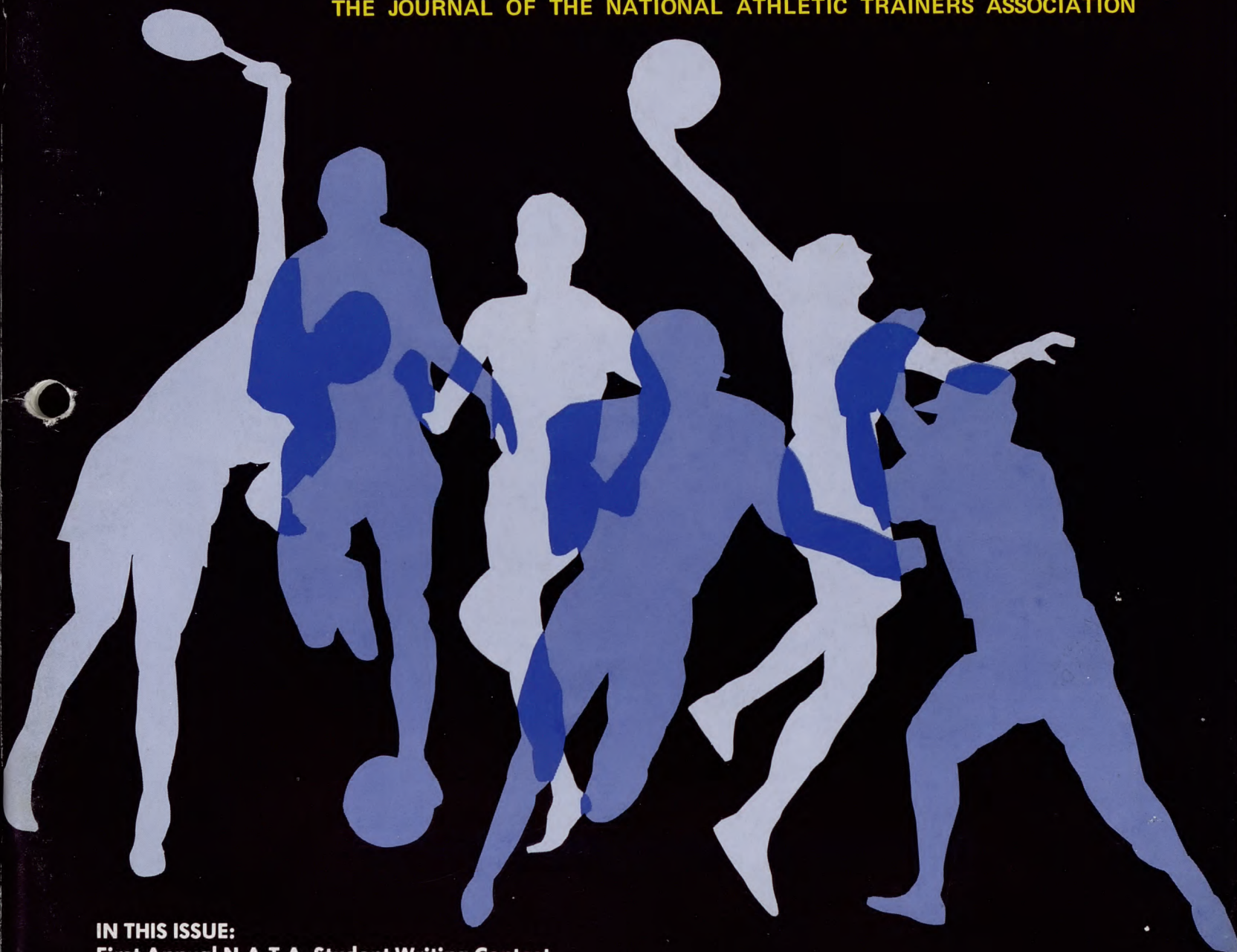




# ATHLETIC TRAINING

THE JOURNAL OF THE NATIONAL ATHLETIC TRAINERS ASSOCIATION



**IN THIS ISSUE:**

First Annual N.A.T.A. Student Writing Contest

Schering Symposium: Functional Anatomy  
and Biomechanics of the Knee

Therapeutic Exercises in Athletic Training

Equal but Separate — Ensuring Safety in Athletics

TENS for the Treatment of Football Injuries

Ankle Taping: An Alternative to the Basketweave

Proceedings of the National Athletic Trainers Association

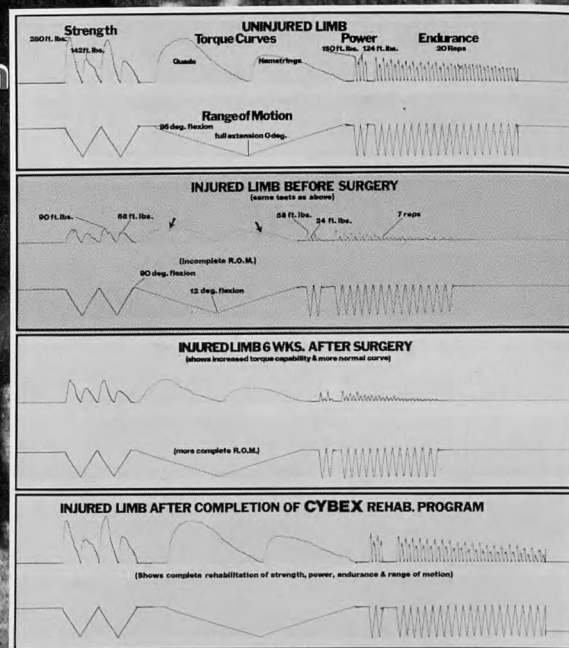
**VOLUME 13  
NUMBER 3  
FALL 1978**



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# ATHLETIC TRAINING

THE JOURNAL OF  
THE NATIONAL ATHLETIC TRAINERS ASSOCIATION

VOLUME 13

NUMBER 3

FALL 1978

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Rod Compton  
Sports Medicine Division  
East Carolina University  
Greenville, North Carolina 27834  
Telephone: 919-757-6426

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Fullerton Junior College  
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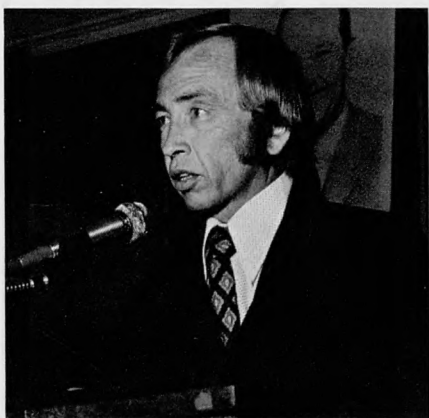
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## FROM THE PRESIDENT



Dear N.A.T.A. Members:

I want to thank Frank George for his 4 years of service to our association. We have grown and made noticeable progress in many areas due to Frank's leadership.

One of the most important things that happened in Las Vegas was our meeting with the American Physical Therapy Association. Several N.A.T.A. Officers and members met with a like group from the A.P.T.A. to discuss mutual problems and concerns. It was a very informative and productive meeting.

Since the initial meeting in Las Vegas I have been in contact with representatives of the A.P.T.A. Through joint cooperation the N.A.T.A. and the A.P.T.A. have set up a mechanism to have dialogue to resolve some of the areas of concern. This will take place in Pittsburgh this summer.

Because of our joint cooperation with the A.P.T.A., and while we resolve particular areas of concern, I am asking for a moratorium on new efforts toward licensure. This will not compromise our associations' push for state licensure, but should remove some of the hurdles on the path to licensure. I realize some state organizations may be irreversibly committed to a particular course of action on this legislation. If that is the case then you must proceed accordingly. I hope each member will cooperate with this request. Your Board, Executive Director, and President feel that it is a means to an end.

Sincerely,

William H. Chambers  
President

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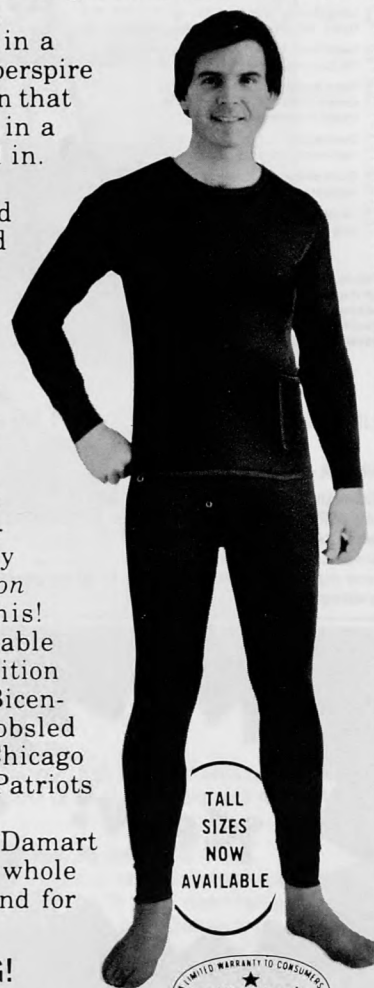
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**to the editor**

*Dear Editor:*

Enclosed please find a picture that I took at the 1978 Trainer's Convention in Las Vegas. I have had numerous compliments on it and



thought you might like to use it in your next Journal publication.

The Convention in my opinion was extremely well planned and due to the fact that I was able to meet many other Trainers and other important people, I feel that this convention will have been a definite aid in my task of finding a training position in January when I graduate.

**THANK YOU**

Ronald E. Eagle  
Student Trainer  
Golden West College  
Westminster Ca.

*Dear Editor:*

At the present time I am a graduate student at California State University, Fresno, California. I

hold a bachelors degree in physical education having graduated with honors. I am currently in my third year as a student trainer. I am studying advanced anatomy and applied kinesiology through the physical therapy program and I will be taking the N.A.T.A. certification examination in June.

During the past three years I have seen many different methods of taping the ankle for prevention of inversion, by both collegiate and professional football trainers (I work for the San Francisco Forty Niners during the summer). All of these methods of ankle taping have the foot dorsiflexed to approximately 90 degrees. There are anatomical and kinesiological reasons why this method is incorrect.

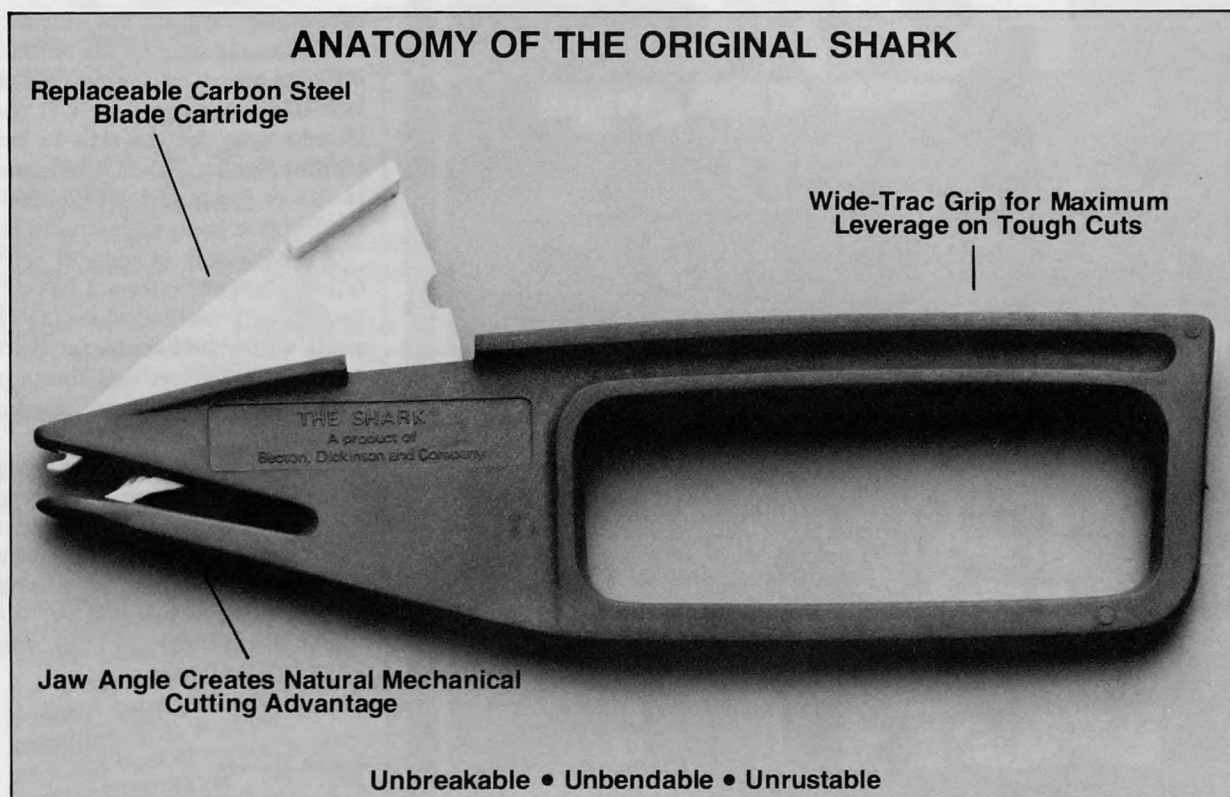
1) In human anatomy a joint with great mobility lacks stability. Evidence of this is the shoulder joint. The ankle can be considered two joints in one, in reference to inversion and eversion. First the fit of the talus into the mortice of the tibia and fibula with the foot at 90 degrees is very good and almost eliminates inversion. Secondly when the foot is plantar flexed the talus and mortice do not fit well. This allows a good deal of inversion, thus the ankle is more susceptible to an inversion sprain.

2) The ligaments on the lateral side of the ankle are the anterior talofibular ligament, calcaneofibular ligament, and the posterior talofibular ligament. It is the anterior talofibular ligament that is damaged most often during inversion sprains. For this reason a tape job should attempt to reinforce

*Continued on page 102*



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*Continued from page 100*

this ligament. However, if the ankle is taped with the foot dorsi flexed it serves to reinforce the calcaneofibular not the anterior talofibular ligament.

3) For a tape job to effectively reduce the chance of an inversion sprain it must limit the amount of inversion possible at the ankle. To limit inversion by taping the ankle with the foot dorsi flexed, it would be necessary for the tape to limit plantar flexion. Since it is impossible to run or jump without plantar flexing this is an undesirable goal.

With the help of some of my fellow student trainers I have developed a method of taping the ankle with the foot plantar flexed. This method effectively limits inversion and still permits plantar and dorsi flexion.

I feel you owe it to yourselves and your readers to investigate my claim to a more effective tape job by speaking to me and allowing me to demonstrate this method of ankle taping. I can be reached by telephone at (209) 487-1289 (work) or 439-2823 (home).

Sincerely,

Steve Hinton  
5511 North Cedar #152  
Fresno, CA 93710

*Dear Editor:*

I wish to compliment Mr. Fred Hoover, Mr. Bill Chambers, and their assistants for a fine annual meeting and symposium at Las Vegas. I especially want to commend the speakers for their professional presentations.

Unlike the previous annual meeting with its numerous bawdy slides and coarse jokes, the 1978 meeting was nearly devoid of such instances. Perhaps this is a response to the growing female membership in the NATA. I prefer to view it as an indication of the increasing professionalism of our organization. I hope the attitude of the Las Vegas speakers marks the beginning of a permanent trend that can be associated with the professional advancement of the athletic trainer and the NATA.

Sincerely,

Ms. Pat Buchanan, A.T.,C.  
Asheville, NC



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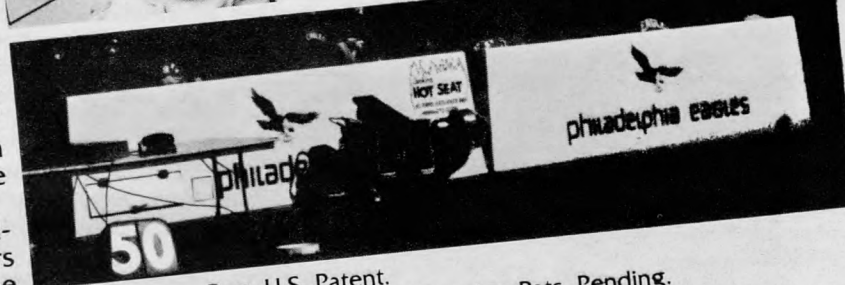
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## calendar of events

### OCTOBER, 1978

6-7 - CYBEX Isokinetics Workshop, The Sports Medicine Education Institute, Atlanta, Georgia. Contact Isokinetics Workshop, 20 Linden Avenue, N.E. - 400, Atlanta, Georgia 30308.

12-15 - American School Health Association will hold its 52nd Annual Convention and 8th Annual Exhibition at the Hyatt Regency Hotel, Dearborn, Michigan. Contact Thomas D. Foster, ASHA National Office, P. O. Box 708, Kent, Ohio 44240.

The University of California Office of Continuing Education in the Health Sciences, La Jolla, California is offering a 30 hour, two unit workshop in health education entitled "Fitness Education and Health Promotion." It will be held October 18-December 6, 1978 in San Diego, California.

Although open to all interested persons, the workshop is designed for health professionals with health education responsibilities and will focus on planning community and personal exercise programs.

For further information, contact Dr. David Sleet (instructor for the course) Department of Health Education, San Diego State University, San Diego CA 92182. For information on enrollment, contact The Office of Continuing Education in the Health Sciences, School of Medicine, UCSD, La Jolla CA 92093.

20-21 - CYBEX Isokinetic Seminar, Institute of Sports Medicine and Athletic Trauma, New York, New York. Contact CYBEX Isokinetic Seminar, 100 Spence Street, Bayshore, New York 11706.

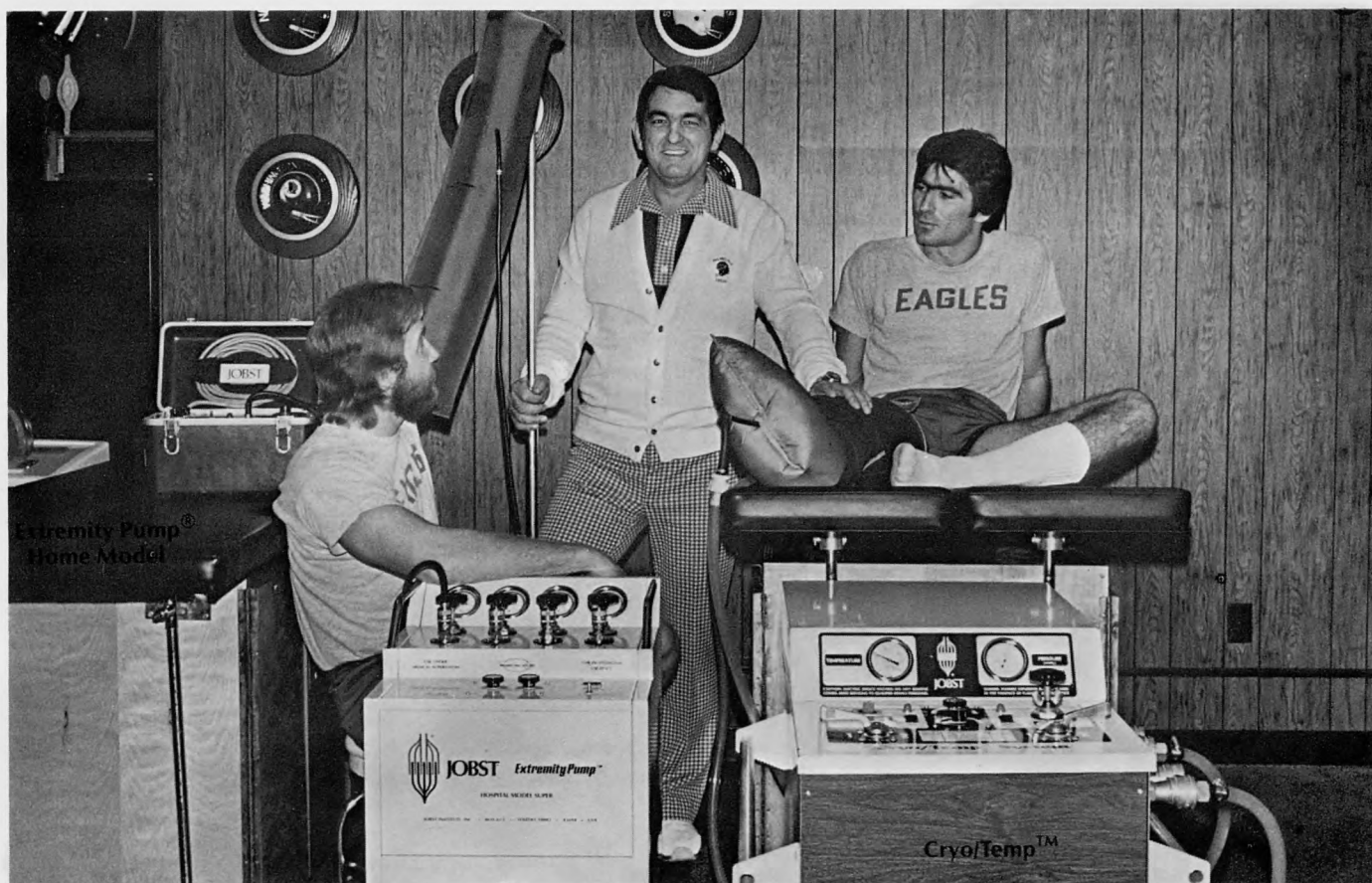
28-29 - San Francisco Medical Society's 8th Annual Sports Medicine Conference, San Francisco, California. Contact James M. Glick, M.D., Conference Chairman, Sports Medicine Conference, San Francisco Medical Society, 250 Masonic Avenue, San Francisco, California 94118.

