Applied Science	.60*	-			
Theory & Technique	.63*	.57*	-		
Therapeutic Modalities & Techniques	.65*	.58*	.55*		
Total	.90*	.80*	.82*	.81*	

\* p<.001

#### Table 3

Correlations Between the Written Subareas and the Oral-Practical Section of the NATA Certification Examination (N = 804)

Written Subareas	Oral-Practical Measure		
Basic Science	.26*		
Applied Science	.25*		
Theory & Technique	.30*		
Therapeutic Modalities & Techniques	.22*		
Total Written	.31*		

\*p<.001

A look at the accomplishments of the Professional Education Committee during the same period also illustrates how far we have come in upgrading professional standards for athletic trainers. As of March, 1978, there are 46 colleges and universities currently offering NATA approved curricula in the field of athletic training on the undergraduate level. One of these, Indiana State, the pioneer, also offers graduate level courses. The Universities of North Carolina, Arizona, Virginia, and Oregon offer approved graduate level courses exclusively. Many other educational programs are currently up for approval, and just recently programs for high school faculty members in athletic training have been approved in Chicago, Illinois and in the State of North Carolina.

A total of 1501 candidates have voluntarily taken the NATA certification examination at the end of 1977. Of these, 1365 passed it for a passing percentage rate of 91%. A number of failing candidates have been successfully reexamined and others have failed repeatedly to meet the high standards of the certification board. Those individuals should not be embarrassed by this failure since certification is recognition only of the highest level of competance in this field.

For those non-certified athletic trainers, the Associate Membership category now has higher admission standards than the Certified category did 10 years ago. As Associate Members, those individuals should be respected and be encouraged to participate in the many rewarding educational and professional opportunities within the profession.

How far have we come? A long way it seems. Has the NATA arrived now? New pride and unity of purpose certainly is evident within the Association. The recognition is increasingly evident among professional, collegiate, and especially recognition is increasingly evident among professional, collegiate, and especially among high school level employers, but there is always someplace to go in the certification process. The continuing education program is just now beginning to swing into operation, and there are recertification aspects to explore. New examination methods and more stringent passing standards are constantly being considered. State licensure on a national basis is slowly but surely becoming a reality. Changes are occuring consistantly.

Some things do remain the same. In 1977, a New York baseball team won the series and Michigan again went to the Rose Bowl after defeating Ohio State, and again failed to bring home the winner's trophy.

![](_page_36_Figure_13.jpeg)

#### abstracts

"Retinal Detachment Following Hockey Injury," Antaki, S., Labelle, P., and Dumas, J. Canadian Medical Association Journal, Vol. 117, Aug. 6, 1977, Pg. 245-6.

Thirty-three cases of retinal detachment following hockey injury were seen during a 15-year period at the retina clinic of Maisonneuve-Rosemont Hospital, Montreal.

Preoperative investigation included the careful taking of the ocular history, measurement of visual acuity and refractive error, biomicroscopy of the anterior and posterior segments, tonometry, and detailed study of the fundus with the binocular indirect ophthalmoscope. Special attention was directed to the history of contusion, the immediate signs of the injury, and the associated ocular findings. The loss of central vision was, in most cases, the symptom that prompted attendance at the retina clinic.

According to the histories the average age at the time of injury was 18 years. The mean interval between injury and examination was 3 years with the shortest being a few days and the longest 29 years.

Thirty of the 33 were able to undergo surgery with 29 being successfully reattached. In 8 cases, visual acuity was better than 20/200 before surgery. Following surgery 19 of the patients were 20/200 or better, which left 11 of the 30 legally blind. Since the visual acuity after surgery is directly related to the duration of the detachment, the authors felt the length of time between injury and examination of these case histories was significant in the surgical results. The location of the detachment and its slow progression, the youth and reluctance to seek attention, and the normal status of the other eye were blamed for the lack of prompt attention.

The authors strongly suggest the use of a helmet with protective face visor as prevention for retinal detachments.

Gary Lake

Maroon, Joseph, M.D., "A System for Preventing Athletic Neck Injuries," *The Physician and Sportsmedicine* 5: 76-79, October, 1977.