### NOVEMBER, 1978

3-5 - Seminar in Sports Medicine, Onseyawa District of the American Physical Therapy Association, Canandaigua, New York. Contact Charles F. Moyer, P.T., A.T.C., Coordinator, 52 Granger Street, Canandaigua, New York 14424

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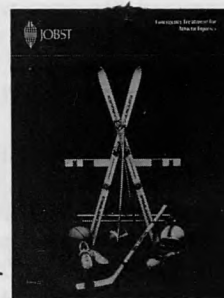
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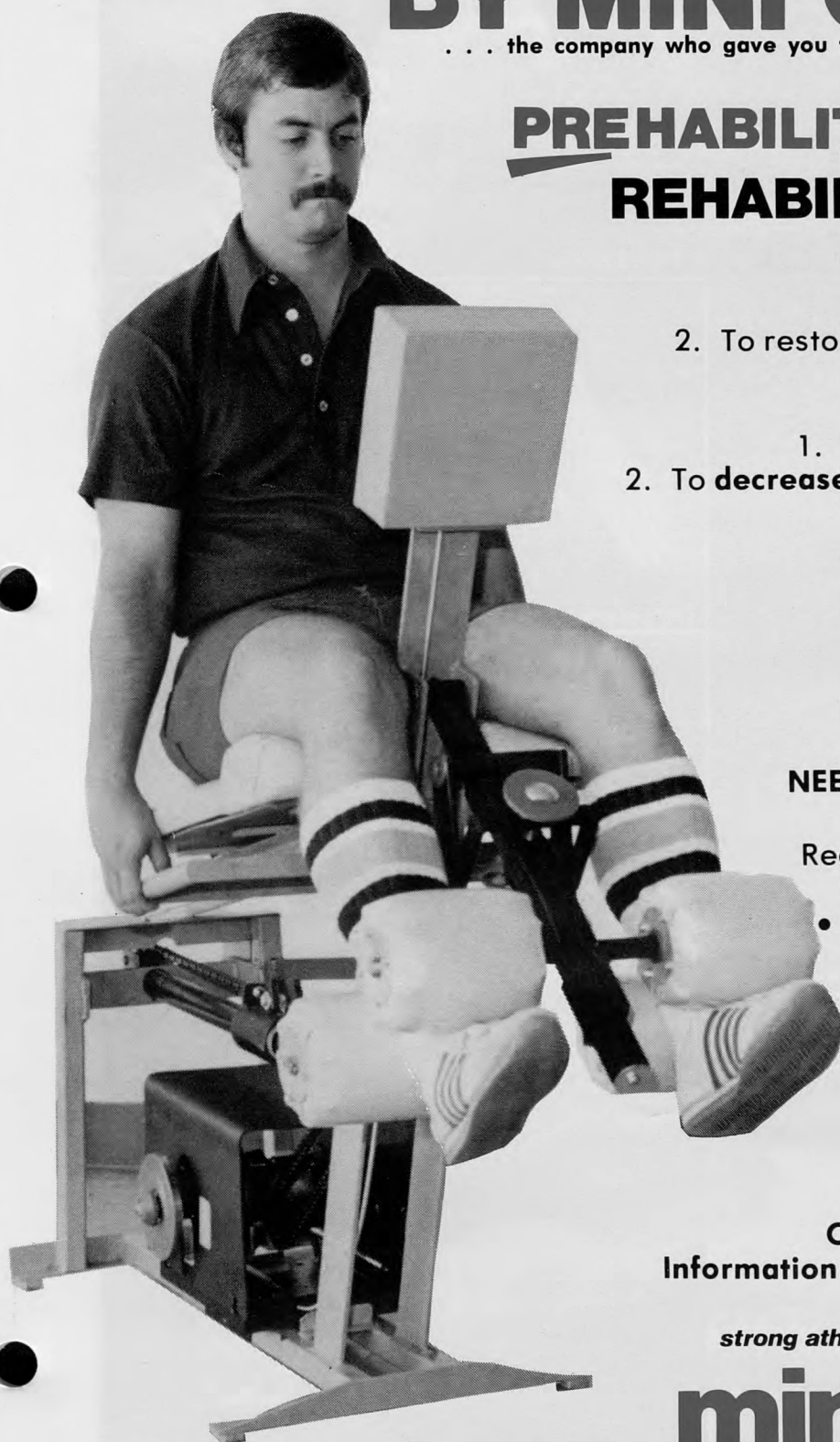
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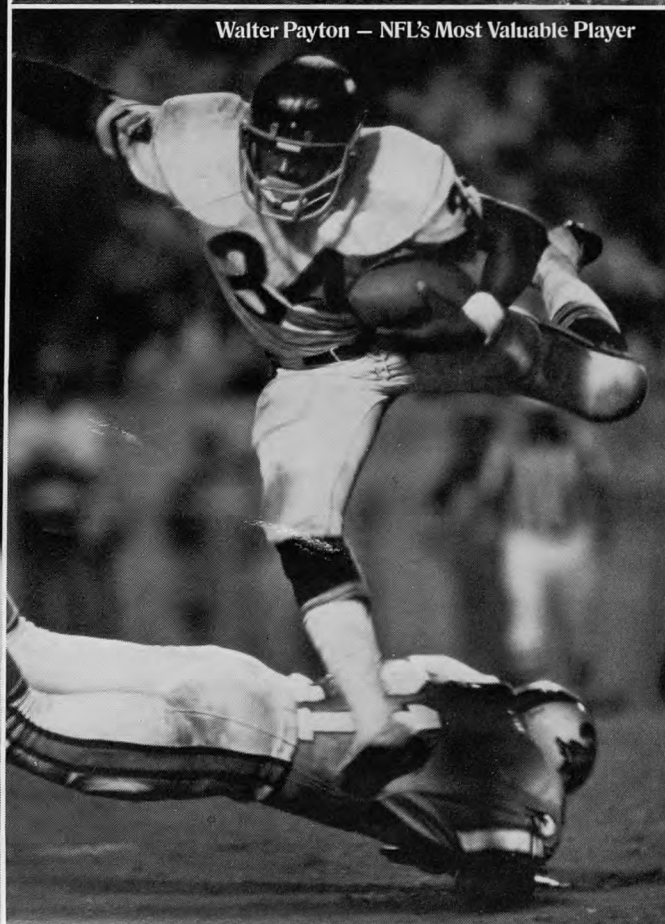
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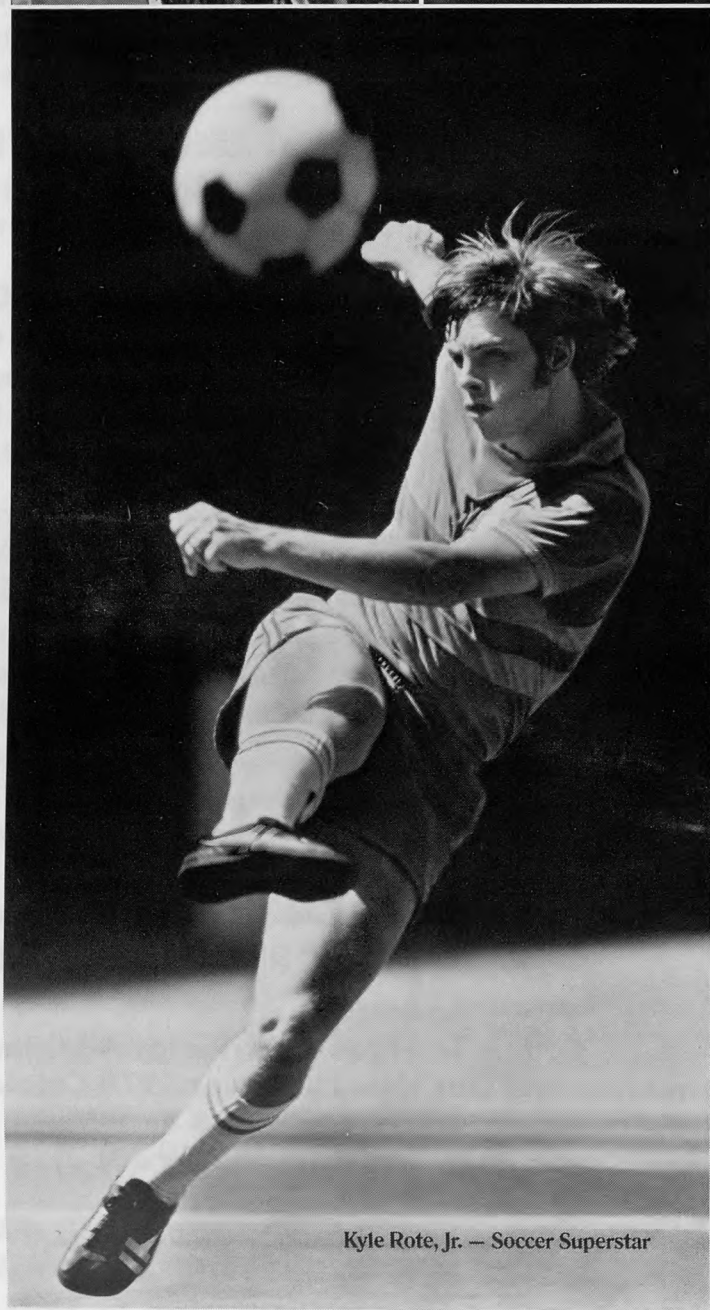
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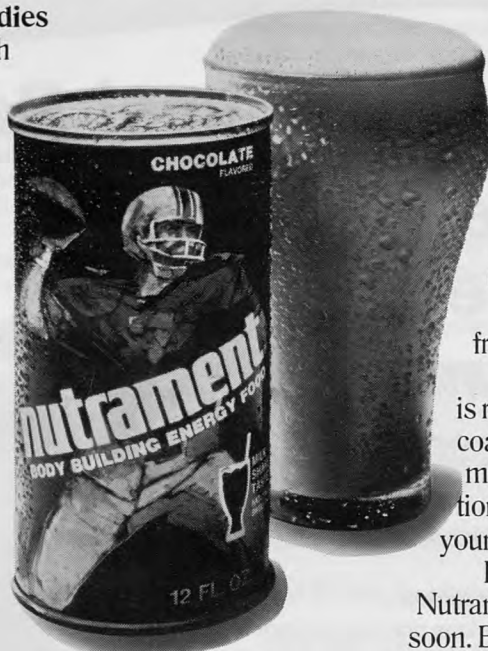
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In order to avoid confusion and delays for any contributions you have for the Journal the deadlines for various sections of the Journal are provided below.

Send any materials for any section of the Journal other than formal articles and "Calendar of Events" to:

Rod Compton, ATC  
Sports Medicine Division  
East Carolina University  
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This includes sections such as "Tips From the Field", "Announcements", "Case Studies", "Letters to the Editor", etc. The deadlines are:

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

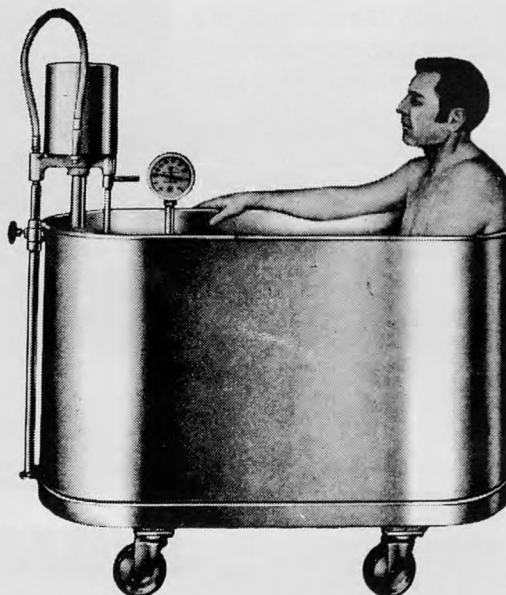
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## book reviews

### *Athletic Training: A Programmed Instructional Text*

By: Carey, R. J., Reinholtz, G. D.,  
Schrader, J. W., Smaha, M. J.  
Edited By: Richard L. Hoover  
List Price: \$14.95  
400 pages — Illustrated  
Beta Publishing Company  
2474 Dempster  
Des Plaines, Illinois 60016

This programmed text represents a self-teaching manual based upon the principles of repetition, review, quiz, and answer reinforcement. Designed for the student trainer, this comprehensive text is suitable for the student, coach, faculty member, or layman.

The ten unit volume defines basic terminology and develops principles and ideals, then examines them through further reinforcement. Each unit presents a set of general objectives which require the reader to learn specific objectives in the former set.

This text covers these areas:

- Ankle, Foot and Lower Leg
- The Knee, Thigh and Hip
- The Upper Extremity
- The Head and Spine
- Heat Disorders in Athletic Environments
- Special Athletic Injuries
- Protective Equipment
- The Training Room
- Nutrition in Athletics
- Taping, Wrapping, Bandaging and Splinting

This book is very thorough in its novel approach to athletic training as the authors have combined proper basic information with an instructional format that challenges the motivation of the reader.

This would make a good text for someone with an interest in athletic training but with little knowledge within the field of athletic training.

Dave Grossman, A.T.,C.  
Northwestern University

### *Ski Conditioning*

by Merle L. Foss and James G. Garrick  
List Price \$9.95  
179 Pages — illustrated  
John Wiley & Sons, New York

*Ski Conditioning* is directed toward the recreational skiers to help increase their enjoyment of the sport. Its aim is to describe the sport with respect to equipment, recognition of injuries, analyzing muscular, physiological, and neuropsychological considerations, and reviewing optimum conditioning programs. The authors have done a good job in dividing their topics and explaining each thoroughly.

The emphasis of the text is directed to the skier who is at the beginning or immediate level and wishes to pursue skiing seriously. The authors take pain in describing and illustrating various strength and flexibility exercises. The

text also explains why conditioning programs are important and the scientific principles involved in establishing specific exercises. A final chapter is devoted to conducting a ski training workshop. The authors explain how to organize a workshop and the consideration that must be given to such areas as material to be covered, when, where, and who will attend, facilities, and equipment to be needed.

The text is a fundamental review for the Athletic Trainer in conditioning for skiing. It is written simply and easy to understand. The value of *Ski Conditioning* to the Athletic Trainer would be as a useful reference tool. This reviewer believes the exercises illustrated would help those who are not familiar with skiing and the type of injuries involved with the sport.

Sue Schneider, A.T.C.

### *Toward An Understanding of Human Performance:*

Readings in Exercise Physiology for the Coach and Athlete  
Edited By: Edmund J. Burke, Ph.D.  
92 pages — Illustrated  
List Price: ?  
Movement Publications  
102 Irving Place  
Ithaca, New York 14850

This book is a collection of articles pertaining to analysis of human performance and exercise physiology. The purpose of this first volume is to communicate ideas between the coach and the scientist in an effort to bring about an understanding of human performance.

Divided into four parts, the reader is first introduced to work physiology and the components of physical fitness. In the second part, each of the components of physical fitness are fully analyzed, and in the third part, the topics of general interest to the coach and athlete are explored. In the last part, the various principles described in the initial sections are specifically applied to athletics.

Some of the articles included are:

"Work Physiology and the Components of Physical Fitness in the Analysis of Human Performance"

"Training for Aerobic Power"

"Resistance Training: Development of Muscular Strength and Endurance"

"Flexibility and Human Performance"

"The Female Athlete: Myths and Superstition Put to Rest"

"The Female Athlete: Strength, Endurance and Performance"

"Nutrition in Athletics"

"Heat Stress, Conditioning and Acclimatization"

This text was assembled in order for the coach to better understand and apply relevant scientific principles for the benefit of the athlete. These articles are well written and informative. The reader that is interested and willing to consider the application of the various principles of work physiology and human performance, as they apply to physical fitness and athletics, will benefit by reading this text.

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There are scores of valuable aids which may be kept on a permanent basis by the user. These include filmstrips, slides, charts, posters, magazines and other printed materials. Some printed materials, for which a charge is made otherwise, are available through this *Guide* at no cost.

Separate portions of the *Guide* and the various indexes — title, subject, and source and availability — are in different colors to facilitate fingertip use. There are a variety of cross referencing schemes used throughout the publication to provide for fast and efficient reference.

This *Guide* is an excellent resource for physical educators. It is current and contains listings applicable to all areas of health, physical education, recreation and sport. I strongly recommend this *Guide* to any educator in search of an index to various resource materials in HPER.

Don Kaverman, A.T.C.  
Detroit Lions



# Schering

## *The 1978 Schering Symposium on the Knee*

### **Functional Anatomy and Biomechanics of the Knee**



By  
**VINCENT DISTEFANO, M.D.**

Edited by  
**ROD COMPTON, A.T., C.**  
East Carolina University

#### **INTRODUCTION**

The knee joint, bearing the superincumbent body mass and subjected to tremendous bending and torsional forces via the body's longest bony levers, represents the athlete's most massive yet most vulnerable joint. Functionally it may be considered to be comprised of three joints: the medial and lateral tibiofemoral and the patellofemoral.

*Dr. DiStefano was the moderator for the 1975-1978 Schering Symposiums. He is an Associate Orthopedic Surgeon at the hospital of the University of Pennsylvania and affiliated hospitals. He also serves as team physician for the Philadelphia Eagles, and physician for Villanova University. Dr. DiStefano received his M.D. from Hahnemann Medical College in 1963. He is a member of many committees and organizations dealing in sports medicine.*

The knee may be considered the intermediate joint in the limb and is capable of motion in two planes, namely the transverse axis which governs flexion and extension and the long axis controlling rotation. The position of reference of the knee is that of maximal extension so that strictly speaking "hyperextension" does not exist. From a clinical standpoint, 0 degree is the position described when the knee joint forms an angle of 180 degrees in the sagittal plane. In the 90 degree flexed position, the lower leg forms a right angle with the thigh. In most individuals passive flexion is possible to 160 degrees, at which point the buttocks and heel touch. The extent of active knee flexion varies with the position of the hip, attaining a maximal value of approximately 140 degrees with the hip flexed to 90 degrees and a minimum value in the range of 120 degrees with the hip completely extended. This difference is explained by the fact that the hamstrings function more efficiently to flex the knee when their proximal portions are stretched round the flexed hip. Rotation of

the knee about its long axis is greatly dependent upon the position of flexion, being minimal to absent in complete extension and increasing incrementally with flexion to its maximal value at 90 degrees of knee flexion. Approximately 40 degrees of both medial and lateral rotation are possible at this point.

Thus it can be seen that the knee represents a mechanical compromise in that it exhibits stability in extension, resisting stresses resulting from body weight and the long femoral and tibial lever arms, and mobility in flexion which is essential for running and adaptive orientation of the foot on the ground. The poor degree of interlocking of the surfaces which favors mobility renders it liable to sprains and luxations. The integration of various factors is responsible for the stability observed at the clinical level.

## JOINT ANATOMY

The tibiofemoral joints are typical of joints with incongruent surfaces. While the medial and lateral tibial plateaus are both concave in the frontal plane, the lateral plateau is convex in the sagittal plane as opposed to the concavity of the medial plateau. The medial and lateral femoral condyles are not parallel but rather diverge posteriorly, the medial femoral condyle leaving the midline of the femur at a greater angle than the lateral and being narrower in breadth. The lateral femoral condyle presents with a larger articular surface, suggesting greater excursion with knee motion (Fig. 1). This description of the bony anatomy implies that the knee could not function as a simple hinge joint (Fig. 2A). It has been demonstrated that during flexion and extension the femoral condyles roll and slide simultaneously over the tibia; as flexion is initiated from the completely extended position, pure rolling takes place at both femoral condyles in unequal amounts, 10 degrees to 15 degrees for the medial femoral condyle and 20 degrees for the lateral. Beyond this point, sliding begins and becomes progressively more important so that the terminal degrees of flexion are characterized by pure sliding. Rotary movements of the knee are characterized by a forward movement of the femoral condyle on the side to which rotation is occurring, i.e. with external rotation of the tibia, the lateral femoral condyle moves forward over the lateral tibial plateau and conversely. The actual axis of rotation passes through the medial intercondylar tubercle of the tibia which is higher than the lateral tubercle and concave medially and acts as a stop-shoulder to the medial

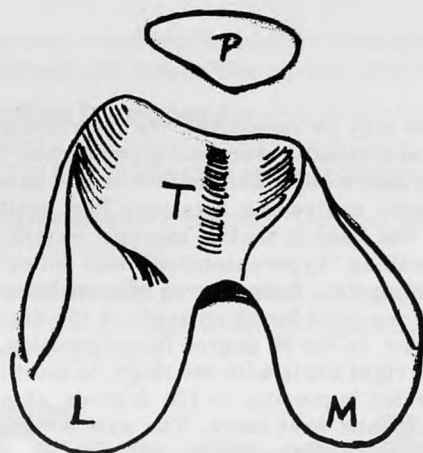


Figure 1 Distal femur and patella (P)  
T = trochlea of femur; L = lateral femoral condyle; M = medial femoral condyle. (Modified from Kapandji, L.A.: The physiology of the joints. Vol. 2, lower limb, ed. 2, Edinburgh, 1979, Churchill Livingstone)

femoral condyle (Fig. 2B). As a consequence, the lateral femoral condyle is capable of traveling twice the distance of its counterpart during rotation. Motion at the patellofemoral joint has been likened to a cable on a pulley. The grooved surface of the distal femur between the femoral condyles known as the trochlea continues distally to the intercondylar notch and contains the excursions of the patella during flexion and extension of the knee. Its lateral wall is more prominent and steep (Fig. 1) and prevents abnormal lateral mobility of the patella caused by force vectors of the quadriceps tendon and patellar ligament as the knee approaches extension. Congenital underdevelopment of this lateral wall is a common predisposing cause of chronic lateral subluxation or dislocation of the patella.

## Menisci

The medial and lateral menisci, or semilunar cartilages, are of inestimable importance to the knee joint, for they alone cannot be repaired (with few exceptions), replaced, or reconstructed, and their loss leads inevitably to relentless changes of instability and deterioration within the joint. The menisci are triangular in cross-section and crescent-shaped on their surface with anterior and posterior horns. The horns of the lateral meniscus lie close together and the meniscus is almost in the shape of a circle, while the horns of the medial meniscus are farther apart and form more of a C-shape. The medial meniscus is more firmly anchored along its periphery and, as a consequence, the lateral meniscus is capable of twice the anteroposterior range of the medial meniscus during flexion-

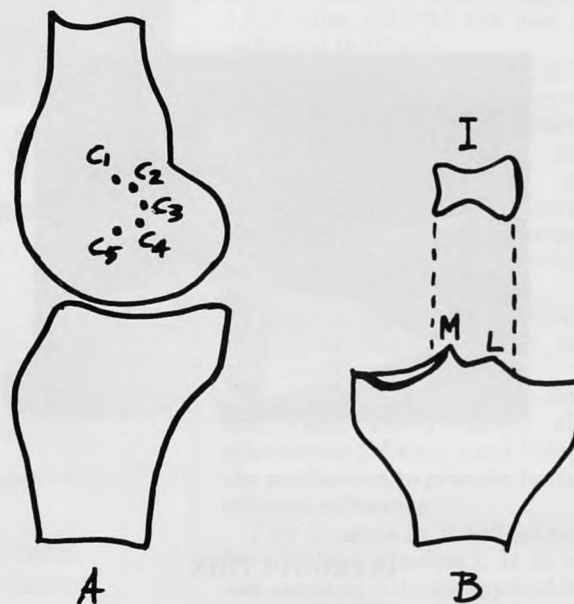


Figure 2A The knee does not function as a simple hinge joint with a single axis of flexion, but rather demonstrates a changing flexion axis with motion, an orderly progression of instant centers of rotation (centrodes) of the femur about the tibia. These instant centers of rotation (C1, 2, etc.) lie in the vicinity of the adductor tubercle of the femur as seen in the sagittal plane.

Figure 2B Proximal tibia showing M = medial and L = lateral intercondylar eminences. Axis of rotation of knee passes through medial intercondylar eminence. I = geometry of intercondylar eminence as seen from above, looking down on tibia. Note concavity of medial side, lateral convexity (From Kapandji, L.A.: The physiology of the joints. Vol. 2, lower limb, ed. 2, Edinburgh, 1970, Churchill Livingstone)



extension movements of the knee, a fact easily reconcilable with the known greater excursion of the lateral femoral condyle. Movement of the menisci results from their being pushed by the femoral condyles and pulled via peripheral attachments (Fig. 3). During movements of the knee, the menisci can be injured if they fail to follow the movements of the femoral condyle on the tibial plateaus and are crushed between these two bones. The great value of the menisci to the knee joint is reflected in the list of functions they subserve:

1. *Stability* — By virtue of their triangular cross-sectional geometry, the menisci deepen the tibia and render the joint surfaces congruous and more stable. The menisci play an important role in controlling anteroposterior instability when the anterior cruciate ligament has been lost. This probably accounts for the frequent development of meniscal derangement following "isolated" rupture of the anterior cruciate ligament. Also, loss of this meniscal support following meniscectomy creates an increased amount of rotary instability.

2. *Shock Absorption and Load Transmission* — The menisci are well-suited to the task of impact absorption since they readily undergo deflection in the form of elongation when loaded. They function as an elastic coupling which transmits compression forces between the tibia and femur. Loss of this important property following meniscectomy leads to degenerative changes manifested as osteophytic ridging, flattening of the femoral condyle, and joint space narrowing.

3. *Lubrication* — Menisci increase the efficiency of joint lubrication by acting as space-filling buffers, helping to keep the joint fluid in place between the tibia and femur. This is reflected in a 20% rise in the coefficient of friction within the joint following meniscectomy.

4. *Prevention of Synovial Impingement* — The space-filling effect of the menisci has been suggested as a means of preventing impingement of the synovium between the articular surfaces of the tibia and femur.

5. *Limitation of Motion* — In full extension the anterior horns are forced forward and act as a buffer to further extension. Their posterior displacement with flexion appears to function in the same manner to limit flexion.

## Capsule and Ligaments

The capsuloligamentous complexes about the knee are the most important stabilizers of the joint. The general form of the capsule is that of a cylinder which is indented posteriorly, forming a partition which, in effect, divides the joint into medial and lateral compartments. As this septum inserts onto the tibia, it winds itself round the attachment of the anterior cruciate ligament and in front of the posterior cruciate ligament, thus rendering them extracapsular. The infrapatellar fat pad, lying behind the infrapatellar tendon and surrounded by synovium, is a vestige of the embryonic medial septum which divided the joint into two cavities in the embryo. In the adult there is usually a gap between the posterior aspect of the fat pad and the median septum formed by the capsule, allowing communication between the medial and lateral joint cavities which also communicate via the space above the fat pad. The knee joint cavity normally contains 1 to 3 cc of synovial fluid. When this amount is pathologically increased, as with an effort synovitis or post-traumatic hemarthrosis, the posture of the joint must adapt in order to accommodate the increased volume. With the knee in the extended position, the capacity of the joint is reduced by the compression of the gastrocnemius muscles against the posterior femoral condyle. In extreme flexion, the quadriceps tendon obliterates the suprapatellar pouch. Both these effects may be reduced when the knee joint assumes a semiflexed position. This explains the clinical observation that patients with an acute effusion hold the

knee in a position of 30 degrees to 45 degrees flexion since the joint cavity is maximally capacious and, thus, the knee least painful.

## Collateral Ligaments

The medial and lateral collateral ligaments reinforce the articular capsule on the medial and lateral sides of the knee, respectively, (Fig. 3). In terms of stability, the lateral collateral ligament is significantly less important than its medial counterpart.

## MEDIAL COLLATERAL LIGAMENT

This structure is comprised of two distinct entities. The superficial portion, or tibial collateral ligament, extends from the area of the adductor tubercle of the femur obliquely downward and forward a distance of approximately 4 inches in the adult, passing deep to the pes

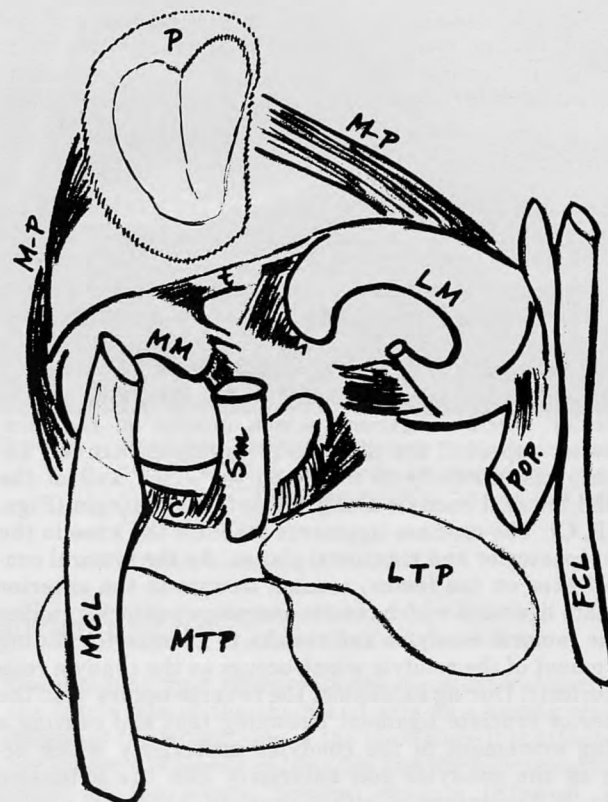


Figure 3 Knee joint surface of the tibia seen from behind looking down. P = patella; M-P = meniscopatellar ligaments; MM = medial meniscus; LM2 = lateral meniscus; t = transverse ligament joining the anterior horns of the menisci; c = coronary ligaments anchoring menisci to tibia and deep surface of joint capsule; Sm = semi-membranosus tendon with extension to posterior edge of medial meniscus; MCL = medial collateral ligament, superficial portion (tibial collateral ligament) shown; POP = popliteus tendon; FCL = fibular collateral ligament; MTP = medial tibial plateau; LTP = lateral tibial plateau. (Modified from Kapandji, L.A.: The physiology of the joints. Vol. 2, lower limb, ed. 2, Edinburg, 1970, Churchill Livingstone)

anserinus to insert on the medial aspect of the proximal tibia. The deep portion, also known as the medial capsular ligament, extends from just beneath the femoral attachment of the tibial collateral ligament to the margin of the tibia at the joint line. These fibers blend intimately

with the capsule and attach to the periphery of the medial meniscus. The suprameniscal portion is also called the meniscomfemoral ligament and the inframeniscal portion, the meniscotibial ligament. Anatomically, the tibial collateral ligament and medial capsular ligaments are separate structures and usually rupture at different levels in so-called tears of the medial collateral ligament. Ruptures of the deep portion may involve the peripheral attachment of the medial meniscus and, if proper healing does not ensue, the meniscus becomes hypermobile and more susceptible to injury. The medial collateral ligament not only stabilizes the medial side of the knee against valgus stress, but is also the first line of defense against external rotation stress. The medial collateral ligament is maximally tight in extension and becomes slack with flexion. When the medial collateral ligament is tested following injury, valgus stress should be applied with the knee in complete extension and 20 degrees to 30 degrees of flexion. Valgus instability in complete extension suggests not only injury to the medial collateral ligament complex, but to other structures which are normally taut in extension; namely, the posteromedial capsule and the anterior and/or posterior cruciate ligament. Valgus instability in flexion only is more likely to represent ligamentous injury to the medial collateral ligament alone.

### CRUCIATE LIGAMENTS

These ligaments lie in the center of the joint in the intercondylar notch of the femur and are so named because they cross each other in the sagittal plane. The anterior cruciate ligament attaches more anteriorly on the tibia in the intercondylar fossa and travels posteriorly and laterally to its femoral insertion on the inner wall of the lateral femoral condyle, along the edge of the articular cartilage. In the adult, it is 1-2/3 times as long as the posterior cruciate ligament which inserts on the mid-posterior aspect of the tibia along its rim and travels anteriorly and medially to insert on the inner wall of the medial femoral condyle along the articular margin (Figs. 4A, B, C). The cruciate ligaments stabilize the knee in the anteroposterior and rotational planes. As the femoral condyle flexes on the femur, tension mounts in the anterior cruciate ligament which resists excessive posterior rolling of the femoral condyles and results in an anterior sliding movement of the condyle which occurs as the condyle rolls posteriorly. During extension, the reverse occurs with the posterior cruciate ligament becoming taut and causing a sliding movement of the condyles posteriorly which occurs as the condyles roll anteriorly into the extension mode. With rupture of either cruciate, abnormal sliding movements of the tibia occur relative to the femur which are appreciated at the clinical level as a positive drawer test. The drawer test may be performed as shown in Figure 5. Note that the lower leg does not hang free but, instead, is held between the examiner's knees to remove the effect of gravity which would create tension in intact capsular and ligamentous structures and possibly yield a false negative result. A second pitfall is avoided by palpating the distal hamstring tendons to make certain they are relaxed since contracted hamstrings would tend to draw the tibia posteriorly and resist abnormal anterior translation of the tibia. When performing ligament stress tests of the knee, comparison should always be made with the opposite member. Abnormal anterior movement of the tibia connotes a positive anterior drawer sign and is indicative of rupture of the anterior cruciate ligament. A positive posterior drawer sign suggests rupture of the posterior cruciate ligament. It should be noted that with acute rupture of the anterior cruciate ligament, the anterior drawer is more often negative than positive, and other clinical parameters should be employed to establish the diagnosis. The anterior drawer test becomes in-

creasingly positive with the passage of time. The positive drawer test is more likely to be positive in the acute stage of posterior cruciate ligament rupture. Rotational instabilities of the knee may result from injury to the cruciates, either alone or in combination with other structures. Insufficiency of the anterior cruciate ligament is the prime cause of anterolateral rotary instability of the knee and is demonstrated clinically by a positive lateral pivot shift or "jerk" test. Anteromedial rotary instability is shown by a positive Slocum test which results from injury to the medial collateral ligament and posteromedial capsular complex at times in conjunction with anterior cruciate ligament injury and medial meniscus derangement. Cruciate ligament rupture may be part of any single or combined rotational instability syndrome of the knee.

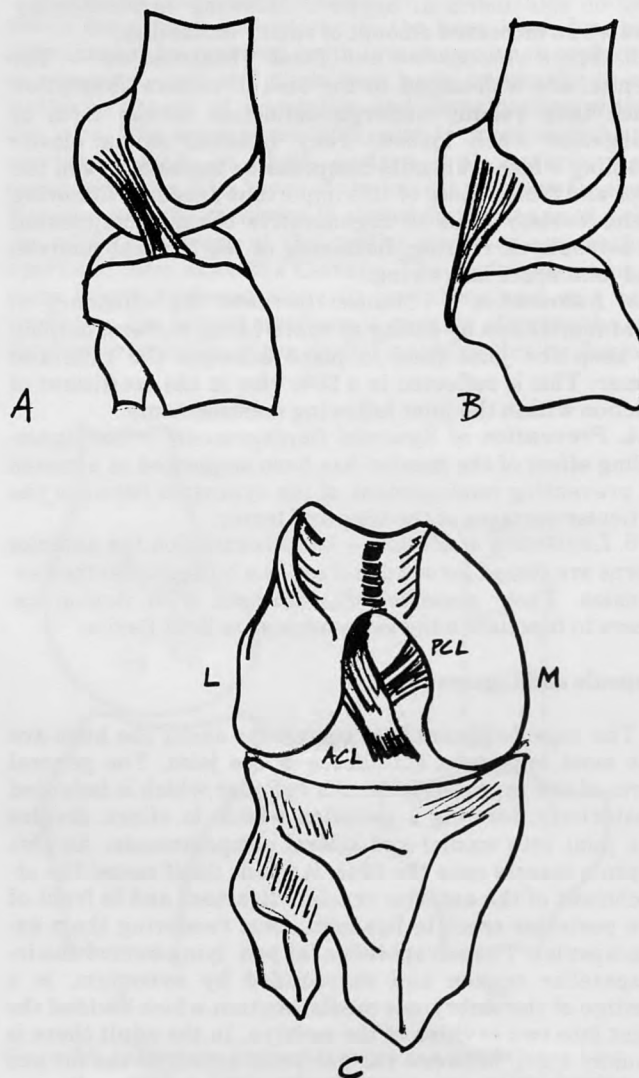


Figure 4

The cruciate ligaments.

Figure 4A. Lateral view, anterior cruciate ligament, insertion onto lateral femoral condyle.

Figure 4B. Lateral view, posterior cruciate ligament, insertion onto medial femoral condyle. (Opposite femoral condyles removed in figs. 4a and 4b)

Figure 4C. Frontal view, knee joint in flexion. Note crossing of anterior cruciate ligament (ACL) and posterior cruciate ligament (PCL); L = lateral; M = medial. (Modified from Kapandji, L.A.: The physiology of the joints. Vol. 2, lower limb, ed. 2, Edinburg, 1970, Churchill Livingstone)



## MUSCLE FUNCTION

### QUADRICEPS

The quadriceps is considered the most important dynamic stabilizer of the knee, being ideally suited to this task by virtue of its size and orientation of its muscle fibers. It is the prime knee extensor but also controls flexion by antagonizing gravity and the hamstring muscles. Patellar stability in the patellofemoral joint is enhanced by the vertical and oblique components of the quadriceps. The quadriceps mechanism pulls the menisci forward as the knee is actively extended via the meniscopatellar ligaments, fibrous bands connecting the menisci to the patella (Fig. 3). Through the retinaculum, it tenses the anteromedial and anterolateral joint capsule. Contraction of the quadriceps muscle has been shown to reduce strain in the medial collateral ligament, regardless of the degree of knee flexion and valgus stress, and to support the role of the quadriceps as a dynamic protector of the medial collateral ligament. Through its attachment onto the tibial tubercle, it assists in the prevention of posterior displacement of the tibia on the femur, working synergistically with the posterior cruciate ligament. Conversely, it should be appreciated that the quadriceps is an antagonist to the anterior cruciate ligament since its contraction tends to draw the tibia forward, an act which is resisted in part by the anterior cruciate ligament. By means of vector analysis, it can be calculated that the simple act of using the quadriceps to lift an unweighted adult leg can produce as much as 27 pounds of force in the anterior cruciate ligament, while stair climbing may generate as much as 85 pounds of force in the ligament as it resists the tendency toward anterior tibial movement. These findings suggest that caution be applied in prescribing quadriceps exercises immediately after primary repair or reconstruction of the anterior cruciate ligament and stress the importance of a well-balanced rehabilitation of all the muscles about the knee so that dynamic imbalance does not contribute to an increase in static instability.

### SEMIMEMBRANOSUS

The semimembranosus muscle is a powerful knee flexor which also controls knee extension by antagonistically resisting the quadriceps muscle. It also dynamically bolsters the posterior and medial capsular structures, retracts the medial meniscus posteriorly, subserves a relatively minor function as an internal tibial rotator, and augments the anterior cruciate ligament by acting synergistically with it to prevent anterior subluxation of the tibia (Figs. 3, 6).

### PES ANSERINUS

The sartorius, gracilis, and semitendinosus coalesce to form the pes anserinus inserted into the proximal medial aspect of the tibia. They are primarily flexors of the knee, but function in a secondary role as internal rotators (Fig. 6). They work in concert with the anterior cruciate ligament to resist anterior subluxation of the tibia and assist the medial capsule and medial collateral ligament as well. Pes anserinus transplant, or proximal transposition of the major portion of the tendinous insertion, is performed in an effort to increase internal rotary effectiveness of the knee and correct the anteromedial rotary instability which may result from damage single or in combination to the medial meniscus, medial collateral ligament-posteromedial capsule complex, or anterior cruciate ligament.

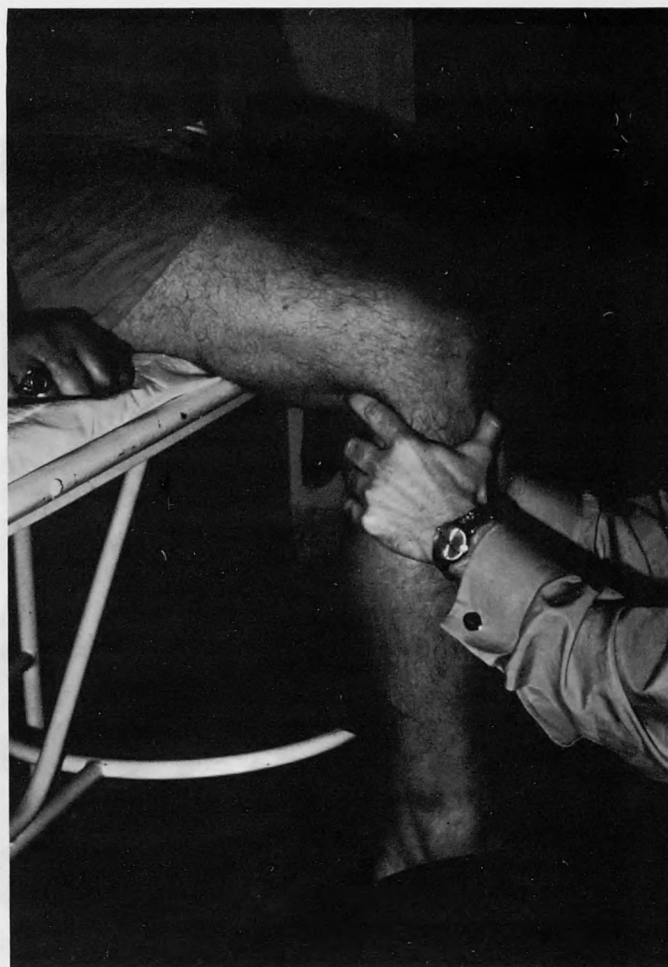


Figure 5 Examiner performing drawer test. Note that patient's foot is held between examiner's knee. Examiner's index fingers check tension in hamstring tendons.

### ILLOTIBIAL TRACT

The iliotibial tract represents the distal lateral portion of the fascia lata of the thigh and acts as a strong static stabilizer of the lateral side of the knee since it is attached to the tubercle of Gerdy of the tibia and the supracondylar tubercle of the lateral femoral condyle (Figs. 6, 7). Surgically, the iliotibial tract may be rerouted through the fibular collateral ligament to its insertion on the tubercle of Gerdy to correct the lateral pivot shift syndrome resulting from anterolateral rotary instability following injury to the anterior cruciate ligament.

### BICEPS FEMORIS

The biceps femoris, or lateral hamstring, is comprised of a short and long head and inserts via three distinct layers into the fibular head, proximal tibia, fascia about the leg, posterior capsule, and lateral collateral ligament. It functions to flex the knee, antagonistically control knee extension, externally rotate the tibia on the femur, tense the lateral and posterior capsule, and work synergistically with the anterior cruciate ligament to resist abnormal anterior displacement of the tibia beneath the femur (Figs. 6, 7). At the clinical level, one observes a relatively high incidence of hamstring strains at the junction of the long and short heads, a fact explained by a moment of disequilibrium in the contractions of the two muscle bellies which receive separate innervations.



Figure 6 Rotators of the knee. Pes anserinus group: 3: sartorius, 4: semitendinosus, 6: gracilis; 5: semimembranosus; Popliteus (internal rotator) not shown; 2: tensor fascia lata; 1: biceps femoris; IR = internal rotation, ER: external rotation. (from Kapandji, L.A.: *The physiology of the joints*. Vol. 2, lower limb, ed. 2, Edinburgh, 1970, Churchill Livingstone)

## POPLITEUS

The popliteus muscle is "upside down" to the extent that its tendinous portion is located proximal to its muscle belly. Its muscle fibers are inserted onto the posterior tibia and travel proximal and laterally as they yield in structure to the popliteus tendon which insinuates itself between the lateral meniscus and fibular collateral ligament shortly after leaving its origin from the lateral wall of the lateral femoral condyle (Fig. 7). This tendinous portion gives extension to the posterior portion of the lateral meniscus, a portion of which passes through the ligament of Wrisberg to attach to the medial fibular head. The muscle is an internal rotator of the tibia on the femur and a weak knee flexor, draws the lateral meniscus posteriorly, augments the function of the posterior cruciate ligament, and antagonizes the anterior cruciate ligament by tending to pull the tibia anteriorly beneath the femur.