Head and neck, ie., spinal cord, injuries as a result of football are of great concern. Perhaps one of the best ways of perventing serious injuries to these areas is through proper conditioning of the neck musculature. Isotonic exercises were found preferable over isometric for motivational, endurance, and strength factors. Movements such as flexion, extension, right and left lateral rotation, and right and left lateral flexion can be utilized in isotonic strengthening of the neck muscles. Three different commercial equipment setups were reviewed for usefulness in this area. The one found best was a system that consisted of a harness attached to a cord that is mounted on a wall and fixed on a base. At the end of the cord is a device to hold any desired number of weights used with a standard barbell. The low cost, fifty dollars, and ease of construction should not make it prohibitive to most athletic programs. Preliminary study and team testing of this system seems to indicate positive results with high coach and athlete acceptance.

Jeanne Louisie Macias

Mullick, F., Drake, R., and Irey, N., "Morphologic Changes in Adverse Drug Reactions in Infants and Children;" *Human Pathology:* Vol. 8, no. 4, July 1977.

A study was undertaken of 200 cases of adverse prescribed drug reactions resulting in death in the pediatric age group (up to 14 years of age), to note morphologic changes in a wide variety of body sites. Variations within organs include inflamation, degeneration and inhypoplasia, hyperlasia, filtration. necrosis, and vascular abnormalities hemorrhage, (including edema. thrombosis, and infaraction). Tissues affected included various portions of the gastrointestinal tract, brain spinal cord, optic nerve, liver, kidney, bone marrow, lung, heart, skeletal muscle, thyroid, and gingiva. The most commonly affected organ was the liver, and the most commonly affecting medications were the antiinfective drugs. Most adverse reactions were not recognized, due to their mimicry of other illnesses.

Greg Vergamini

Ryan, Allen J., M.D., "On Field Diagnosis of Head Injuries," *The Physician and Sportsmedicine* Vol. 4, No. 4, April, 1976.

The head injury is one of the most common injuries seen on the sidelines, especially during football season. One should be on the alert at all times so that a careful eye may be kept on the players. Unconsciousness does not always precede a concussion, and an athlete with a mild concussion may not be aware of it. Through informed conversation with other players coming off the field, one may become aware of unusual behavior not noticed from the sidelines. At the next break in play, the athlete then has a chance to be looked at more carefully. One should begin by asking the player questions that will indicate the player's orientation to time and place. Even an athlete who appears to be active and alert may be quite confused and may not be able to tell you the score, what day it is, or who the opponent is. Comparing pupil size and the reaction to light may also be checked. If all seems normal, then the most important consideration is progressively increasing headache, which may occur immediately or from five to ten minutes after the incidence. One must stay close to the athlete so that he can be asked about headaches. Then, the physician must

![](_page_37_Picture_16.jpeg)

![](_page_38_Picture_0.jpeg)

decide whether or not to allow the player to return to action. After the game, the physician may more completely examine the athlete and may send him to a hospital for the night where the athlete can be closely watched. After how many concussions can an athlete receive, and still be allowed back into a contact sport? This question, as the author suggested, is totally up to the physician, and should be answered not by how many, but by how severe the previous concussions have been. Since head injuries are common place in sports, the author concludes, we should direct our utmost attention and care toward them.

**Robert Pottratz** 

Floriani, Lawrence P., M.D., "Ankle Injury Mechanism and Treatment Guides," *The Physician and Sports Medicine*, September, 1976.

The ankle is a hinged joint that normally moves in plantar flexion and dorsi flexion with some inversion and eversion. Stability of the ankle is gained by the tibio fibular, lateral collateral, and deltoid ligaments. Dynamic support of the ankle is given by the flexor and extensor muscle tendons.