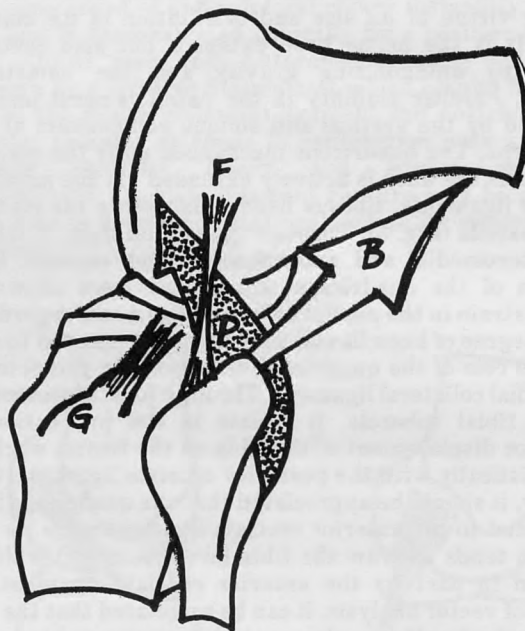


Figure 7 Lateral side of the knee. F = fibular collateral ligament; P = popliteus; B = biceps femoris; G = tubercle of Gerdy with insertion of iliotibial band shown. (Modified from Kapandji, L.A.: *The physiology of the joints*. Vol. 2, lower limb, ed. 2, Edinburgh, 1970, Churchill Livingstone.)

## Conclusion

Ligament function is most important in stabilizing the knee, but joint topography, the menisci, and muscle function are all contributing factors.

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## "Tips from the Field"



# Money Saving Ideas for a New Training Room

by  
LINDA S. ARNOLD, A.T.,C.

The Women's Intercollegiate Athletic Department at Memphis State University recently decided there was a definite need for better care of the female athlete and her injuries. To care for these needs a certified athletic trainer was hired and a training room was planned and developed.

Anyone who has walked in as the first athletic trainer to any school can understand the large task of organizing a training room from its beginning. A limited budget requires priorities to be placed in purchasing necessary equipment and supplies. The small items in the training room, often taken for granted, sometimes must be improvised until later years when increased budgets are available.

It is the purpose of this article to present some of the items Memphis State has improvised in its training room

to make everything run a little more smoothly.

1. Foot Powder Dispenser — A potato chip container (Figure 1) can be used for dispensing foot powder bought in large quantities. Small holes bored in the plastic lid allow the powder to flow freely. The outside of the container can be covered with contact paper and clearly labeled.
2. Ice Bags (Figure 2) — There are many possibilities in the usage of plastic bags to hold ice. Zip lock bags

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Linda S. Arnold was hired in 1976 as the first women trainer at Memphis State University. She received her B.S. degree at Murray State University in Kentucky, and an M.S. degree at Fort Hays State University in Kansas.



Figure 1

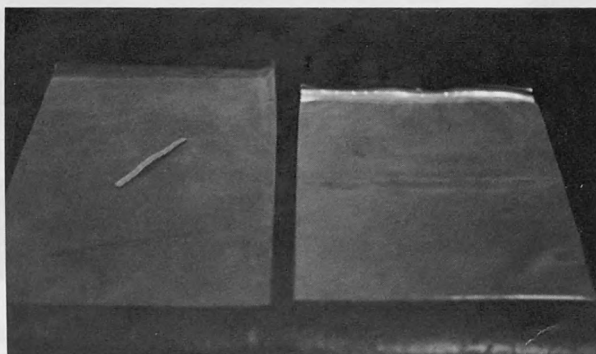


Figure 2

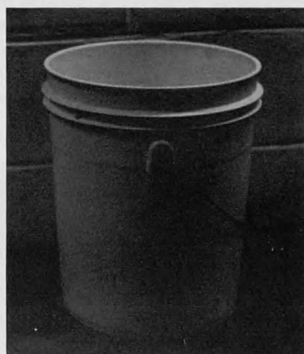


Figure 3



Figure 4



are made of a strong plastic, but are sometimes difficult to close when in a hurry. As the ice melts, air is released in the bag, causing a balloon effect that prevents good ice contact with the skin.

Other plastic bags are available with tie closures. Air is able to escape and closing the bag is quick and simple. Another possibility is the usage of poultry bags purchased from the meat department of a local grocery store. These can be purchased at a low cost and serve the purpose well.

3. Ice Slush Buckets (Figure 3) — There is little need to buy five-gallon buckets to serve as ice slush buckets. These are usually available through the school custodial staff. Restaurants purchase many items in these buckets and may donate several to a school. These donated buckets, however, must be inspected for holes and broken handles before usage in the training room.
4. Friction Pads — Many trainers make friction pads from gauze pads and petroleum jelly. A limited budget may restrict the purchasing of gauze pads for this purpose. For small, irritated spots, left-over sponge end papers used in home permanent sets can be used as a friction pad. A beauty salon may donate these items. Underwrap folded in several layers could serve the same purpose, but is not as effective.
5. Instrument Container — If the new trainer is fortunate to have a set of medical instruments, it is necessary to store these instruments in a sterilizing solution. A glass candy dish (Figure 4), such as the ones used to hold long sticks of candy cane can fulfill this requirement. The jar is filled 2/3 full with the sterile solution, with the instruments placed blade down into the jar. When placing sharp pointed scalpels into the jar, do so carefully to prevent breaking the tip of the blade. The lid should be secure to prevent unnecessary contamination or evaporation of the solution.
6. First Aid Kit Containers — Limited space in a first aid kit often poses a problem for the trainer. The local film developing company can help eliminate this problem. The small gray and black containers (Figure 5) in which 35mm film is deposited, make excellent medicine containers. The snap-on lids stay secure even if dropped, and the strong plastic prevents bottle breakage. Another container available from the same source is a plastic box in which slides are returned to the customers. These boxes, with snap-on lids serve as good containers for band-aids, butterfly strips, etc., and fit compactly in a first aid kit.
7. Ice Scoop — An ice machine is a must for any training room. If a scoop for the ice was not included with the machine, this item may have to be improvised. A one gallon bleach bottle, (Figure 6), with the bottom cut off, serves this purpose. The handle makes it easy to grip and large amounts of ice can be scooped out at one time. The plastic scoop is not strong enough to break up large bunches of frozen ice cubes. The edges become frayed from repeated use. However, this item can be replaced at little or no cost. If possible, a metal scoop should be obtained.
8. Paper Cups — Paper cups, used for ice massage cups, can be an expensive item. If the cups burst in freezing, it is necessary to use new cups each time. To help eliminate this expense, used cups can be collected after ball games from the bleachers. These cups should be rinsed in warm, soapy water and allowed to dry overnight. The following day, the supply of ice cups can be restored.
9. Wrap Storage — Ace wraps and ankle wraps have a habit of rolling all over the training room, if not stored properly. Speed pack tape boxes can provide this storage space. The top flaps and 2/3 of one end of the box is cut away (Figure 7). Beginning approximately half way the length of the box, the long sides are cut at an angle to meet the cut off end. With the outside decorated or covered, out-on-the-counter storage is made possible.
10. Wrist and Finger Exercisers — For the athlete with wrist and finger injuries, squeezing a ball is often a part of the rehabilitation program. With the smaller women athletes in particular, a rubber ball or tennis ball offers too much resistance. Used racquet balls take care of this problem by offering less resistance and by being smaller in size. The ball is squeezed in the palm several times, then placed out at the fingertips and the same procedure repeated. Split racquetballs should be avoided because of their ability to collapse quickly, causing pain to the athlete.
11. Liquid Dispenser — It would prove economical to any training room's budget to place liquids, such as disinfectants, in spray bottles. By spraying on this liquid, a more even and larger area can be covered and the quantity used each year can be cut in half.

Hopefully these money-saving tips can prove beneficial for the beginning trainer. When money is scarce, it is surprising the ability of one's imagination and its role in management of a training room.

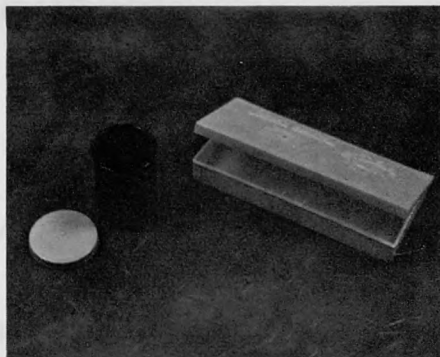


Figure 5

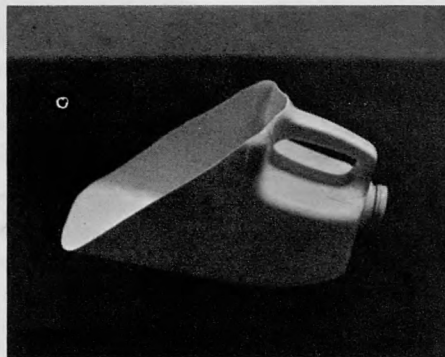


Figure 6

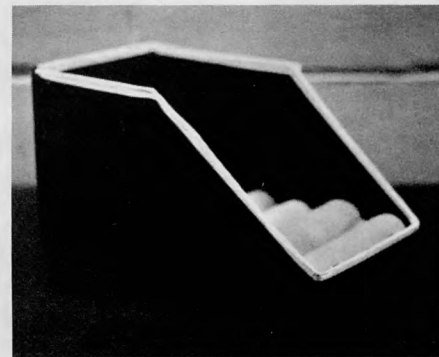


Figure 7

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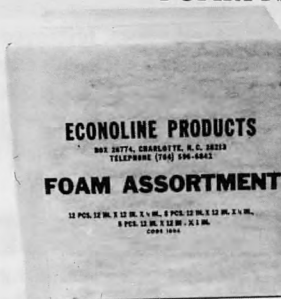


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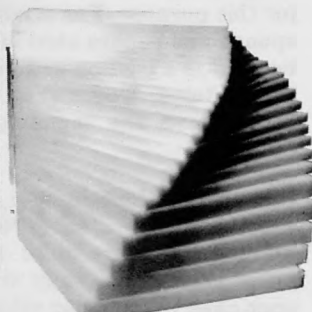
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# Therapeutic Exercise in Athletic Training— Principles and Overview\*

by

**DENNIS W. ATEN, M.S., R.P.T., A.T., C.**  
Athletic Training Program Director and  
Trainer-Therapist, Eastern Illinois University

and

**KENNETH L. KNIGHT, Ph.D., A.T., C.**  
Athletic Training Program Director  
Indiana State University

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## THERAPEUTIC EXERCISE

In the early days of sports medicine therapeutic exercise was used only after a significant surgical procedure (11). Recently, however, therapeutic exercise has blossomed, not only in surgical rehabilitation, but in the prevention and care of most musculoskeletal trauma. Many trainers consider therapeutic exercise their most important modality (7). This paper will be concerned with an overview of why therapeutic exercise is so important and will present some basic principles for its use in athletic conditioning and reconditioning.

It is contended here that therapeutic exercise is the second most important aspect of an athletic trainer's duties. (Most people would probably list the emergency medical techniques as most important.) Only through proper exercise can strength and flexibility be improved (9). The benefits of such increases are many and varied. Following are four major benefits.

The first and probably most important reason for the status of therapeutic exercise revolves around injury prevention. Strength and flexibility rank alongside good, proper fitting equipment, proper skills, and proper techniques in this preventative role.

Secondly, therapeutic exercise improves the skills and techniques of sport participation. Besides the direct benefit of strength and flexibility to sport performance, they also lead to greater speed, endurance, and agility. Theoretically, hamstring flexibility can increase speed. The idea is that a more flexible hamstring causes less resistance in hip flexion; therefore, greater velocity can be achieved. Also, greater flexibility means a greater range of motion with a greater potential time for a force to effect movement. Agility may also be increased as greater joint ranges of motion are developed (Jenssen & Fisher p. 67). Strength allows an athlete to function against greater resistances and have greater control in specific skills. It also is a factor in endurance. The stronger a muscle is, the fewer motor units needed for a given task (5).

The third factor involves ligament protection. Many schools rely more on strength and flexibility to protect a sprained joint than tape or braces — and it's a lot cheaper. The athlete functions better with strong ankles than with taped ankles. Taping can restrict range of motion, inhibit circulation, and interfere with muscle contraction.

The apparent value of strength and flexibility in joint protection from developing traumatic arthritis would be a fourth factor. Although there is no specific research or data to support this contention, properly rehabilitated joints seem to have less future degenerative problems.

Even though this paper is concerned only with the development of strength and flexibility, it must be un-

derstood that there are other aspects of therapeutic exercise. Houghlum (7) has presented an excellent paper outlining the sequential objectives of therapeutic exercise in developing flexibility, strength, endurance, and coordination, respectively. Also during the time that an athlete's full activity is restricted because of an injury, steps must be taken to prevent deconditioning of the rest of her/his body (7). Of prime importance is their cardiovascular fitness. There are many ways disabled athletes can raise heart rates and respirations. Among these are stationary bike riding, situps, and jogging for upper extremity injuries, and push ups, pull ups, crutch running, and swimming pool activity for lower extremity injuries. The swimming pool activity offers much versatility. While exercising the athlete can do gentle range of motion, strength work, and flexibility all while raising heart and respiration rates (1, 12). All that is necessary is to design exercises using the water as a resistance or as a buoyant aid.

### *Individualizing the Program*

When developing an exercise program, it is important to design it to fit specific needs. As Kraus (10) mentioned in his introduction, procedures should be shaped to meet the patient's needs rather than the patient fitted into a treatment procedure. Answers to the following questions will help to establish goals and objectives that are specific to each athlete. Is this program for injury prevention of healthy athletes or for reconditioning following injury? Is the purpose to protect a weakened joint? Is the purpose to develop an injured muscle? What is the extent of the injury? How much healing has taken place? To what type of activity must this athlete return? Are there any symptoms that might limit some types of exercise? Are there tendon inflammations involved in the injury? Are there any contraindications to exercise? Each of the above factors will modify the basic exercise program.

If exercises are to be done by healthy individuals, the concern is usually to strengthen general body movements and develop general body flexibility. If an injury is involved care must be taken not to aggravate the injury. In the case of a strained muscle only light or no resistance activities can be considered initially. When joint capsules and corresponding ligaments are involved, care must be taken not to aggravate articular surfaces or incur swelling. This might require limited range of motion exercises. In cases where tendons have been dislocated ranges of motion must be used that cause no stresses in a direction that could cause repeated dislocations or subluxations. The amount of resistance or the degree of intensity for any program should be relative to the amount of tissue damage and the amount of healing time that has already taken place. Occasionally there will be symptoms such as those suggesting patellar chondromalacia: pain on forced knee extensions at approximately 30 degrees from full extension, crepitus, pain at patellar borders on stair climbing, etc. These symptoms require such modifications as muscle setting, straight leg raising, or limited range of motion exercises. If the inflammation of chondromalacia, tendonitis, bursitis, etc., is acute, exercise usually has to be suspended until the inflammation is under control.

\*Portions of this paper were presented by the senior author at the 1977 NATA Convention, Dearborn, Michigan.

There is no need to get excited about any particular system or brand of exercise equipment. If general principles are followed, most of the systems will gain desired results. There are many name brand exercise units that are excellent for therapeutic exercise, but they also are relatively expensive. Imagination is the only limitation. Manual resistance can always be done with no expense; however, there is no way of measuring improvement. Free weights can be made from numerous materials (i.e., tin cans filled with cement). Wall weights can be constructed cheaply, and are very versatile. Also there are many variable resistance apparatuses that are not very expensive. Personal preferences will probably dictate the type of equipment used.

One problem that always must be faced is trying to exercise many athletes on one machine. This "log jamb" of athletes can be solved by prescribing manual resistant home exercises for each athlete and testing for improvement periodically on the machine. This does not give an opportunity for as much supervision as desired, but it does allow for volume. Then selected athletes with specific problems could be retained for daily supervised work on a specific apparatus.

The questions of how many repetitions, how many sets, and how long should a contraction or stretch be held can not be answered by simple numbers. Research is not in agreement of specific methodology. Variations of DeLorme's (3, 4) system seem to be most popular. In this system three sets of ten repetitions are used. During the first set the athlete works with half of maximum resistance for ten repetitions. The second set involves three-fourths of his maximum while the third set is the maximum the athlete can do for ten repetitions. The first two sets represent warm-up and gradual preparation for the maximum stress.

Other methods have also been successful. One method involves lifting maximum resistances for five repetitions. The athlete increases repetitions as he is able. When ten repetitions are reached, resistance is added and reps are dropped to five again. Some programs stay with comparatively lighter weights and work with increased repetitions. One of us (DWA) is going to try using only one weight for an exercise period. The first set will be done using both extremities for warm-up. The second set involves using only the injured extremity. This procedure was initiated to save time.

Another variation is the DAPRRE (daily adjustable progressive resistive reconditioning exercise) program devised by Knight (8). This program recognizes that a person can regain strength which has been lost during immobilization or inactivity much more quickly than they developed the strength originally. The key to the DAPRRE program is that there is an objective means of increasing resistance as the athlete becomes stronger (often times daily). The first two sets are for warm-up and muscle reeducation. They consist of four repetitions each at 1/2 and 3/4 of the working weight. On the fourth set the athlete is instructed to do many full pain-free repetitions as possible with the full working weight. The working weight is then adjusted for the next day according to the number of repetitions achieved during the fourth set. (i.e., if less than 5 are performed the working weight is decreased for the next day; if more than 7 repetitions are performed then the working weight is increased.)

#### *Strength Exercises*

There are several things that need to be accomplished

by strength therapeutic exercise. First and most obvious is strength development. There should be identifiable goals. These goals of strength may be made by comparing the injured limb with the opposite health limb, by using minimal strength standards, or by comparing post injury strength with preinjury strength. It should be understood that the injury may have occurred because of weakness in the first place. It would, therefore, make sense to require more strength than the joint previously had. Therapeutically, these exercises should always be done with a single limb. There should never be an opportunity for the stronger, uninjured limb to do the work for the injured area. It should be noted that strength should be developed through the entire normal range of motion.

Another aspect of strength involves functional use. It is not enough to develop strength just to protect an area in athletics. It must be functional to the point that the athlete can perform a given skill as good or better than preinjury. If function is not adequate, the athlete is still injury prone.

Since disuse atrophy accompanies so many injuries, muscle bulk must also be a consideration. Girth measurements of the weakened area can give indications as to the amount of atrophy. The girth of the injured limb must be developed to at least that of the uninjured area.

As stated previously, it is felt that any system that puts a work load on muscle can be beneficial in gaining strength. Each system should, however, follow some basic principles. Discussed below are some principles that we feel are important. It should not be assumed that these are the only principles that might be developed or that they could not be listed in different categories. This is just a singular attempt to list important aspects of strength therapeutic exercise.

1. *Full Range of Motion.* Exercises should be taken through their full functional range. In case of muscle injuries the trainer should be concerned with the muscle's range of motion. Conversely, to rehabilitate joint injuries the various joint ranges of motion must be considered. If isometric exercises are utilized, they should be done at various angles that could represent full range of motion.

A fringe benefit that we often receive is an improved kinesthetic sense. When exercises move a joint through an entire range of motion, the repetitions give a period of rote learning to our position sense. This is particularly important in the ankle. Many ankle sprains appear to be caused by improper foot placement. It is theorized that this problem exists because many young athletes have a poorly developed position awareness, especially those with rapid growth spurts. If this is true, many chronic ankle sprains do not occur strictly because of weakness.

2. *Pain Free.* Work loads can not be indiscriminately thrust upon injured areas. Resistances should be selected that elicit no pain. That is not to say that the athlete should not feel the normal stresses of a work load. Swelling is another aspect of this principle because pain and swelling often go hand in hand. The general rule should be that if the athlete feels pain, especially at the injury site, or if swelling occurs following the exercise, the resistance is too great.

3. *Complete Control.* When working with injured muscles or joints the weights should never be thrust as one would to develop power. It should be possible to stop the movement at any angle and resume movement again.

4. *Eliminate Momentum.* This principle is much akin to number 3. Momentum should never be allowed as a factor in a therapeutic resistance exercise. This is especially true when using "free" weight or when the weight is moved through an arc. When momentum is built up in the lower resistance areas of the arc, it will assist the athlete through the rest of the range of motion. This often gives



the athlete a false sense of achievement. It also can be detrimental. When the weight is thrust to the apex of an arc at the point just prior to the change in direction, the resistance is weightless. At the time when the resistance starts its downward arc, a sudden jerk is applied to the joint. This can aggravate joint or muscle injuries.

5. *Isolate the Muscle.* Once it is determined which muscle or muscles need strengthening, the exercise should be designed to specifically exercise those muscles. Sometimes it is important to exercise through ranges of motion that include several muscles. Other times the concern is with a specific muscle. For instance, if the semitendinosis is injured and the biceps femoris is allowed to do the work, results can be disastrous. The biceps strength will indicate that the athlete can return to duty. When the athlete in competition makes specific demands on the semitendinosis, however, reinjury will often result.

6. *Overload.* In order for a muscle to develop it must be worked to near capacity in one way or another. Resistance must be selected, within the restrictions of pain and swelling, that challenge a muscle. In general, when increased strength is the objective the muscle is overloaded by increasing resistance, and when increased endurance is the objective the overload should be accomplished through increased repetitions. However, strength and endurance are not two totally separate entities. A stronger muscle will use fewer motor units to move a given resistance. Over a period of time, that gives each motor unit more recovery time and therefore the total muscle is capable of more repetitions.

7. *Gradualism.* It should be understood that total functional strength can not be developed overnight. Increases in resistance must be matched closely to increases in strength. Too large an increase at one time might aggravate the injured area and serve only to destroy progress already made. On the other hand, failing to increase resistance as the muscle becomes stronger will mean the muscle is receiving a less than maximal stimulus. Therefore the muscle will not develop as fast and thus the athlete wastes valuable time (6).

Gradualism also means that once the muscle has regained its strength, efforts must be made to regain endurance, speed of movement, and coordination; all of which are necessary for a muscle to function properly in sport.

## Developing Flexibility

The second category of therapeutic exercise is flexibility. These exercises are also done one limb at a time for therapeutic purposes. It is important that we distinguish between warm-up exercises and flexibility exercises. Although warm-up activity will temporarily increase joint range of motion, it should not be considered as a program that develops flexibility.

Warm-up has two functions. It increases heart rate and it increases body temperature. The increase in heart rate prepares the cardiovascular system for the work ahead. The increased body temperature provides an improved environment for the complex chemical reactions that take place during physical activity. As the temperature of body tissues is increased, fluid viscosity is decreased. This, in turn, provides less resistance to movement and will indicate an increase in flexibility. However, the athlete will show no improvement in flexibility during the following weeks of activity from these warm-up activities.