Injuries result when forces tend to act against supporting forces supplied by the ligaments and tendons. Mechanisms of injury can include a direct blow, cutting, twisting. producing inversion and eversion. jumping and powerful pushing and driving forces. Injuries most commonly received by athletes as outlined by the author are as follows: 1. contusions; 2. muscle strain and tendonitis; 3. injuries to the lateral collateral; 4. injuries to the tibiofibular ligaments; 5. tears of the Achilles tendon; 6. synovitis. Although Dr. Floriani outlines specific treatments for each of the injuries he makes these following general conclusions: 1. for stable sprains (first and second degree) partial weight bearing, protective taping, and early therapy treatment are the normal routine; 2. the use of casts for unstable sprains (those sprains of the third degree) immobilizing them for up to six weeks; 3. cases treated later than 10 days are prone to complications.

Treatment of complete tears of the Achilles tendon is usually surgical repair with immobilization for up to eight weeks. Partial tears of the Achilles tendon may be treated with walking casts with the foot in plantar flexion. Irritation to the synovial membrane is usually secondary and should be treated by rest and physical therapy.

Thomas G. Olson

Oliver, Robert A. and Johnson, Dewayne J., "The Effect of Cold Water Baths on Posttreatment Leg Strength," *The Physician and Sportsmedicine* 67-69, November, 1976.

Increased athletic participating has generated research on methods for improving performance. But little has been done on the general and extended effects of cold in athletic performance. Previous studies indicated that application of cold to the body causes peripheral venous constriction, decreased peripheral blood flow and increased venous pressure in the areas directly influenced by the cold. Also, that the manual dexterity of muscles during exposure to the cold decreases as the temperature of the hand reaches 10°C and latent time was elongated and contraction and relaxation times were increased in muscle twitch curves at temperatures 21°C. The study featured in this article used 17 subjects, 3 men and 14 women between the ages of 16 and 23, who participated in two testing sessions; once with treatments and once without. Treatment consisted of standing in cold water of 10 - 13º C for 30 minutes. The water level was half way between the tip of the patella and the crest of the ilium. Each subject was tested for leg strength with a log dynamometer a total of 11 times during each testing session. The 11 measures were taken immediately before and immediately after the 30 minute treatment periods and every 20 minutes for three hours after treatment. Data were analyzed with an analysis of variance technique for repeated measures. In conclusion, it was theorized that the action potential of muscles decreases immediately after treatment and that there is a compensatory phenomenon that causes an increase in strength; possibly due to the increased blood flow to deep muscle caused by restriction of peripheral blood flow after treatment and suppression, by cold. of inhibitory factors that set the upper limits of maximal muscle voluntary contractions of the body. It was also concluded that cold delayed the onset of fatigue. Repeated performances have also been improved with the use of cold bath treatments.

Elana Albert

![](_page_38_Picture_12.jpeg)

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![](_page_38_Picture_22.jpeg)

## The 1977 NATA Membership Status Survey

The membership status survey has been conducted in the past few years to provide information that various elements of the association could use for planning purposes. There have been five surveys in the last six years. The purpose of this article is twofold. (1) provide the membership with the results of the 1977 survey and (2) compare the 1973 and 1977 survey results to determine the extent of changes that have occurred.

The results of the 1977 survey appear at the end of the article. The percentage of returned questionnaires was the highest of any previous survey. There was a 60.1% return overall with a 72.9% return from the certified members and a 37.2% return from associate members. The cooperation of the membership is to be applauded.

There has been a 64% increase in total membership with a 78% increase in certified members and a 53% increase in associate members.

#### Table I NATA Five Year Growth Certified and Associate Membership

	1973	1977	% change
Membership:	1308	2198	+ 64%
certified	792	1407	+ 78%
associate	516	791	+ 53%
Route to certification			
grandfather	51	29	-43%
apprenticeship	8	23	+ 188%
Ed. program	2	16	+ 700%
P.T.	3	7	+ 133%
Special consider	5	7	+ 40%
Sex:			
Male	99	90	-100%
Female	1	10	+ 900%
Level of employment.			
High school	96	90	1904
College	50	29	+ 12%
Professional	09	00	-07%
Tiolessional	0	0	-25%
Position:			
Head trainer	81	76	-06%
Assistant trainer	14	17	+ 21%
Employment terms:			
9 months	20	22	+ 10%
10 months	27	29	+ 07%
12 months	42	39	-07%
Experience as a trainer:			
less than 2 years experience	8	15	+ 88%
2-5 years experience	26	27	+04%
5-10 years experience	27	21	-22%
10-15 years experience	34	13	-62%
more than 15 years experience	not known	18	
Educational preparation:			
Nodegree	8	6	-25%
BS-BA	31	38	+ 23%
MS-MA	48	51	+0.7%
PhD-EdD	2	2	0%
Years experience as student train	ler.		
less than 2 years	27	22	150%
3 years	16	18	+ 130%
4 years	14	18	+ 10%
5 years	30	21	+ 22%
none	not known	15	-30 %
	noo know n	10	