Flexibility activity should be reserved to those exercises which can permanently and progressively increase the usable range of motion of a joint or set of joints. Flexibility exercises may be done along with warm-up exercises but it is not necessary. These exercises can be

done at any convenient time during the day. In fact, oftentimes they are repeated as much as five times per day.

The following are some principles that should be followed when developing flexibility. Again, these principles should not be considered the last word, but rather one subjective method of organizing some do's and don't's.

1. *Static Stretching.* Ballistic type stretching usually gives only temporary results and has several negative aspects. First, it will elicit a stretch reflex. (This will be discussed later.) Secondly, it does not maintain a position long enough to adequately elongate tissue. Another aspect is safety. Ballistic movements can damage or tear tissue. This is especially true when the exercises are utilized in the rehabilitation of an already damaged muscle. There is no universal rule regarding how long a stretch must be held. Some advocate one repetition that is held for as much as 15 minutes. Others advocate 10 repetitions that are held for 2 seconds each. There are many systems that fall somewhere in between. Let it be sufficient to say that time becomes a function of flexibility. Within certain parameters, the longer tissue experiences a stretched position the more readily it will allow that position to be a part of the normal range of motion.

2. *Isolate the Muscle.* As in strength work the proper muscle must be the recipient of the activity. We are trying to develop flexibility to prevent muscle strains, to relieve scar tissue, or to merely increase the range of motion to improve skills or functions. If the stretching takes place along the lines of least resistance, the athlete can "cheat" by maneuvering so that a muscle that already has good flexibility is being stretched. When this happens the desired results are not achieved. This is most easily observed when an athlete rotates his hips when attempting to stretch the hamstrings. This maneuver actually serves to put more stress on the adductors.

3. *Stretch to Tolerance.* Although stretching will elicit some discomfort the intensity of the activity should not be so great as to cause pain. This becomes most important when exercising in a post-traumatic situation. Pain becomes a very subjective item and many wonder where the line is drawn between discomfort and pain. There is no real answer to that, but the point is that every trainer should realize that flexibility exercises are not forms of torture.

4. *Gradualism.* Remember that development of flexibility takes time. One flexibility coach stated that a particular team had been on a flexibility program for three years and they were just then beginning to realize the benefits. It is hoped that benefits can be realized sooner than three years, but any gross attempts to develop flexibility in a short time run the risk of injury.

5. *Stretch only.* Don't ask the muscle to stretch and contract simultaneously. When an athlete bends over to touch his toes, the hamstrings must contract to stabilize his pelvis and at the same time the exercise attempts to elongate the muscle. It is felt that this maneuver does not adequately develop flexibility. That is not to infer that exercises such as toe taps are no good at all. They may be beneficial in warm-up or maintaining flexibility, but their value in developing flexibility is doubtful.

6. *Stretch reflex.* If a trainer is going to do the stretching, he should advise the athlete of every move. Sudden or painful movements will elicit a stretch reflex causing the muscle to contract. If that happens your energy will be wasted. To avoid a stretch reflex, the athlete should help by contracting the antagonistic muscle. This brings reciprocal innervation into the picture.

One method some trainers use to aid flexibility development is to have the athlete contract the muscle then relax it while a gentle but firm stretch is applied. This seems to allow greater progression without applying undue stress to the musculature.


It is difficult to determine when an athlete has developed optimum flexibility. Very little has been done regarding measured norms. After injury flexibility is often compared with the uninjured extremity. That has little value, however, if the athlete was "tight" originally. Some programs set varying functions as goals in flexibility. Presently this appears to be very subjective. Experience will probably be your best teacher at this point.

### Summary

After emergency medical techniques, therapeutic exercise is the most important of an athletic trainers duties. Although many bodily functions are developed through therapeutic exercise, this paper was concerned only with development of strength and flexibility. Goals and objectives must be identified for each athlete and/or condition. Then an individualized therapeutic exercise program must be established. A wide range of equipment and methodology is available and beneficial if the therapist-trainer follows basic principles. Basic principles of strength development include working pain free through a full range of motion, having complete control over the resistance, eliminating momentum, isolating the muscle to be developed, keeping the muscle overloaded and progressing gradually. Principles important in developing flexibility include static stretching, isolating the muscle to be developed, stretching to tolerance, working gradually, stretching only, and overcoming the stretch reflex.

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# First Annual N.A.T.A. Student Writing Contest

In an effort to promote scholarship among young athletic trainers, the National Athletic Trainers Association is sponsoring an annual writing contest.

1. This contest is open to all student members of the NATA.
2. Papers must be on a topic germane to the profession of athletic training and can be case reports, literature reviews, experimental reports, analysis of training room techniques, etc.
3. Entries must not have been published, nor be under consideration for publication by any journal.
4. The winning entry will receive a \$100.00 cash prize and be published in *Athletic Training* with recognition as the winning entry in the Annual Student Writing Contest. One or more other entries may be given honorable mention status.
5. Entries must be written in journal manuscript form and adhere to all regulations set forth in the "Guide to Contributors" section of *Athletic Training*. It is suggested that before starting students read: Knight K L: Preparation of Journal Manuscripts. *Athletic Training* 11: 171-173, 1976. NOTE: A reprint of this article can be obtained by writing to either the author (at the address below, or from Rod Compton, Editor-in-Chief, *Athletic Training*.)
6. Entries must be received by March 1. Announcement of the winner will be made at the Annual Convention and Clinical Symposium in June.
7. The Writing Contest Committee reserves the right to make no awards if in their opinion none of the entries is of sufficient quality to merit recognition.
8. An original and two copies must be received at the following address by March 1, 1979.

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By Dennis Aten, ATC  
Eastern Illinois University

### Ask Again?

What happens when people considering surgery get a second opinion? According to researchers at New York Hospital-Cornell Medical Center, many patients decide against surgery. In a recent study, 83% of those who voluntarily sought a second opinion and almost 68% of those who were told to get one decided against the surgery. Three of the operations most often decided against were hysterectomy, knee surgery and prostatectomy.

### Free Report on Smoking

The National Cancer Institute has produced a summary of the latest information on smoking entitled "The Smoking Digest — Progress Report on a Nation Kicking the Habit." The Digest reports on the activities, techniques and tactics of organizations involved in various smoking programs and suggest sources for more information. This 130 page publication is available free from Mr. John C. Campbell, Office of Cancer Communications, National Cancer Institute, Building 31, Room 10A16, Bethesda, Maryland 20014.

### Adhesions and Pitcher's Pain

The Physician and Sportsmedicine reported that a study by physicians at the National Athletic Health Institute in Inglewood, California, indicated that pitchers as a group spend too much time throwing. The study suggests that chronic shoulder pain of pitchers is due to adhesions in the region of the subdeltoid bursa rather than acute or subacute bursitis. Apparently the adhesions arise from repetitive micro-trauma from the strain of throwing.

Although the pain will usually subside with rest, cold, and oral administration of anti-inflammatory drugs, there is no known cure for adhesions. It is therefore important to recognize the problem early and to insist on proper throwing mechanics.

### Emergency Room

According to an American Hospital Association survey, emergency room use has doubled in the last decade, mainly due to patients' increasing use of the emergency department instead of their physician's office. The reason cited by most persons interviewed for the survey was that emergency departments are better equipped. Topping the list of ailments that would send a patient to the emergency room was a broken arm.

### Menstruation and Running

According to Ken Foreman, Ed.D., of Seattle Pacific College, long distance running may be a factor in the development of irregular menstrual cycles in females. After analyzing all the data he has collected, he concluded that something about intense training retards menstruation. Of 47 runners questioned, 27 were found to have a regular menstrual cycle, with no more than a six day variation. Nine were considered irregular with variations of one to four weeks and 11 were considered very irregular with periods occurring no more than twice a year and sometimes none at all. Those girls considered irregular averaged nearly 80 miles/week while the "regulars" averaged less than 64. Studies of athletes in other sports and non-athletes indicated that very few women had abnormal menstrual cycles.

Harmon Brown, M.D., an endocrinologist and director of student health services at California State University-Hayward, believes there is a connection between body fat



percentages and menstruation. Body fat is greatly depleted in long distance runners. Dr. Brown would like to study this and the relationship between irregular menstrual cycles and fertility. In one case a female long distance runner was unable to become pregnant during training but became pregnant immediately when training was stopped.

### Rehab

According to the Physical Fitness Research Digest, "muscular strength and endurance are best developed by applying strong resistance to the muscles . . ." Even though this statement is taken out of context, it still reminds us that conditioning and therapeutic exercise is not as complicated as we sometimes tend to make it. All the large, expensive equipment may help, but all that is needed is to resist a muscle's action. That can be done manually. Far too often rehabilitation is neglected with the excuse that we just don't have the proper equipment.

### Medical Examinations — NCAA Policy Change

In the 1977-78 NCAA Manual under "Recommended Policies and Practices for Intercollegiate Athletics", Policy 10 on page 120 reads as follows:

#### Medical Examinations

"Member institutions should require that all members of their intercollegiate athletic teams be given annual medical examinations."

For two years the NCAA Committee on the Competitive Safeguards and Medical Aspects of Sports included in their agenda items discussion on the topic of the need for the requirement for annual physical examinations and possible rewording of Policy 10. The following change in the wording of Policy 10 — Medical

Examinations was approved by the NCAA Committee on the Competitive Safeguards and Medical Aspects of Sports during their summer, 1977 meeting; presented to the NCAA Executive Committee in September, 1977 after being researched by the NCAA's attorneys; and subsequently adopted by the voting delegates of the NCAA at their annual meeting in Atlanta, Georgia in January, 1978.

"Pre-participation medical examinations should be required upon a student-athletes initial entrance into the institutions intercollegiate athletic program. This initial examination should include a review of the student-athlete's health history and a relevant general and orthopedic physical examination. Medical records maintained during the student-athlete's collegiate career should include a record of injuries and illnesses sustained during the competitive season and off-season, medical referrals, subsequent care and clearances, and a completed Health Status Questionnaire. Providing the continuous awareness of the health status of the student-athlete, the traditional annual pre-participation physical examination for all student athletes is not deemed necessary."

In the concluding paragraph of the Memorandum from the NCAA attorneys, it was stated that, "... From a legal standpoint, proposed Policy 10 appears in order. It has a dual thrust: first, by maintaining a current central medical file on student-athletes, a more complete picture of an athlete's status is available, thereby, in theory, providing better care for the athlete; second, maintenance of the file should help to insulate institutions from liability in that some legal writers have suggested the annual examination is more form than substance. It is interesting to note that Policy 10 meets the recommendations made by these writers. Policy 10 therefore appears legally proper and advisable."

Gordy Graham, ATC  
Athletic Trainer  
Mankato State University

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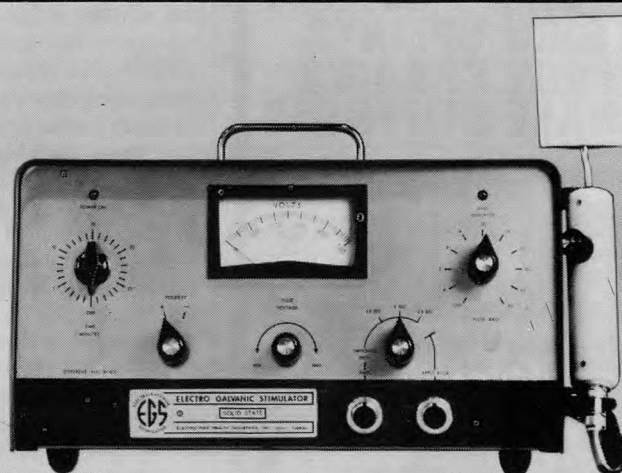
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## NAIRS CORNER

The following letter was received by the NATA Research and Injury Committee just prior to the convention in June. The letter concerns the NAIRS data base with which so many athletic trainers are associated and offers congratulations to you for your interest and concern for the future of sport.

June 5, 1978

Mr. John W. Powell Chairman  
National Athletic  
Trainers Association  
Research Committee  
131 White Building  
Penn State University  
University Park,  
Pennsylvania 96802

Dear Mr. Powell:

I have learned from my friends with NACDA that the National Athletic Trainers Association is holding its annual meeting in Las Vegas, Nevada, in Mid-June. I hope you will have the opportunity to convey to this group the ever widening awareness of the football equipment manufacturers and the attorneys who are involved in defending them that the NAIRS data is vital to the successful defense of personal injury litigation involving an alleged design defect in equipment. That is to say, in those cases where suit is brought contending that particular helmet was designed improperly by the manufacturer and as a result either causes injury or cannot protect against injury, the NAIRS data is practically the only truly admissible evidence to show that this contention simply does not stand up against the actual experience with the helmet.

The great majority of the lawsuits involve this claim of design defect and many courts will not allow an individual coach, trainer, or equipment man to express an opinion that the helmet is not dangerous as a result of its design. The courts contend that the individual coach does not have a broad enough base from which to form this conclusion. Thus, the best data is the NAIRS data.

Those trainers which have the foresight and energy to make the

necessary data available to NAIRS are to be congratulated, and even more important are to be recognized for the fact that without them, one very important collegiate sport might well go the way of the dinosaurs.

You may be wondering about the recent verdict wherein a jury awarded a \$600,000 verdict in favor of the plaintiff and against the manufacturer. That case was unique in that the jury found the manufacturer liable because fitting shims had been removed from the helmet and the manufacturer was not prepared to present proof that the absence of these shims did not truly make a protective difference. It is easy to see that had there been statistical data regarding use of the helmet with and without fitting shims, and had that data shown no statistical difference in the rate of injury, such factual evidence would have been extremely important.

One of the most important points that can be made in presentations to any of the athletic organizations around the country is the need to expand NAIRS to a truly nationwide program with the universal gathering of information. In the case of football, if it is not worth this effort, football is probably not worth playing.

Very truly yours,

BLACK, ROBERTSHAW,  
FREDERICK,  
COPPLE & WRIGHT, P.C.

By RICHARD A. BLACK

The NAIRS staff would like to add its congratulations and thank you for the patience and support you have given us. We look forward to serving you in the future.

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# Equal But Separate — Ensuring Safety In Athletics

by Marge Albohm, A.T.,C.  
Indiana University

The competitive athletic scene is in the forefront of controversy and is experiencing a period of great change. Those in athletics are being faced with many questions, which when answered will shape future athletic competition for all. Through the influence of the enactment of Title IX, one question in particular is being asked numerous times by numerous people throughout the country. That question is, do women have the right to compete on men's athletic teams when comparable women's teams do not exist? When that question is asked the opposite side is inevitable — do men have the right to compete on women's teams when comparable men's teams do not exist?

These questions elicit varied responses, all being loudly voiced and firm, and the court systems throughout the country are being asked to supply the final answers. But there exist facts, well documented and well proven that can provide some common sense answers to these controversial questions. Definite anatomical and physiological differences exist between the male and female that precludes mixed athletic competition in certain sports. It is necessary to look at these differences to provide answers to the questions concerning mixed competition because the differences are clear and the answers appear to be much simplified when we rely on the facts.

**PRE-PUBERTY** — No essential difference in work capacity exists between boys and girls in the period of pre-adolescence. (2) Males and females have the capability of equal performance up to ten to fourteen years of age. Females begin their adolescent growth spurt between 10 1/2 to 13 years of age. This growth spurt is terminated at the onset of menstruation and total growth terminates at approximately sixteen years of age. Males begin their

growth spurt at 12 1/2 to 15 years of age. These extra years of physical growth, under the influence of growth hormones, prior to sexual maturity, account for the greater size of males. Males experience, during this time, a significant increase in creatinine excretion, which is an indicator of muscle mass. This increase does not occur in the female.

Therefore, at puberty, boys surpass girls in all athletic performances, except flexibility. The male at this point becomes considerably stronger, taller, heavier, possesses greater muscular and cardiovascular endurance, and is more proficient in almost all motor skills. These differences increase through full maturity at which time they become relatively constant through life.

**FAT vs. MUSCLE** — By the age of seventeen, males are two to four times stronger than females as a result of a greater ration of muscle to fat in males. (5) Relative to body composition, females possess less bone mass and less muscle components than males. Muscle comprises 39.9% of the females total body weight as compared to 51.5% in males: The more fat and less muscle per unit volume in the female is significant in modifying a woman's work capacity, endurance and athletic performance in which strength is a factor. (5) "The combination of more fat and less muscle per unit volume has a deleterious effect upon physical performances requiring strength, speed and power". (3) This increased percentage of fat in girls places them at a disadvantage when competing against boys. Females accumulate fat on the waist, arms and thighs whereas men accumulate fat on the back, chest and abdomen. This difference in distribution has implications for movement efficiency. (3)

The fact that men are heavier, leaner and larger than women are current absolutes. The strength that women can generate as compared to men has been estimated at 75-80% (Rfland), 60% (Hettinger) and 50% (Shaffer-1964, Kroll-1971). (3) Assmussen (1973) has indicated that an average estimate from all studies might be that an adult woman can produce about 65% of the strength that an average man can produce. (3) These differences are attributed to the superior size of the male, the increase in muscle mass, and the strength proportional to the transverse sectional area of muscle.

**CARDIOVASCULAR DIFFERENCES** — The



*Ms. Marge Albohm received her B.S. degree from Valparaiso University, Valparaiso, Indiana and her M.S. degree from Indiana State University. She was the sixth woman Certified Athletic Trainer in the Nation.*

*Ms. Albohm is the Head Women's Athletic Trainer at Indiana University, Bloomington, Indiana.*

physiological support systems present some marked differences between the male and female.

It is apparent that men have larger hearts, greater stroke volume, greater cardiac output, greater lung capacity, faster return from exercise to resting levels, greater hemoglobin content and consequently, a higher aerobic capacity. Males have a greater potential for endurance that cannot be matched by females and at submaximal work levels, females have to work much harder to produce similar work capacities of males.<sup>(3)</sup>

The maximum oxygen uptake tests (the best single criterion of cardiovascular endurance) show a clear superiority for men. Males have a higher percentage of red blood cells than females and 30% greater amount of total body hemoglobin due to their greater size. This produces a higher oxygen content of the blood. Because of the smaller size of the heart and lungs in the female, a lower stroke volume and lower vital capacity exist. This data regarding physiological differences clearly indicates that women should not compete against men in endurance events, if competitors are to have equal opportunities to win.

**BIOMECHANICAL DISADVANTAGES** — From a biomechanical point of view "the longer and heavier bones of the male add to body weight and the longer levers provide a much greater excursion of the moving ends, resulting in greater speed and force, a decided advantage in throwing, striking and explosive types of events".<sup>(4)</sup> The longer the limbs and less fat in proportion to muscle mass, the greater the rotatory speed that may be produced.

The sex differentiated factors previously mentioned, such as "comparative body size, body composition, skeletal differences, muscle strength and mass, and cardiorespiratory functioning are reasons why performance differences between men and women are as great as they are".<sup>(3)</sup>

Since the muscles of the male are of greater bulk than the female and strength potential is directly related to the physiological cross section of the muscle itself, the male possesses greater strength in terms of muscle contraction. This advantage, coupled with the advantage he enjoys in respect to leverage and angles of pull, makes it possible for him to perform at levels of strength not possible for women.<sup>(4)</sup>

**MALE vs. FEMALE — A DEFINITE NO** — "Comparisons of the physiques of male and female athletes reveal that males have specific physical advantages that should preclude their competing with females".<sup>(3)</sup> The "anthropometric differences indicate that the female should compete only with those of her own sex in activities where strength, power, and endurance are the principle factors".<sup>(4)</sup> It is "inconceivable to believe that persons would suggest co-ed sports in which the average woman will engage in physical contact with the average man".<sup>(5)</sup>

Because of the distinct disadvantages between the male and the female it is advisable on medical grounds not to participate together in contact sports. Even when competitors are matched according to weight, girls are still exposed to potentially greater injury since the ratio of adipose tissue to lean body weight varies between the two sexes and puts the girl at a disadvantage. "Such participation with its inherent injury risk jeopardizes the health and safety of the female athlete and clearly outweighs the benefits of such participation."<sup>(2)</sup>

In 1973, the New York State Board of Regents passed an amendment granting boys the opportunity to compete in sports that were open formerly to women only. This is in accordance with the Title IX regulation prohibiting any student to be excluded from competition solely by reason of his or her sex. However, the amendment prohibits mixed competition in baseball, basketball, field hockey,

football, ice hockey, lacrosse, soccer, softball, speedball, team handball, power volleyball and wrestling".<sup>(1)</sup>

**CONTACT, NON-CONTACT?** Many sports are relatively easy to classify as contact or non-contact activities, i.e. football. However, the problem in determining appropriate sport participation for men and women becomes compounded when certain sports do not specifically fall into a contact, non-contact classification. Power volleyball has been a sport that has created great controversy in this regard. It is essential in these instances to refer to the factual information regarding the differences in the sexes that does exist.

The anthropometric and physiological differences mentioned above that exist between men and women, present specific information as to why men and women should compete on separate teams when considering the sport of power volleyball. Furthermore, the biomechanical advantage that the man possesses in regard to leverage and throwing and striking certainly creates an imbalance in force situation which places the female in a position of physical danger.<sup>(5)</sup> With his increased strength the male exhibits a greater vertical jump potential, that coupled with the official net height difference that exists in men's and women's volleyball (7'4 1/4" for women and 8' for men) gives the male a distinct advantage in spiking skills, and presents yet another potential danger for the female competing on an opposing team.

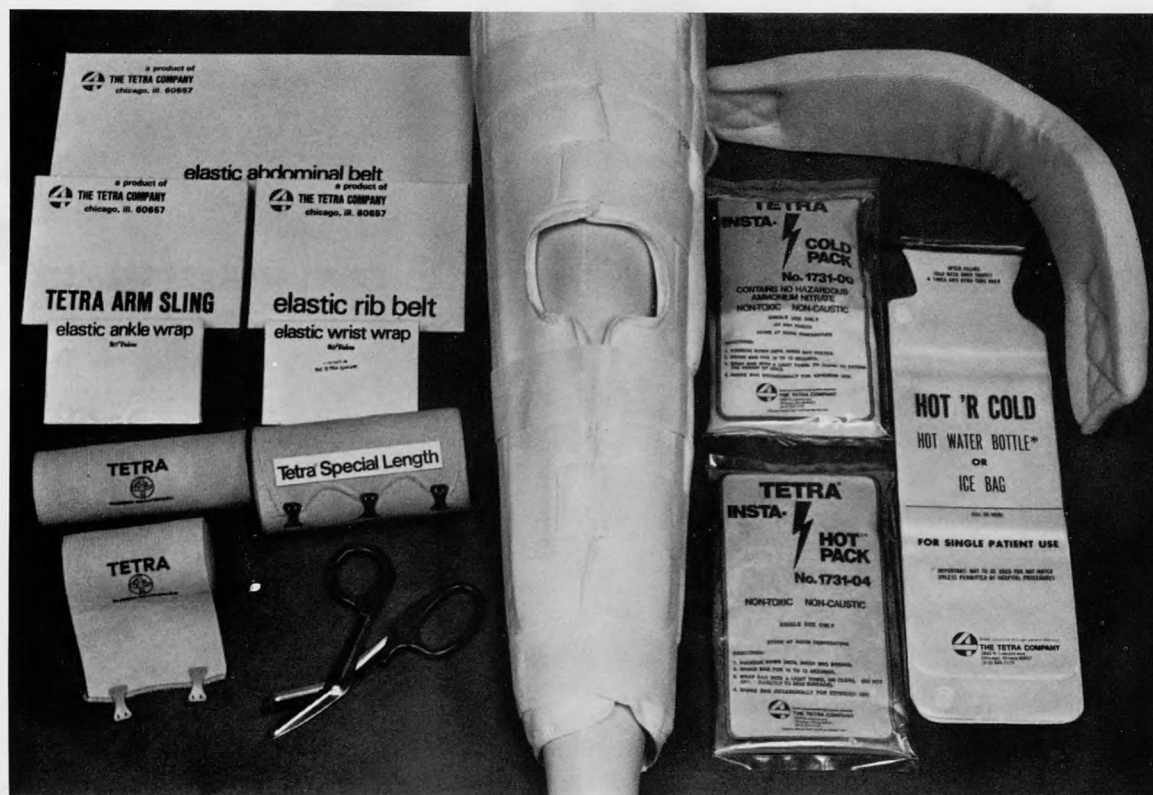
It must be the goal of all athletic programs to establish principles and guidelines for safe, challenging and enjoyable competition by girls and women. Such principles and guidelines must be established as a result of reviewing the factual information presented regarding the female athlete, not merely based on legal rights or emotions.

**CONCLUSIONS** — Women are certainly capable of competing successfully in high level athletic performances. The abilities of the female athlete have been previously underestimated and she has not been stressed or conditioned to her potential. Yet, "even though the female physical machine can become quite efficient, it is inferior in the production of muscular force, speed, and endurance when compared to that of the male".<sup>(3)</sup> The "essential fact is that the superior physical performance of the male is to be accepted as a performance dissimilarity, but not used as basis for sport inequality".<sup>(3)</sup> We do not consider the lightweight wrestler to be an inferior performer as compared to the heavyweight. But neither do we put the two athletes against one another in competition in the athletic arena and if we did, no one could ever call it equal or fair or safe — or even sport.

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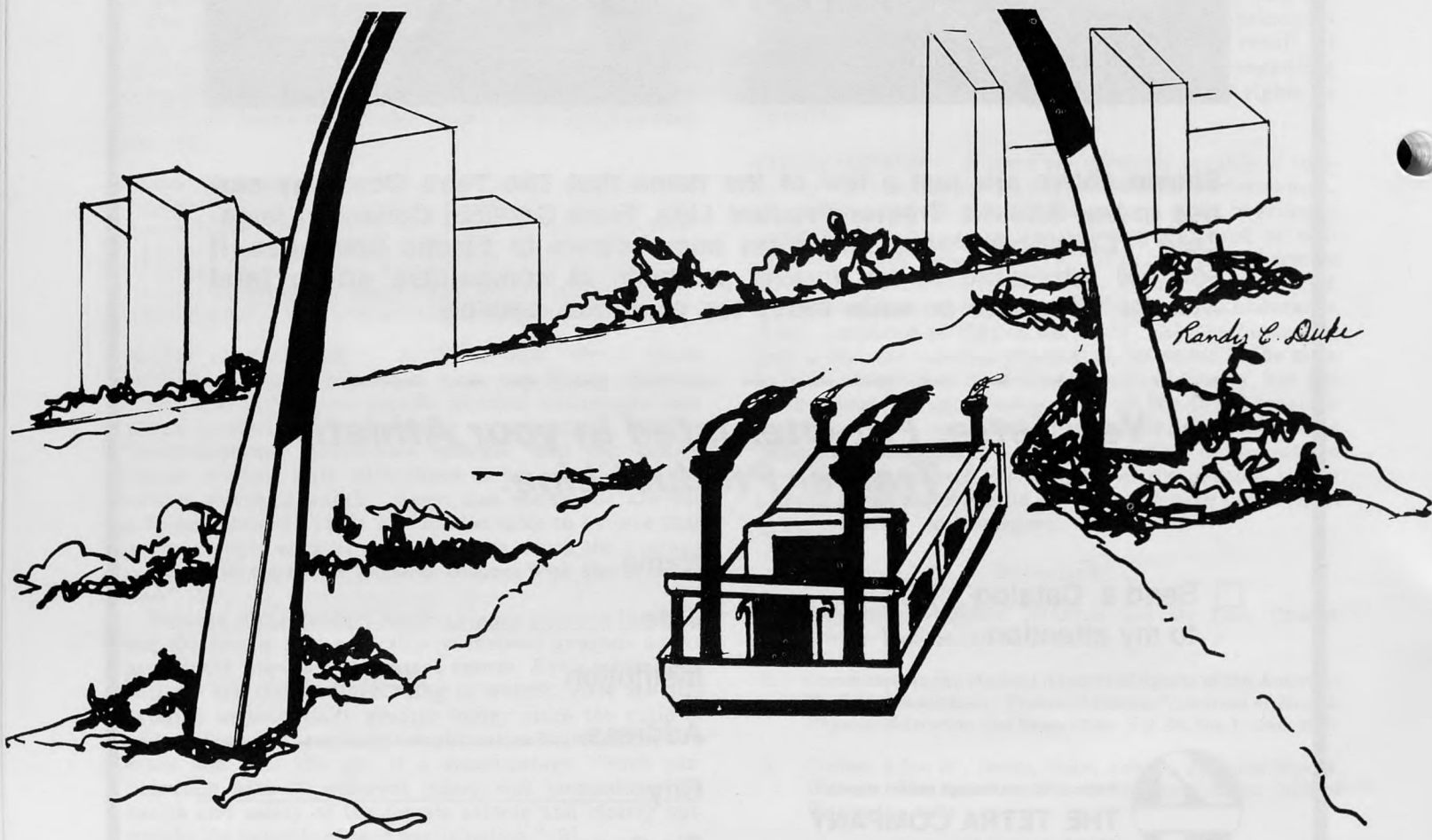
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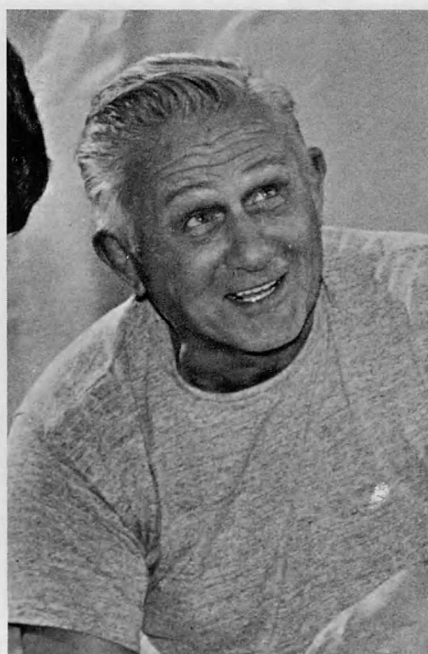


**a date to remember**



# In Memoriam

JOE BEGALA



Joe Begala, the Kent State University wrestling coach with the best record in collegiate history, died April 24 at Robinson Memorial Hospital. Begala was 72.

Begala, who lived at 1224 S. Lincoln St., Kent, was a coach at Kent State for 42 years in six sports. He was wrestling coach from 1929 when he came to Kent State until his retirement as coach in 1971.

His record in wrestling at Kent State is 307 wins, 69 losses and 5 ties. His .812 record for 42 seasons is the best in U.S. collegiate history. Begala also coached during various years football, tennis, golf, cross country and track. Further, from 1929 to 1952, he was head trainer for all sports.

His wrestling teams had seven undefeated seasons and he also had two undefeated teams in track and one in golf.

Coach of more than 200 champions, Begala was a member of the Ohio High School Coaches Association Hall of Fame, the Helms Hall of Fame and the Ohio University Hall of Fame.

He received his bachelor's degree from Ohio University, a second bachelor's from Kent State and a master's degree from Ohio State University.

Begala was emeritus professor of health, physical education and recreation. He retired a full professor in 1972.

He is survived by his wife, Harriet, two sons, John of Kent, Jergen of Atlanta, and six grandchildren.

He was born in Struthers, Ohio on March 4, 1906.

# In Memoriam

## JOHN E. BRENNAN

John E. Brennan, who had a 38-year career with the athletic department at the University of Pennsylvania, died at Fitzgerald Mercy Hospital. He was 79 and lived at 439 Hillcrest Ave., Glenolden, Delaware County, Pa.

Mr. Brennan served as varsity wrestling coach, team trainer and equipment manager during his career at Penn. He retired in 1964.

While at Penn he taped and treated many top Ivy League athletes. He worked for five football coaches — Low Young, Lud Wray, George Munger, Steve Sebo and retired while working for John Stiegman.

Brennan simultaneously helped train the Philadelphia Eagles under seven coaches and retired from that extra duty under coach Nick Skorich.

While at Penn he also coached the tennis team and was team trainer for the soccer club.

As a trainer, Brennan was known to admire the stoic athlete who showed indifference to pain. He said the best Eagle player he knew was Steve Van Buren. Brennan was working at the Eagles' preseason camp in Hershey when a rookie slammed into Van Buren. Brennan said, "Van Buren's knee was the worst I'd ever seen. Steve just laid there while I pushed it back into place."

Brennan was born and raised in the Grays Ferry section of South Philadelphia. He worked as a roofer before joining the athletic department at Penn.

He claimed to have learned his trade while on the job. He had no formal training. In 1961 the Penn Varsity Club recognized Brennan's service to the Red and Blue with the club's Award of Merit.

He is survived by his wife, the former Margaret White; four sons, John, James, Bernard and Joseph; a daughter, Mrs. Margaret Connolly; 33 grandchildren and 16 great-grandchildren. Another son, Thomas, died in the Pacific during World War II.



# In Memoriam

RICHARD K. COLE



Richard K. Cole, 69, of 12 Collation Circle, who retired in 1975 as associate professor of physical education and head athletic therapist at the University of Rhode Island, passed away on March 27, 1978. He had served in that capacity since 1941.

Dick was a 1931 graduate of Iowa State University and received a master of science degree in physiology from the same institution in 1935. He later received a master of science degree in education from the University of Rhode Island.

From 1932-1940 he served as an assistant athletic trainer, instructor in physical education and wrestling coach at Brown University. In his senior year at Iowa State he was the NCAA wrestling champion in the 135-pound class.

During World War II he served as a lieutenant commander in the U. S. Navy.

He was a member of the American College of Sports Medicine, the National Athletic Trainers Association and the Eastern Athletic Trainers Association. He was a District Director of NATA from 1955-1957.

In 1963, he won the Words Unlimited Award for outstanding contributions to athletics over a 30 year period. He received the College Football Centennial Award in 1969; in 1970 he was inducted into the Helms Hall of Fame; and in 1972 he received the University of Rhode Island Athletic Hall of Fame Award.

Professor Cole was a prolific contributor to many publications on the care and prevention of athletic injuries.

Besides his wife, Alice (Hackett) Cole, he leaves three sons, a daughter, a brother and a sister.

# In Memoriam

## ROOSEVELT 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 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, attorneys, physicians and athletes before he retired in 1970.

Collins was a self-taught trainer, a charter member of the National 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.

He came to Colorado College in 1935 as athletic trainer and equipment manager for W. T. "Bully" Van de Graaff, then director of athletics. Collins' first job in athletic training was at Louisiana State where he was a rubber and equipment manager. Collins once said he got his training base at LSU, where he took training courses and worked with track athletes with knee and thigh injuries. Collins was later known for his expertise in handling knee injuries.

Leon Snyder, a semi-retired lawyer in Colorado Springs and a close friend of Collins' was instrumental in introducing Richard Nixon to Collins. In 1952 when Nixon was campaigning in Colorado for the vice-president post with Dwight Eisenhower, Nixon came down with neck pains. Snyder took him to see Collins and the pair went to the CC training room.

"I just rubbed the kink out of his neck and he was all right," said Collins. "The thing that sticks out in my mind was the way Nixon answered the questions the kids asked. We had a couple of Phi Beta Kappa's on the team and they asked him some real tough questions."

When Collins retired from CC, he explained to a newspaper reporter how he got into athletic training. "I went to the University of Illinois with the hope of becoming a doctor of medicine," he said. "After a few months I realized I wasn't making enough money to get through school. I went in for a talk with one of my professors. He told me that I would probably go blind

before I ever got through school because of my eyes. He said the best thing I could do was go into athletic training. He said I had the knack for it and that I could learn from experience rather than wasting my eyes on books.

"At first I thought he was wrong, but now I know it was the best thing that ever happened."

And the players on each of Colorado College's athletic teams have had special feelings for Collins. "Rosey always had the time to give you, both with injuries and personal problems," said Mike Yalich, former CC hockey player. "I can remember having a leg injury that took 16 days to fix, and Rosey was there with me till 10 p.m. every night and back again at 7 a.m."

Al Binns, former CC football coach, commented on the help Collins gave the coaches. "There was this kid with poor feet," he said. "I was almost ready to cut him because he just couldn't run and it was really hurting him. He worked with the kid a couple of months and he turned out to be the best football player we had on the team."

Jerry Carle, CC's athletic director and football coach, said of Collins: "I feel I can speak for all of the athletes who were fortunate enough in having Roosevelt Collins as a friend and trainer during their stay at Colorado College when I say they have never shared an experience that has left a more rewarding or profound influence on their lives than their association with Rosie."

Collins was the seventh recipient of the annual "Good Joe" award presented by the Colorado Springs Quarterback Club in December of 1966 and that same year, he received a 25-year award from the National Athletic Trainers Association for his work with athletic teams, an award he had postponed for two years so the honor could come after 25 years at CC.

He was honored for his services to CC in 1960 by Dr. Louis T. Benezet, then president of CC, and again in 1969 by current president Lloyd E. Worner.

Collins' community activities included membership in the Elks Lodge, the St. John's Baptist Church and a Republican committeeman for El Paso County. He served as an alternate delegate to the 1952 National Republican Convention in Chicago.

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



# In Memoriam

JAMES W. (DOC) LITTLEJOHN, JR.



St. Lawrence University and the National Athletic Trainers Association have lost the dedicated service of James W. (Doc) Littlejohn, Jr., through his death Feb. 12, 1978.

Born on June 3, 1904 in Lake Placid, N.Y., Mr. Littlejohn attended Springfield College and later was graduated from the Bilik School for Trainers in New York and also from Idrotts Skalan Valadealen, a renowned training school in Sweden.

He was sports director at St. Marguerites, P.Q., Canada, for three years and for more than 15 years served as sports director and ski instructor at the Lake Placid Club and the village, during which time that community hosted the 1932 Winter Olympics. His association with St. Lawrence University began after those games when he was invited to conduct ski classes for men and women.

That association continued as he joined the St. Lawrence staff in 1942 as trainer and was the university's acting athletic director. He also coached SLU varsity ski teams from 1942-48.

The recipient of many honors, he was included in "Who's Who in American Education" in 1964, and was elected to membership in the national Helms Hall of Fame for Athletic Trainers in 1966. He was also tapped for membership in Omicron Delta Kappa, national honor society, at St. Lawrence University.

He retired as University trainer in 1969, capping a career in which he coached almost every sport and lectured and wrote extensively on physical training and athletics.

A strong and warm-hearted man, Doc's dedication to his profession and those it served will stand as an example for all. We inscribe here our gratitude for his life and service.

# In Memoriam

ROSS MOORE



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

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

After being graduated from high school, Moore attended Marshall Junior College in Marshall, Tex. In 1936, Moore transferred to the Texas College of Mines (TCM) where he graduated in 1939. In his senior year he was selected for "Who's Who Among Students in American Colleges and Universities."

After graduating from TCM, Moore was hired to coach the school's freshman basketball and football teams.

Because of World War II, TCM suspended intercollegiate athletics. In 1943, Moore was hired to coach the Tigers, El Paso High School's football team. The Tigers were the city champions that year.

Following a two-year stint in the Navy, Moore returned to El Paso and TCM. In 1946, he was head basketball coach, team trainer and an assistant to head football coach Mack Saxon.

Also in 1946 Jim Bowden came to TCM. Now the athletic director, Bowden remembers Moore:

"I first met Ross in June, 1946. I

was a student then and he was an assistant coach. After I graduated I kept close contact with him. There is not a memory of Ross that isn't special. I've never known any person who had endeared more people through his work than Ross Moore. He was one of the leaders in coming up with the use of fiberglass for protective equipment."

Moore was the coauthor, along with the late David Cameron of El Paso, of the paper, "Use of Fiberglass as a Protective Padding for Athletes."

During the 38 years he spent here, Moore made countless friends. Many of them affectionately referred to him as "Moe."

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

Two of the many members of the University community who hold fond memories of Moore are head football coach Bill Michael and head basketball coach Don Haskins.

"Moe was a man who stood for many things: he was a trainer, a father figure to many and he stood for the highest principles," Michael says. "To me he was an institution within an institution. I've known him for 12 years. I had a great deal of respect

and admiration for him."

Michael also pointed out that Moore had three things he held as truly important: his family, his church, and this school.

"No one will ever take his place. We'll adequately fill the position but for what he stood for, he can't be replaced. We've lost a great friend, coworker and humanitarian. His work will live on as long as there is an athletic program at UT El Paso," Michael said.

Head basketball coach Don Haskins also was among those hit hard by Moore's death. "This is the first year he (Moore) hasn't been on our bench. Words cannot express what I thought of him. He was more than just a trainer," Haskins says. He adds that he has known Moore since he, Haskins, came to the school 17 years ago.

"He (Moore) didn't talk a lot but when he did he had something to say. I have never known anybody who didn't like him. He has and had super trainers, especially Don Smelser and Vince Scott. He has trainers all over this country. In my estimate, he was the finest trainer in the U.S.," Haskins says.

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.



# In Memoriam

GEORGE T. ROWLAND



George T. Rowland spent his career serving people. As an Educator with a BS degree in Health and Physical Education from East Stroudsburg State College, he was Director of Health and Physical Education at Cherry Hill High School and an instructor at Haddon Township High School; as a Physical Therapist with certification from the University of Pennsylvania, he established a private practice in his community; as an Athletic Trainer, he was head trainer of Glassboro State College and Haddon Township High School.

He was a member of the National Athletic Trainers Association, Eastern Athletic Trainers Association and the New Jersey Athletic Trainers Society. Also he was active in American Physical Therapy Association and the New Jersey Chapter of the American Physical Therapy Association.

One of his awards for service was being named "Man of the Year", 1969, by the Southwestern New Jersey Chapter of the Multiple Sclerosis Society. But his greatest award was seeing youth become respected members of his community and knowing that he, George T. Rowland, had an important role in their development as an educator, therapist and trainer.

# announcements

## The Professional Education Committee Announces The Presentation Of Its Third Professional Preparation Conference

The NATA's Professional Education Committee will hold its Third Professional Preparation Conference entitled "Updating Basic Athletic Training Education" at the Opryland Hotel, Nashville, Tennessee on January 5, 6, and 7, 1979. The purpose of this educational program is to provide continuing education information on the current techniques for the prevention and care of athletic injuries that certified athletic trainers would utilize in carrying out their duties. It is also felt that the level of this presentation would also provide the program directors of athletic training educational program the opportunity to become aware of the most recent developments in the field of athletic training education.

John Schrader, Indiana University, is serving as the conference chairman and Jack Redgren, Vanderbilt University, is serving as the site chairman. Additional information on the program and housing for the conference may be obtained from these members of the Professional Education Committee.

Although the agenda for the upcoming conference has not been finalized, the speakers will consist of a blend of outstanding physicians, athletic trainers, physical therapists, a lawyer, and an exercise physiologist. The following speakers and topics have been confirmed:

Dr. Nathan Smith, University of Washington Medical School and author of *Food for Sport*; "Weight Gain and Loss" and "Pre-Game Meal Planning"

Jack H. Wilmore, Ph.D., University of Arizona and President of the American College of Sports Medicine; "Specificity in Strength Training and Conditioning"

Sandy Burkhardt, West Virginia University and Chairman of the Orthopaedic Section of the American Physical Therapy Association; "Tissue Healing"

John Spiker, West Virginia University and Program Director of The Athletic Training Education Program; "Practical Applications of Tissue Healing Principles for the Care of Athletic Injuries"

Other topics to be covered:

- Clinical experience evaluation
- Legal liability and the athletic trainer
- Anatomy of the shoulder
- Problems with the shoulder

The proceedings of the conference will be recorded, edited, collated, and printed for publication. The registration fees for the conference are \$35.00 for members of the NATA and \$70.00 for non-members and the enrollment is limited to 250 participants.

### Other Professional Education Committee Happenings

1. The Proceedings of the Second Professional Preparation Conference held January 6-8, 1978 at the Opryland Hotel, Nashville, Tennessee, will be available at a later date.
2. New committee members are Lou Osternig, University of Oregon; John Schrader, University of Indiana; and Glen Snow, Floyd Central Indiana High School.
3. The application fee for schools seeking initial NATA approval of their athletic training educational programs has been increased to \$100.00.

4. The following athletic training educational programs were approved by the Board of Directors at their Las Vegas Meeting: Ithaca College (Undergraduate Program), Western Michigan University (Graduate Program), and Indiana University (Graduate Program).
5. The workshops held at Las Vegas were tape recorded and will be made available to the NATA membership as soon as they can be edited.