#### Table I (cont.) NATA Five year Growth Certified and Associate Membership

		1973	1977	%Change
Allied medical prepa	ration:			
Р.Т.		20	18	-10%
Undergrad. major:				
HPE		62	63	+02%
Science		7	7	0%
Ed.		6	4	-33%
other		11	9	-18%
more than one	not known		12	
Required to teach:		55	53	-04%
Immediate supervis	or:			
MD		14	8	-43%
AD		55	53	-04%
Dean		7	9	+ 29%
Coach		6	2	-66%
Combination		13	20	+ 54%

The routes to certification have changed in population. Graduates of approved programs have increased 700%. Apprenticeship increased 188% and is still the most popular new route to certification, 23% of total. Those trainers who were certified by the grandfather clause comprise 29% of the membership.

There has been a 10% decrease in male athletic trainers and a 900% increase in female. Most of the female population growth is in the college level of employment.

![](_page_40_Picture_4.jpeg)

#### Table II NATA Five Year Growth Female Athletic Trainers

	1973%	1977%	% change
Membership:			
Certified	1	11	+ 1000%
Associate	2	7	+ 250%
Level of Employment:			
high school	1	6	+ 500%
college	1	14	+ 1300%
professional	0	1	

There has been a 12% increase in members employed at the high school level. Assistant trainers account for 21% more of the membership. Employment for nine or ten months is becoming more common.

The membership now has 42% of its total with five or less years of experience as full time trainers. Fifteen percent of the members have less than two years experience.

Over one half of the membership have a masters' degree (51%). This has shown a slight increase, 7%, since 1973. The number of members with no degree continues to decline (25%) and in 1977 represents only 6% of the total membership.

![](_page_40_Picture_10.jpeg)

There is much more even spread in 1977 than 1973 concerning the number of years experience as a student trainer. The apprenticeship route requires 1800 hrs. and the approved education program 600 hrs. of clinical experience. In most cases the 1800 hrs. takes 3 yrs. and the 600 hrs. two years. Forty-one percent of the membership have had three years or less experience as a student trainer. The percentage of physical therapists has decreased by 10%. The most popular undergraduate major is still Health & Physical Education. In spite of the fact that it is becoming increasingly difficult to place new graduates in H. & P.E. positions, students still seek this combination. There has been a slight decrease in the number of members required to teach (4%). The fact that almost half of the membership (47%) is not required to teach at all is food for thought concerning the direction that preparation programs for athletic training should take in the future.

More than one supervisor is becoming more common (+54%), although it only accounts for 20% of the membership. Supervision by the athletic director or general manager is still the most common arrangement (53%). The presence of the coach or physician as supervisors is decreasing.

Salary has increased for the members at each level of employment. The salary ranges were different for the 1973 and 1977 survey, however, some comparisons can be made. (See table III) In 1973, 50% of the high school trainers had salaries in excess of \$10,000 and 51% in excess of \$11,000 in 1977. At the college level 68% had salaries in excess of \$10,000 in 1973 and 67% in excess of \$11,000 in 1977. Professional sports trainers had 69% of the members earning salaries in excess of \$10,000 in 1973 and 76% in excess of \$11,000 in 1977.