## N.A.T.A. EDUCATIONAL PROGRAMS LEADING TO PROFESSIONAL CERTIFICATION IN ATHLETIC TRAINING

Programs listed here are approved by the National Athletic Trainers Association. For detailed information, write to the program director whose name is given in parentheses in the listing. Three basic plans of education for athletic training are listed in the following key:

- (1) Bachelor's degree level curriculum
- (2) Master's degree level curriculum
- (3) High school faculty instructional programs

### ARIZONA

#### UNIVERSITY OF ARIZONA (2)

Department of Physical Education  
Tucson, Arizona 85721 (Gary Delforge)

#### ARIZONA STATE UNIVERSITY (1)

Department of Health, Physical Education & Recreation  
Tempe, Arizona 85281 (Troy Young)

### CALIFORNIA

#### CALIFORNIA STATE UNIVERSITY, FULLERTON (1)

Department of Health, Physical Education & Recreation  
Fullerton, California 92634 (Jerry Lloyd)

#### CALIFORNIA STATE UNIVERSITY, LONG BEACH (1)

Department of Physical Education  
Long Beach, California 90840 (Dr. Daniel Arnheim)

#### CALIFORNIA STATE UNIVERSITY, NORTHRIDGE (1)

Department of Physical Education & Athletics  
Northridge, California 91324 (Larry P. Krock)

#### CALIFORNIA STATE UNIVERSITY, SACRAMENTO (1)

Men's Intercollegiate Athletics  
Sacramento, California 95819 (Gerald W. Bell)

### DELAWARE

#### UNIVERSITY OF DELAWARE (1)

Department of Physical Education & Athletics  
Newark, Delaware 19711 (Dr. C. Roy Rylander)

### ILLINOIS

#### EASTERN ILLINOIS UNIVERSITY (1)

School of Health, Physical Education & Recreation  
Charleston, Illinois 61920 (Dennis Aten)

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# Transcutaneous Electrical Nerve Stimulation (TENS) For The Treatment Of Football Injuries

By  
STEVE MOORE, A.T., C.  
Tennessee Tech

Owing to the nature of our profession, we frequently deal with people who exhibit pain after an athletic injury.

The physically active athlete soon finds that pain is the primary defense mechanism that limits activity following injury to the musculoskeletal system. Following such injury, pain and spasm unite in an unending cycle which keeps the athlete from performing at his or her peak level of efficiency.

Indek and Printy (2) write that "pain is a universal experience and is probably the motivating factor for most patient visits to their physician." This author would amend this by substituting the words athlete for patient and athletic trainer for physician. There are three commonly proposed theories of pain sensation mentioned by the authors. They continue by saying that "the specificity theory is traditional and holds that the sensation of pain is the result of specific peripheral nerve excitation. The impulse is then transmitted in a similar manner as touch, cold, and warmth. Free nerve endings have been considered as the most probable pain 'end organ' and once stimulated transmit the impulse through specific tracts to a central pain center — whether it be the thalamus or the cerebral cortex."

Shealy, Beckner, and Prieto (7) advanced a "pattern theory" of pain whereby a stimulus evokes a specific pattern which is interpreted by the brain. Many oppose this theory as being too general in nature.

Melzack and Wall (3) as reported by Roeser, et al (6) advanced the "gate control theory" of pain transmission. This theory holds that selective stimulation of cutaneous afferent nerve fibers of large diameter inhibits pain. It is this theory that adapts itself to the concept of pain control through dorsal column stimulation by implantation of electrodes placed subdurally in an attempt to close the gate to pain signals, thus relieving chronic, intractable pain (5, 8). It was further found that peripheral stimulation could often relieve chronic pain if applied to the site of pain or to an area subserved by the peripheral nerve (9).

Indek and Printy (2) advance the gate control theory as an explanation of how the use of electrical stimulation may be effective in preventing pain impulses from reaching the cortex. The electrical stimulation can create impulse transmission within the large fiber and stimulate enough positive excitation to subsequently inhibit pain impulses. Treatment with electrical impulses, according to the authors, depends on the ability to stimulate the large

fibers with a low strength current. TENS employs an electrical impulse that is generated by a battery-powered source and can be modified in the pulse amplitude, rate, and duration.

Hymes, et al (1) as reported by VanderArk and McGrath (10) first used transcutaneous electrical stimulation to control acute postoperative pain. They reported a remarkable decrease in postoperative pain, atelectasis, ileus, and duration of intensive care.

VanderArk and McGrath (10) studied the efficacy of transcutaneous electrical stimulation in alleviating acute pain in postoperative patients on a prospective, randomized basis. Transcutaneous electrical stimulation proved to be remarkably effective in relieving pain in these patients.

Tennessee Tech employed five TENS units for the treatment of a wide variety of musculoskeletal injuries during the 1977 football season. TENS was used for a wide variety of such injuries as ankle sprains, thigh contusions, gastrocnemius contusions, hyperextended elbows and knees, groin strains, first degree collateral sprains of the knee, and mild to moderate degree "stinger" injuries of the brachial plexus. Other forms of treatment employed in conjunction with the application of TENS included ice and heat applications mainly in form of ice bags and heat packs.

The TENS unit, in all cases, was used according to accepted procedures advocated by Roeser, et al (6) and the manufacturers.\* This unit is very similar in size and method of utilization as the unit described in Roeser, et al (6). The one main difference is that this unit employs two independent circuits having two wires per circuit for a total of four wires that must be attached to the skin. This unit has two rechargeable type AA batteries as its power source. Each unit comes supplied with six rechargeable batteries and a battery charger/tester unit. This was found to be particularly advantageous to continuous treatment over several days, since a constant supply of freshly charged batteries was available. Each pair of charged batteries lasted for about eight hours, thereby allowing for overnight treatments as well as "all morning" treatment during classes without the worry of changing batteries.

It was found that the best results in pain management and subsequent relief from muscle spasm was obtained through use of the interferential technique of electrode placement on the skin. This technique can only be used with units having two electrical circuits independent of each other. The electrodes are placed in an "X" pattern with the lines of current crossing in the middle of the "X" as illustrated in Figure 1. This is otherwise known as "criss-crossing" of polarities (4). In this technique the red electrode of each circuit was placed proximal to the trigger point.

During the time that TENS was used, the electrodes were taped to the skin with hypoallergenic tape, and they were relubricated with electrode gel each time the unit's batteries were changed; i.e., approximately every eight hours. The unit itself was worn strapped, in its own cloth



Steve Moore has been the Head Athletic Trainer at Tennessee Tech for the past ten years. Prior to that time he was Assistant Athletic Trainer at Indiana University.

He also serves as Secretary-Treasurer of District 9 of the National Athletic Trainer's Association.

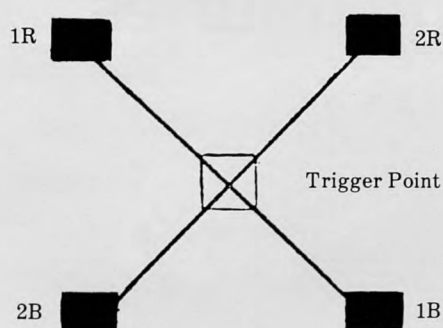
\*Stadynamics, Inc., Longmont, Colorado



pouch, around the waist. It should be noted that there are some qualifications to the use of TENS (4).

1. TENS should only be used upon referral by a doctor.
2. TENS should not be used where analgesia may mask progressive pathology.
3. TENS should not be used in the presence of cardiac pacemakers.
4. TENS has not been evaluated regarding its safety during pregnancy or over long periods of time.

In all cases, the athlete was first seen by the team physician for diagnosis of the injury. In addition, all cases were treated continuously with TENS for periods of up to two weeks where conditions warranted. For all intensive purposes, the athletes were treated "all the time", the only time no TENS treatment was administered was during the short duration of time that it took to change batteries early in the morning and late in the afternoon.



Where: 1 R = Red Electrode of Circuit #1  
 1 B = Black Electrode of Circuit #1  
 2 R = Red Electrode of Circuit #2  
 2 B = Black Electrode of Circuit #2

FIGURE 1

## Cases

A. A starting offensive lineman received a lumbar paravertebral strain during Tuesday "chute drills." The spasm was of such magnitude that he required transportation via ambulance and overnight treatment at the local hospital. He was treated after discharge by TENS, using the interferential method previously described. He showed dramatic relief after 48 hours of continuous treatment. However, he was withheld from the upcoming game. He continued to receive continuous treatment for two weeks and was allowed to practice and play the week following the initial injury.

B. A linebacker suffered a contusion of the right A-C joint during tackling drills. He was immediately treated with ice for two hours and continuous TENS, using the interferential method of electrode placement with the "X" crossing at the A-C joint. This was carried out immediately after the injury occurred and up until and immediately after x-rays were shot. He was asymptomatic after two days of virtual continuous TENS treatment.

C. A quarterback suffered a 2 degree inversion ankle sprain. He was treated using ice, compression, elevation, and TENS continuously for 48 hours. After this TENS was used continuously, reinforced with ice, compression and elevation three times daily for 30 minutes. In this case, as in all other ankle sprains that were treated with TENS, the red electrodes were placed proximal to the injury on the medial and lateral aspects of the lower leg at the level of the gastrocnemius musculotendinous junction.

The black electrodes were placed at the trigger points, wherever they happened to be in proximity to the malleoli, with placement completing a circuit on the lateral and medial aspects of the joint. The athlete was treated with the TENS unit continuously for three days and was asymptomatic at the end of this time. It should be noted that he was treated with TENS in conjunction with ice, compression, and elevation during the first 48 hours.

TENS was employed on two athletes with sprained ankles during the actual contests. In these cases, the electrodes were incorporated into the strapping as in Case C. These electrodes protruded from the strapping just below the knee. A student trainer carried the generator and connected it to the athlete whenever he came off the field. We experienced moderate success with this venture and were not really able to draw any significant conclusions relative to its value.

D. A defensive end suffered a contusion of the lateral iliac crest in the eighth game of the season. He was treated with xylocaine by our team physician and followed up with ice, compression, and TENS. Ice and compression were continued for 48 hours in conjunction with the TENS. At the end of this time, only TENS was used. He recovered enough in four days so that he was able to practice and to play the following week as long as he wore a protective pad.

## Summary

In summary, TENS was employed for the management of pain in a wide variety of athletic injuries. The best method of application was found to be the continuous criss-crossing method for several days, with some exception results obtained in the management of pain.

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## Tips from the Field

# Trainer's Suggestions on How to Prevent Many Injuries and Infections

by  
**BOB SPACKMAN, Trainer**  
Southern Illinois University

Bob Spackman, Trainer  
Associate Prof. Phys. Ed. — Ath. Dept.  
Southern Illinois University  
Carbondale, IL 62901

At Southern Illinois University we try harder to prevent injuries, infections and colds all year long.

Here are a few things we do that other schools and professional teams may try to help prevent problems before they begin.

### *Prevent Those Colds*

We use Teri Paper Towels (#4301-10 Kimberly - Clark Paper - 15" x 25") for all time-outs in all sports except football. We no longer use the traditional community towels for time-outs. No more switching towels after one player blows his nose, another player expectorates in his towel, another wipes a wet spot on the floor, all players wipe the perspiration, etc. With a clean paper towel on each time-out, we know we have less colds, mono, and respiratory infections when an athlete gets a severe cold he is no good to the team for seven to ten days. Too many athletic contests are lost when your first string players catch a cold.

### *Prevent Foot Infections*

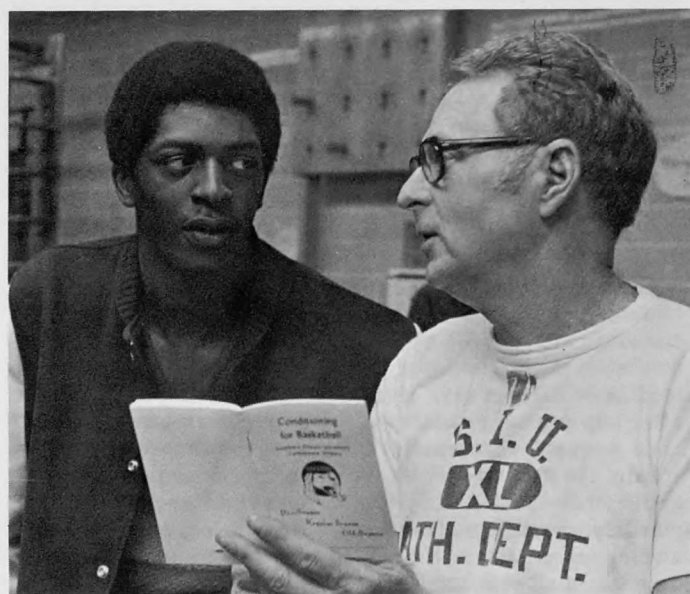
We suggest all athletes buy some type of shower shoes to wear in the shower room, and to wear walking around in the locker room and training room. This too is another preventive measure we use to prevent athletes foot, plantar warts and fungus infections.

### *Another Method to Prevent Colds*

Hair styles are a big problem today at all schools. Everyone wants to be in style and do their thing, so long as hair and beards are in. During the season, we suggest shorter hair. It's not because the establishment (coaches) likes short hair as most athletes believe. We don't care if you wear it down to your gluteus in the off-season.

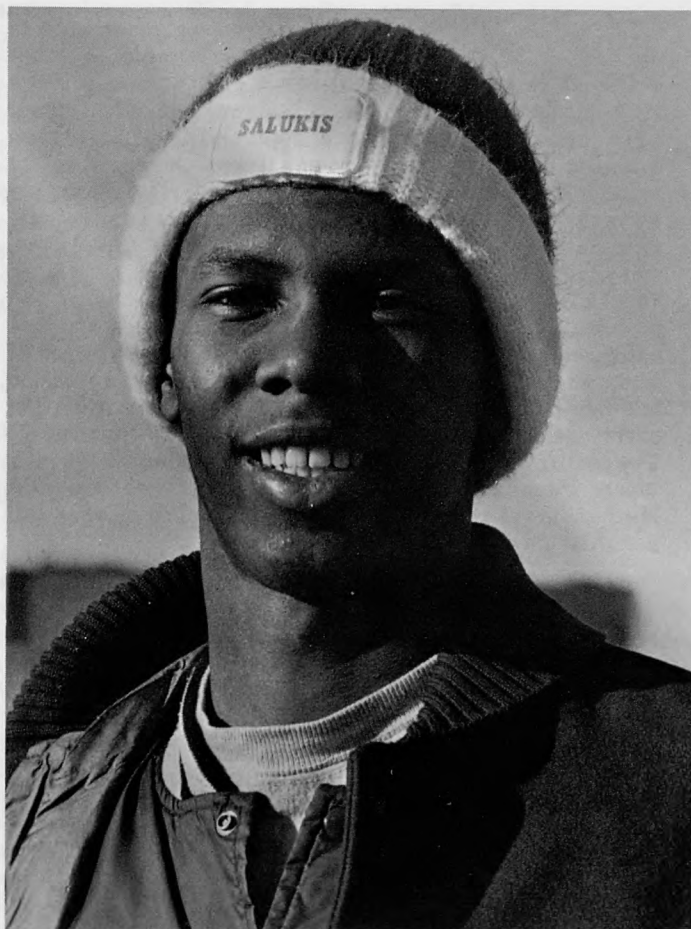
We suggest short hair for several reasons. Athletes take a lot of showers and in some schools sauna and steam baths. With long hair, one also perspires more. One cannot dry long hair completely and fast enough to get to dinner on time after practice. I have seen athletes come in the dining hall with their hair frozen and full of ice. When one gets chilled, viruses seem to jump on the athlete, and we have more colds and respiratory infections. Today, many schools supply hair dryers and some athletes bring their own dryer.

To help prevent colds from long wet hair in the winter, coaches buy their athletes wool caps with a school emblem or sport name. We insist that every athlete wear a wood hat (we supply) over their wet hair and ears to help prevent chills and colds when you can't dry your hair well.

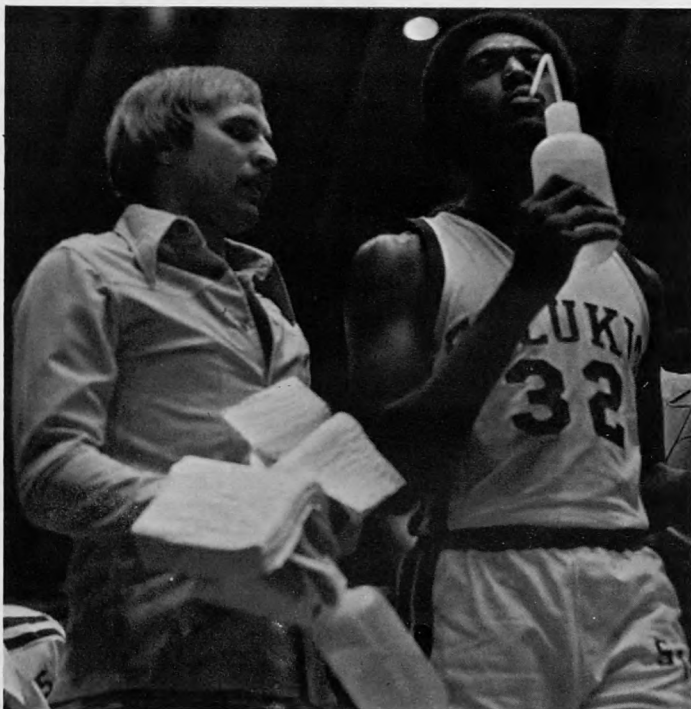


"Doc" Spackman and S.I.U. basketball player Al Grant discussing year-round conditioning.





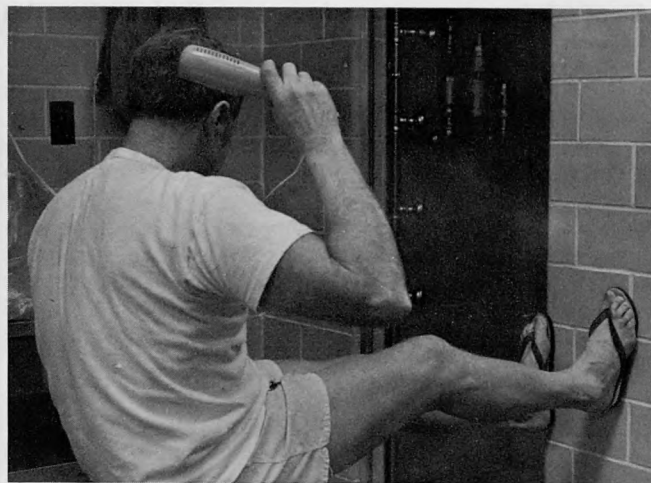
**Chris Giles, S.I.U. basketball player, wearing wool hat used to prevent head colds and infections during the winter sports seasons.**



**Gary Fitzgerald, S.I.U. basketball manager, gives Milt Huggins paper towels during a time out.**

#### *Prevent Head and Neck Injuries*

Long hair on football players is much more serious. Colds are a problem, but with long hair and a poor fit on helmets, we get more concussions, skull fractures, nose fractures, head and neck injuries.



**Hair dryer and shower shoes are used at S.I.U. to prevent colds and infections.**

Helmet manufacturers claim they cannot fit helmets well with long hair. When one has a half inch or more hair then necessary, the helmet will slide around and slide forward. We have many more nose fractures when the face masks butts the ground. Even the best fitting air or other inflatable helmets cannot be made to fit well with long hair. When you see a player lift his helmet by the face mask and slide it back to take a drink of water, *the helmet does not fit.*

We cannot force athletes to cut their hair, but we tell them, "If you care about your head and want to prevent colds, and head and neck injuries, you will wear your hair short during football season."

*"Do not share your equipment"* It is nice to be friendly and share things, but this should not be done in athletics. Never borrow or wear someone else's sweatshirt, shoes, shorts, T-shirt, jock, etc. Don't dry with anyone's towel or borrow his comb or brush. These things can cause many problems with infections, folliculitis, dandruff, athletes foot, plantar warts, and many other problems.

*Taking salt-potassium pills* is always a big controversy in the medical profession. After questioning many physicians on the use of salt pills, we feel we may take a few more than other universities. With young, perspiring athletes, the need to replace these electrolytes is much greater. It is the opinion of many physicians that they would rather the athlete take a little more salt than he needs than suffer a muscle strain, tear or severe cramps due to insufficient salt-potassium pills. In the young, vigorous athlete, the body will throw off the little excess.

Salt-potassium helps maintain the electrolyte balance in the body. It slows down the rate of fatigue, helps prevent cramps, dehydration and prevents muscle strains and tears. There is much physiology involved here, but we very seldom have any muscle strains or muscle tears at SIU with our athletes taking salt-potassium pills.

As athletic trainers, "Prevention is our business." Salt-potassium pills prevent the many hamstring injuries that many physicians feel are caused by the lack of, or to few, salt-potassium pills.

Consult your team physician for the number of salt-potassium pills your athletes should be taking for their sport.

#### *Supervise Athletes Diets*

*Athletes are poor eaters* when it comes to getting balanced diets. They will eat anything that won't bite them back, but only foods that taste good, or what smells good at the time. Most are meat and potatoe eaters, and between meals and all night long they will eat ham-

*Continued on page 160*

## abstracts

"Role of Spleen in Choline Stimulation of Reticuloendothelial System and Resistance to Acute Hemorrhage," *Proceedings of the Society for Experimental Biology and Medicine* 158: 77-80, May, 1978. B. M. Altura

This study was undertaken to determine whether the spleen plays a role in choline-induced reticuloendothelial system (RES) stimulation and protection against hemorrhagic shock. Separate groups of normal, sham-operated, and splenx pretreated animals (saline controls and choline injected) were subjected to acute hemorrhagic shock. The animals were bled over a 20-30 minute period via cannulated femoral arteries to a fixed 3% by body weight. The blood was withheld from these animals for two hours. After returning the blood, intra-arterially, the cannulas were removed and the wounds sutured. All of these animals were observed for survival for 7 days. Mortality data were statistically analyzed using the chi-square test. Phagocytic indices (K values) and organ weights were compared by means of Student's t test. Choline administration to normal and sham-operated rats resulted in slightly more than a 100% increase in RES phagocytic activity when compared to normal controls or sham-operated animals. The results of this study make it clear that the presence of a functioning spleen is necessary for choline induced RES stimulation and shock protection, it is not clear as to just how these actions are brought about.