> Table III NATA Five Year Growth Base Salary 1973-1977

	1973%		1977%
High school trainers			
less than \$8500	20	less than \$9000	19
\$8500-\$10,000	23	\$9000-\$11,000	23
\$10,000-\$13,000	28	\$11,000-\$15,000	32
\$13,000-\$16,000	16	\$15,000-\$19,000	14
over \$16,000	6	over \$19,000	5
College trainers:			
less than \$8500	12	less than \$9000	12
\$8500-\$10,000	18	\$9000-\$11,000	19
\$10,000-\$13,000	40	\$11,000-\$15,000	36
\$13,000-\$16,000	20	\$15,000-\$19,000	23
over \$16,000	8	over \$19,000	8
Professional trainers:			
less than \$8500	12	less than \$9000	10
\$8500	19	\$9000-\$11,000	8
\$10,000-\$13,000	14	\$11,000-\$15,000	13
\$13,000-\$16,000	24	\$15,000-\$19,000	27
over \$16,000	31	over \$19,000	36

Several of the standing committees have used the results of each year's surveys to good advantage. Comments and requests for copies of the survey by members have indicated a need for future surveys. The analysis of past surveys has been abreviated when compared to the interrelationships possible with computer systems. Future surveys will be conducted as part of the membership renewal process. A more detailed analysis will be conducted because a computer system will be used to handle billing and analysis of surveys. Thank you for your cooperation.

#### 1977 NATA Membership Survey

total members 2198 (1407 certified) (791 associate) return 1321 (1026 certified) (295 associate) % return 60.1 (72.9% certified) (37.2% associate)

Column Key							
B certified membership							
D female trainer							
E high school trainer							
G professional trainer							
question	٨	в	С	allexpre	ssed in %	6 of total	G
a. certified	77.3	100	0	82.4	61.6	86.2	78.2
b. associate	22.2	0	100	14.9	37.9	13.2	21.8
2. Route to certification							
a. grandfather	29.1	37.2	0	4.1	27.1	33.8	44.9
b. grad. of approved Ed. prog	15.7	19.4	0	37.8	30.9	14.6	5.1
c. apprenticeship	23.0	27.9	0	37.8	29.2	26.3	17.9
d. physical therapy	7.2	8.5	0	10.8	0.1	8.8	5.1
e. special consideration	7.2	6.9	0	1.4	10.1	6.3	6.4
3. Sex of member							
a. female	10.0	10.8	7.1	100	5.7	13.6	1.3
0. mare	09.0	05.1	54.4	0	50.1	00.2	50.1
4. Location of position			10.0		100		
a, high school	28.7	18.4	48.6	100	100	100	0
c. professional	6.1	4.8	6.1	0	0	0	100
d. private practice	2.3	1.3	4.4	0	0	0	0
e. more than one	5.4	4.2	5.8	0	0	0	0
5. Staff level							
a. head trainer	76.0	62.5	79.6	44.6	90.9	70.9	82.1
b. assistant trainer	11.0	15.1	14.0	50.0	0.2	20.0	17.9
6. Status of employment							
a. full time trainer	73.9	62.5	59.2 17.3	78.4	63.2 20.6	87.3	87.2
c. trainer outside of educ.	6.2	4.5	7.8	4.1	3.7	2.5	6.4
d. no full time job, trainer	5.5	3.5	9.5	4.1	6.3	3.9	2.6
e. unemployed	1.9	1.6	1.4	2.7	10.3	0.7	2.6
7 m							
a. 9 mos.	21.9	17.6	23.1	32.4	24.5	22.9	12.8
b. 10 mos.	29.2	23.2	32.0	35.1	50.9	25.0	1.3
c. 12 mos.	38.8	33.5	31.0	24.3	17.0	46.7	65.4
d. other	5.4	3.6	8.5	4.1	5.0	2.5	12.8
e. more than one	0.1	1.5	2.0	U	0.5	0.4	1.0
8. Salary range			07.0	10.0			
a. less than \$9,000 b. \$9000-\$11000	15.1	9.6	27.6	18.9	19.1	12.4	10.3
c. \$11000-\$15000	30.7	25.6	29.6	36.5	32.1	35.7	12.8
d. \$15,000-\$19,000	19.4	17.8	11.9	6.8	14.1	22.3	26.9
e. over \$19,000	10.6	10.1	4.8	1.4	5.2	7.5	35.9
9. Total income range							
a. less than \$11,000	20.1	14.8	27.9	41.9	23.8	19.3	12.8
6. \$11,000-\$15,000 c \$15,000-\$19,000	32.5	26.4	34.4	45.9	40.5	35.0	10.3
d. \$19,000-\$23,000	11.8	10.4	8.8	2.7	6.8	11.4	26.9
e. over \$23,000	8.5	8.0	4.1	1.4	4.4	6.5	19.2
10. Years experience as a full time athletic trainer							
a. less than 2 years	14.7	15.4	16.3	36.5	17.8	14.5	5.1
b. 2-5 c. 5-10	26.9	26.3	36.1	47.3	32.6	26.1	16.7
d. 10-15	12.7	15.6	6.8	9.5	7.3	14.3	17.9
e. over 15	17.5	22.9	4.4	2.7	13.6	18.9	30.8
11. Educational preparation							
a. no degree	5.7	3.5	10.2	0	4.7	5.6	11.5
b. BS or BA	37.9	27.3	51.7	24.3	46.2	31.6	43.6
d. PhD or EdD	2.3	44.6	34.0 7	68.9 5.4	45.7	56.6	35.9
					5.0	5.0	5

			allexpress	sed in %	o of total		1
question	Α	В	С	D	E	F	G
12. Years experience as a stud	ent trai	ner					
a. 2 yrs. or less	23.0	18.0	25.9	51.4	15.7	25.7	26.9
b. 3 yrs.	18.1	15.4	15.0	17.6	17.5	17.5	21.8
c. 4 yrs.	18.3	16.6	10.9	8.1	14.6	21.1	14.1
d. 5 yrs or more	21.2	17.0	21.8	4.1	27.2	19.7	20.5
e. none	15.1	10.9	21.1	18.9	20.1	12.9	1.1
19 Allied educational propage	tion						
a physical therapy	17.8	51.0	11.9	18.9	6.0	19.1	23.1
h. chiropractor	8	02.2	3	0	0.5	4	1.3
c. podiatrist	.2	00.5	0	Ő	0	.1	0
d. nurse	.8	01.3	2.0	0	1.0	.7	0
e. emergency medical							
technician	18.1	44.9	21.4	14.9	22.2	16.3	12.8
14. Undergraduate major							
a. health and/or physical ed	. 62.8	70.4	52.0	77.0	61.1	65.6	66.7
b. science	6.6	07.0	6.8	6.8	5.2	7.5	5.1
c. education	3.8	02.7	8.2	1.4	5.7	2.2	3.8
d. other	8.7	08.6	9.5	8.1	6.3	10.0	3.8
e. more than one	11.7	11.2	15.6	5.4	15.1	8.9	3.8
15 Teaching status							
a required to teach	53.4	57.8	55.4	45.9	75 7	50.9	0
b. not required to teach	38.5	42.2	38.4	51 4	20.1	45.1	U
or not required to teach	00.0	10.0	00.4	01.4	20.1	40.1	
16. Compensation for teaching							
a. no extra pay for teaching	22.9	52.0	20.1	31.1	19.8	28.5	2.6
b. extra pay for teaching	21.0	48.0	18.0	16.2	24.8	21.0	5.1
17. Compensation for athletic	training	; if					
teaching is primary ass	ignmen	t					
a. no extra pay for athletic							
training	17.2	44.7	19.7	21.6	13.6	20.9	0
b. extra pay for athletic							
training	23.9	55.3	36.4	5.4	66.8	6.0	0
18. Compensation for teaching	if it is e	extra					-
a. 0-\$500	5.6	22.8	6.8	12.2	7.3	4.9	0
D. \$500-\$1000	4.9	23.6	3.1	9.5	2.9	7.1	0
c. \$1000-\$1500	3.2	16.0	1.7	2.7	2.6	4.3	2.6
a. \$1500-\$2000	1.5	06.3	1.7	0	2.3	1.1	0
e. \$2000 or above	1.4	31.2	8.2	1.4	11.7	5.3	1.3
19 Componention for athlatic	maining						
a 0.\$1000	10 /	28 2	99 g	10.9	99.5	57	0
h \$1000.\$1500	6.0	20.0	22.0	10.0	19 5	0.1	0
c \$1500-\$2000	5.0	10 1	6.1	1.4	14.1	.0	1 2
d \$2000-\$2500	3.5	19.1	5.4	1.4	14.1	1.0	1.5
e \$2500 and above	4.4	18.7	37	1.4	0.7	21	0
c. #1000 and above	1.1	10.1	0.1	U	0.1	2.4	0
20. Does your employer carry	malpra	ctice insu	rance on v	vou			
a. yes	43.0	48.4	35.0	56.8	33.4	49.4	47.4
21. Do you carry malpractice i	nsuranc	e?					
a. yes	32.3	32.4	27.2	29.7	29.5	30.3	48.7
22. Does your employer carry	liability	insuran	ce on you				
a. yes	69.3	74.9	67.7	83.8	65.8	73.4	71.8
09 D							
23. Do you carry liability insur	ance						
a. yes	43.1	46.0	42.5	33.8	48.8	39.6	43.6
24 Who is your immediate au	anvisor						
a physician or health	Dervisor						
a. physician of health	70	00.1	65	0 1	0.1	0.9	0.0
h athletic director or	1.9	09.1	0.0	0.1	2.1	9.3	2.6
general manager	52.8	58 1	51 7	54.1	50.0	56.9	64.1
c. dean of college, school	02.0	00.1	01.1	04.1	00.0	00.2	04.1
or department	9.4	10.0	10.2	13.5	8.6	10.3	0
d. coach of sport	1.7	01.1	3.4	0	3.1	3	9.0
e. combination of two		01.1	0.1	v	0.1	.0	5.0
ormore	20.1	21.6	21.1	17.6	24.0	19.2	21.8
				11.0	51.0	10.0	21.0
25. Number of college student	s prepa	ring to ta	ake certifi	cation e	xam		
a. 1-3	24.8	52.5	19.0	37.8	0	42.6	0
b. 4-6	9.9	24.5	2.4	13.5	0	17.7	0
c. 7-10	4.1	09.8	1.4	4.1	0	7.4	0
d. 11-13	1.7	04.3	0	2.7	0	2.8	0
e. 14 or more	3.6	08.8	1.0	10.8	0	6.7	0
26. Size of full time staff (cert.	or asso	e.)					
a. 1	31.0			20.3	34.7	31.8	19.2
b. 2	13.6			23.0	5.2	18.4	28.2
c. 3	9.1			14.9	1.0	14.3	5.1
d. 4	6.2			6.8	1.3	10.2	2.6
e. 5 or more	7.7			16.2	3.1	12.1	0

![](_page_41_Picture_5.jpeg)

![](_page_41_Picture_6.jpeg)

![](_page_42_Picture_0.jpeg)

![](_page_42_Picture_1.jpeg)

9
Chattanooga Pharmacal Co
Cramer Products C-4
Dakon
Econoline Products
Electro Med Health Industries, Inc
Jenkins Hot Seat
Jobst
Johnson & Johnson
Kwik-Kare Products
Lumex
Mueller Chemical
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#### When your athletes need a greaseless, extra-strength counterirritant

greaseless-stainless

analgesic cream

NET WT. 3 OZ.

sports\*ru

sports\*r

treaseless-stainless

Cramer's new Sports Rub™ extra-strength counterirritant cream vanishes when massaged into the skin, leaving no greasy residue to stain the athlete's clothing. It can be worn day or night, in class, at rest, or while active.

Cramer Sports Rub cream is pleasantly mentholated to rub on cool and stay in warm. Its dual active ingredients produce a longlasting warm afterglow, which helps to relax tense, aching muscles.

Cramer Sports Rub cream is useful also as an aid to muscular warmup before an athletic event, particularly in cool, damp weather.

Cramer Sports Rub™ counterirritant cream comes in two sizes: a three-ounce tube and an economy-size one-pound jar.

![](_page_43_Picture_7.jpeg)

Order Cramer Sports Rub™ Cream from your Local Sporting Goods Dealer.