John Wells

"Adverse Reactions to Methicillin and Nafcillin During Treatment of Serious Staphylococcus Aureus Infections," Lubica M. Kancir, M.D., et al, *Archives of Internal Medicine* 138: 909-911, June, 1978.

It is assumed that all penicillinase-resistant penicillins are equally effective in treating infections caused by Staphylococcus aureus. Methicillin sodium was the first such drug available and has been the standard against which all others have been compared. Its efficacy is unquestioned. In addition, it generally costs less, and because of being less protein bound is believed to penetrate tissues more effectively. Little is known, however, about the relative toxicities of one semi-synthetic penicillin compared to another. This article reports a number of patients with serious infections due to S aureus who were treated either with methicillin or nafcillin sodium.

Fever attributed to drug reaction was defined as 38 C or greater, not attributable to other definable causes, associated with a rash and/or pruritis that disappeared on discontinuance of the drug. Leukopenia was taken as a total WBC of less than 4,000/cu mm. Neutropenia was taken as an absolute neutrophil count of less than 500/cu mm. Urinary tract abnormality due to a drug reaction was defined as the sudden onset of proteinuria and hematuria, usually accompanied by pyuria and fever in a patient having no renal abnormalities present on admission and having had persistently negative urine cultures. Methicillin and nafcillin seem to be equally effective in the treatment of serious infections due to S aureus. The general impression has been gained that methicillin is more toxic than the other semisynthetic penicillinase-resistant penicillins. The occurrence of fever, rash or pruritis was three times more frequent with methicillin than with nafcillin. Methicillin also produced a higher incidence of hematologic abnormalities than nafcillin.

John Wells

"The Effect of Tobacco Smoke on the Metabolism and Function of Rat Alveolar Macrophages," *Journal of Cellular Physiology* 95: 105-117, April, 1978. David B. Drath, et al.

Sterility of the lower respiratory tract is maintained largely by the pulmonary alveolar macrophages; a cell which must ingest (phagocytize) and inactivate living and non-living particle material to which the lung is exposed. Potential damage to the macrophage by an agent such as tobacco smoke, which contains both particulate and non-particulate material could lead to microbial infection. This study examined the effect of tobacco smoke on the functional ability of alveolar macrophages and on the release of superoxide and hydrogen peroxide. The experimental animals used were rats which were subjected to 30 consecutive days of smoke inhalation. Smoke from 10 reference cigarettes was administered three times per day. This amount, as determined by means of a particulate matter tracer material, roughly corresponds to between 1-1.5 packs of unfiltered cigarettes/day in man. Lavage fluid and the isolated cell pellets from smoker animals were readily distinguishable by their brownish color from the lavage fluid and greyish pellets of controls. Macrophages from smoker animals appeared by light microscopy, to contain more granules than control cells. The most striking observation was that the cells from smoker rats released more than twice as much peroxide as controls on a milligram protein basis.

John Wells

"Serum Testosterone and Aggressiveness in Hockey Players," Thomas J. Scaramella, M.D. and Walter Armin Brown, M.D. *Psychosomatic Medicine* XL: 262-265, May, 1978.

The relationship between aggressive behavior and Testosterone in man has not been clarified. This paper reports preliminary data from a study designed to examine the relationship between serum testosterone concentration and aggressive behavior in competitive hockey players. Competitive sports and particularly hockey offer the opportunity to study aggressive behavior in a natural setting. Subjects were 14 male varsity college hockey players, all members of a nationally ranked team of 18 players. They ranged in age from 18 to 23 years with a median age of 21.6 years. Each of the two team coaches independently rated each player on a 7-item scale designed to assess a range of behaviors related to



aggressiveness. Blood samples were obtained by venipuncture between 3:30 P.M. and 4:00 P.M. prior to a practice session. Ratings on each aggressiveness item ranged from 1 to 5. Since the interrater reliability was quite high, the mean value of the two ratings were used for correlational analysis. Serum testosterone concentration ranged from 3.7 to 8.1 mg/ml with a mean of 6.2 mg/ml. While 6 of the 7 aggressiveness items showed positive correlation with serum testosterone, only item 6 (response to threat) was significantly correlated. This study demonstrated a positive correlation between degree of aggressive response and serum testosterone.

John Wells

"Carpal Tunnel Syndrome Secondary to Carpopedal Spasm," E. Wayne Massey, et al, *Annals of Internal Medicine* 88: 804-805, June, 1978.

Carpal Tunnel Syndrome is a common neuropathy that is either idiopathic or occurs in association with a wide variety of other disorders. This is believed to be the first report of carpal tunnel syndrome occurring as a consequence of prolonged hypocalcemic carpopedal spasm in a patient with hypoparathyroidism. A 55-year-old right handed woman underwent total thyroidectomy and left radical neck dissection in 1962, for thyroid carcinoma with lymph node metastases. Postoperatively, she developed hypoparathyroidism and was placed on vitamin D and calcium. Her hypocalcemia nonetheless persisted, and she suffered intermittent episodes of tetany. She was treated with intravenous calcium. Her acute problem resolved, but she noted continued numbness and loss of strength in her thumb and first two fingers of her left hand. The patient was placed in a left volar rest and night splint, Vitamin D2 and calcium lactate were withdrawn, and her hypoparathyroidism was treated with dihydrotachipterol with liquid calcium gluconate. The role of chronic hypocalcemia in the pathogenesis of the patient's problem affords interesting speculation. It is known that calcium acts as a membrane stabilizer and decreases the resting leakage of sodium and potassium across the cell membrane during their respective concentrations gradients. Under normal conditions, aerobic metabolism (glycolysis) is required to restore these gradients. In states of hypocalcemia, more glycolytic activity is necessary to maintain normal resting potential, hence the capacity for normal function. When glycolysis is impaired by hypoxia and stagnation, as in carpopedal spasm, the nerve may be more prone to develop carpal tunnel syndrome if hypocalcemia exists.

John Wells

"Sudden Death in a Patient on a Liquid Protein Diet," Robert M. Michiel, M.D., et al, *The New England Journal of Medicine* 298: 1005-1007, May 4, 1978.

Sudden deaths in adults without serious underlying heart diseases has emerged as a major complication of the liquid protein diets. Fifteen such cases have been reported to the Center for Disease Control and the Food and Drug Administration since July 1, 1977. This communication describes the course of one of these patients who was admitted to the Upstate Medical Center with intractable ventricular arrhythmias. The findings on post-mortem examination of the heart, skeletal muscle, and liver are compatible with starvation. The liquid protein diets are based on the protein-sparing modified fast, which is said to result in weight loss with preservation of lean body mass by providing 1.2 to 1.4g of protein in the form of lean beef or egg albumin per kilogram of ideal

body weight. In the commonly used version of the liquid protein diet, a liquid extract of beef hide is employed as the protein source. This patient had evidence of loss of lean body mass attributable to the diet that she pursued as recommended in *The Last Chance Diet*. Her clinical course and pathological findings suggest that her death was related to the cardiac effects of starvation resulting from the diet. On admission her serum levels of potassium, magnesium, and calcium were normal. She was chemically hypothyroid, but her hospital course and the post-mortem findings could not be explained on that basis. The actual cause of death in patients on the liquid protein diet remains a mystery.

John Wells

"Racket Sports: An Ocular Hazard," Paul F. Vinger, M.D. and Daniel W. Tolpin, M.D., *JAMA: The Journal of the American Medical Association* 239: 2575-2577, June 16, 1978.

Racket sports (tennis, badminton, squash, and racquet ball) have enjoyed explosive growth during the past several years, but the general public and many physicians are unaware that these sports present a potential ocular hazard to the player. During 1976, racket sports were responsible for an estimated 3,220 eye injuries to U.S. players. This prospective study was conducted from June 1, 1976, through September 1, 1977 (15 months). All eye injuries from racket sports seen in a practice of five ophthalmologists were included. The breakdown of injuries by sport was as following: tennis (player) 68; tennis (non-player) 5; squash, 6; badminton, 2; and racquet ball, 1. When injuries were grouped by their severity, males had the larger proportion (65%) of serious injuries ( $P = .01$ ). Players could reduce the potential for injury if they would wear eye protective devices, develop a strategy to avoid being hit, and have a strategy to avoid hitting the opponent. An eye protector should absorb the energy from the racket, ball, or shuttlecock before the eye is struck. Since contact lenses transmit the impact directly to the eye, they are valueless for protection purposes. For these sports the authors strongly advise those who wear spectacles wear industrial plastic safety lenses (ANSI Z87.1-1968) mounted in a sturdy frame (industrial or athletic). Preliminary testing has shown that commercially available eye protectors and industrial plastic lenses (ANSI Z87.1-1968) mounted in sturdy frames can withstand the impact of the racket blow from an experienced player.

John Wells

"Spontaneous Epidural Haemorrhage: A Surgical Emergency," Nicholas P. Packer and Brian H. Cummins, *The Lancet* 8060: 356-358, 18 February 1978.

Spontaneous epidural haemorrhage means bleeding outside the dura mater within the spinal canal for no apparent reason. This clinical definition excludes cases of haemangioma of the vertebra body, cases in which anti-coagulants or bleeding diatheses are responsible, and those in which trauma is a definite factor. Minor trauma and hypertension have been suggested as causes; and in a small group, including the two cases presented here, a vascular anomaly is present. Case 1, a 13-year-old girl had twisted her ankle two days prior to hospital admission. Case 2, a 17-year-old boy had a one month history of back pain prior to hospital admission. Spontaneous epidural haemorrhage is a true surgical emergency. Any unexplained paraparesis, attended by back pain, particularly in the young, should be vigorously investigated, and early laminectomy is vital when the myelogram is abnormal.

John Wells

# Ankle Taping: An Alternative to the Basketweave

by  
**CHARLES R. FELDER, MS, RPT, ATC**  
Athletic Trainer/Physical Therapist  
Sports Medicine Division  
Children's Hospital Medical Center  
Boston, MA 02115

and  
**JACK MCNEELEY, MEd, ATC**  
Head Athletic Trainer  
Cleveland State University

Ankle injuries are one of the most common athletic injuries that trainers treat. The majority of ankle sprains are of the plantarflexion inversion type, involving the lateral ligaments (1-3). Ankle taping is a common practice for attempting to decrease the incidence and severity of ankle sprains, and for protection following injury. Garrick and Requa (4) in their study of collegiate intramural basketball players demonstrated that ankle taping has a significant effect on the reduction of ankle sprains. They also reported that this effect was most pronounced for athletes with a prior history of ankle sprains. In consideration of the above facts the authors agree with Walsh and Blackburn (5) and tape only those athletes with a prior history of injury, to this group we also add any athlete with excessive joint laxity, usually in inversion, as determined by our team physicians.

The Gibney basketweave with Louisiana heel locks is the most commonly described method of taping (1-0). The basketweave provides compressive support for the soft tissues. Louisiana heel locks with a figure eight are used to limit inversion, eversion, plantarflexion, and dorsiflexion. As pointed out by Davies (10) the Louisiana technique of applying lateral heel locks tends to invert the foot. We agree with Davies in suggesting that lateral heel locks be applied in a distal to proximal manner that would promote eversion.

We feel that effective taping should incorporate the following principles: (a) consideration of the mechanics of injury with tape applied to counteract the movement; (b) proper joint position for maximum stability, or if desired

mobility; (c) use of the proper size and type of tape; and (d) the area must be properly prepared by cleaning, shaving, and dressing any wounds. In addition to the above general principles ankle taping should have the following characteristics for athletes with lateral sprains: (a) stirrups applied firmly with a slight lateral force to slightly evert the foot, these stirrups tend to push the talus proximally into the ankle mortice and improve joint stability; (b) distally to proximally applied heel locks with the lateral heel lock applied first, this tends to hold the subtalar joint in slight eversion; and (c) except for a small portion of the lateral heel lock applied first, this tends to hold the subtalar joint in slight eversion; and (c) except for a small portion of the heel, the foot and leg must be completely enclosed in tape from the head of the fifth metatarsal to the midcalf just below the fleshy portion of the gastroc-soleus group to provide firm soft tissue compression.

The principle advantages of this method of ankle taping when compared to the standard basketweave are: (a) increased plantarflexion and dorsiflexion while maintaining similar control of inversion and eversion; (b) it is faster to apply, 45-60 seconds is average for a proficient trainer, 60-90 seconds for an average trainer; and (c) it requires approximately one-half roll less tape per ankle.

Tape is most effective when applied directly to the skin, however, it can be applied over a pre-taping underwrap to decrease skin irritation. If the tape is applied directly to the skin lubricated guaze pads can be placed along the achilles tendon near the heel and over the top of the foot to prevent blisters or tape cuts in these sensitive areas. If an underwrap is used the skin should be shaved and prepared in the usual manner with the first strip of tape applied half on the skin and half on the underwrap to provide a solid base of support. The underwrap should be applied in a figure eight manner with the heel exposed to allow for another anchor point to the skin.

## MATERIALS REQUIRED:

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| Spray adherent                      | tiona)                            |
| Lubricant (optional)                | 1 1/2 inch athletic tape          |
| 3 x 3 inch guaze sponges (optional) | Bandage scissors, or tape cutters |
| 3 inch pre-taping underwrap (op-    |                                   |

## INSTRUCTIONS:

The ankle should be shaved to midcalf, or the base of the gastroc-soleus group, and placed in the 90 degree, or neutral position. In the case of lateral ankle sprains the ankle can be placed in slight eversion to relax the lateral

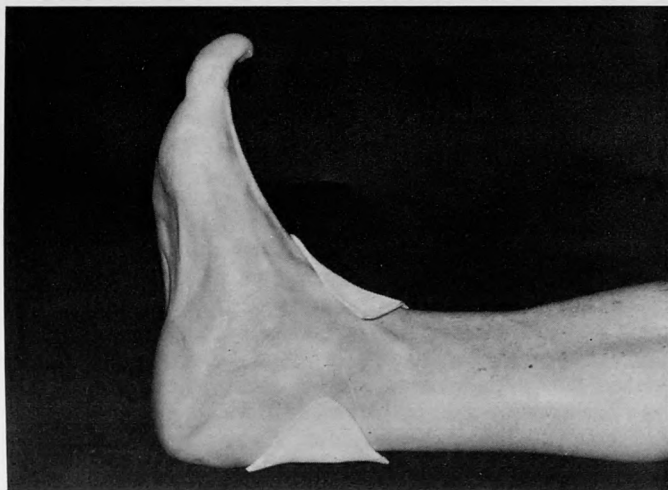


FIGURE 1: The ankle has been shaved to midcalf, sprayed with adherent and the lubricated guaze pads are in place.



FIGURE 2: The underwrap has been applied in a figure eight manner with the heel exposed to act as an additional anchor point to skin. The first anchor strip is applied half on the skin and half on the wrap.



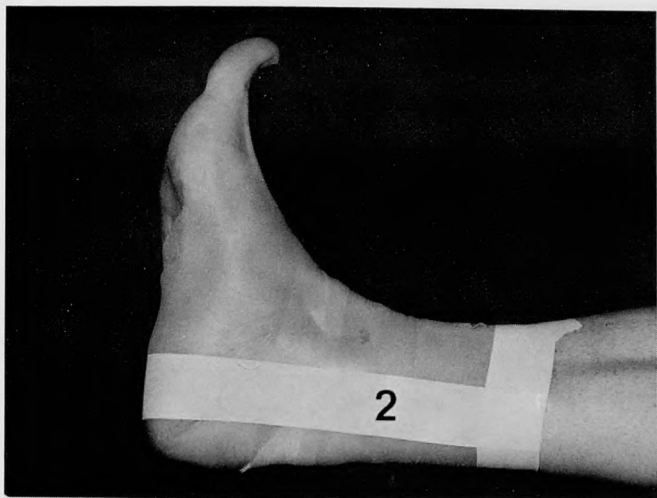


FIGURE 3: The first stirrup bisects the malleoli and covers the lower half of each.



FIGURE 4: The second stirrup bisects the malleoli and covers the upper half of each.



FIGURE 5: The second anchor strip holds the proximal ends of the stirrups in place.



FIGURE 6a: A lateral heel lock.



FIGURE 6b: (Lateral view) A lateral heel lock, note the starting point and angle across the heel.

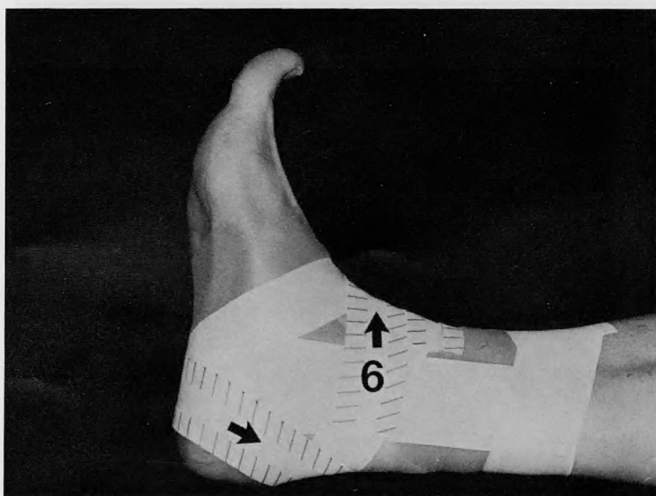


FIGURE 7a: A medial heel lock, note the starting point and the angle across the heel.

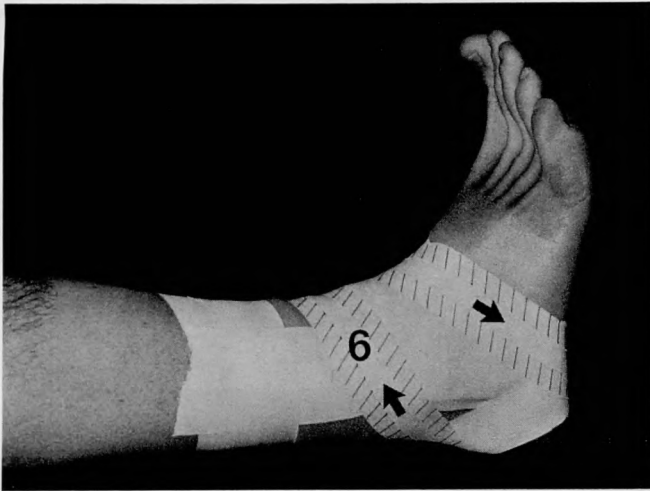


FIGURE 7b: (Lateral view) A medial heel lock.

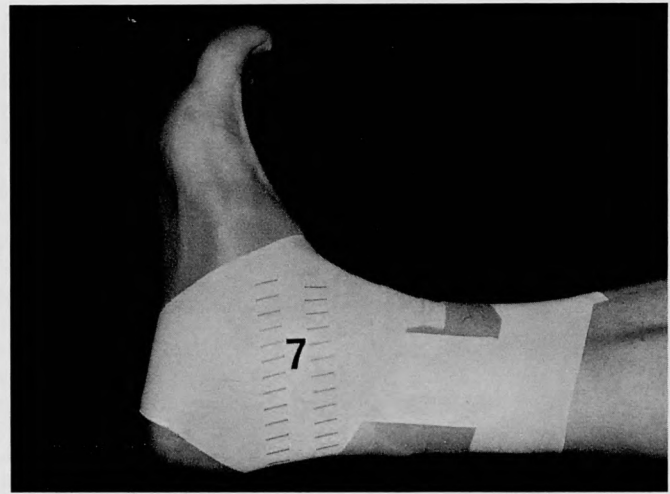


FIGURE 8: The Achilles tendon anchor strip.



FIGURE 9: Arch support and foot anchor.



FIGURE 10: Closing strip.

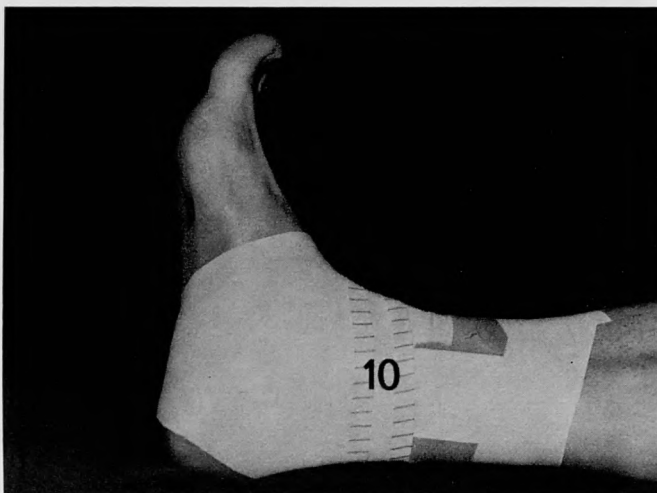


FIGURE 11: Closing strip.



FIGURE 12: Closing strip.





FIGURE 13: Closing strip.



FIGURE 14: Closing strip.



FIGURE 15: Closing strip.



FIGURE 16: Final proximal closing strip and anchor. Do not impinge on the bulge of the calf.



FIGURE 17: Final anchor around the foot, do not impinge on the head of the fifth metatarsal if possible.



FIGURE 18: Completed taping. Note that all skin between the head of the fifth metatarsal and the base of the calf is covered, except for the back of the heel. Any openings may promote the formation of blisters.

ligaments. The base of the calf is placed at the end of the table, with the foot off the end, to allow sufficient space to tape without interference from the table. The athlete should not move the ankle until the taping is completed. Spray the ankle lightly with the adherent and apply the lubricated guaze pads, and underwrap if desired (FIGURE 1).

**STEP 1 (FIGURE 2):** The top anchor strip is placed at midcalf at the base of the bulge formed by the gastroc-soleus group. If underwrap is used this strip should be placed half on the skin and half on the underwrap to form a firm anchor.

**STEP 2 (FIGURE 3):** The first stirrup bisects the malleoli on both sides, covering the lower half of each. It must be applied with firm upward pressure evenly distributed on each side, or in the case of a lateral sprain more pressure can be placed on the lateral aspect to slightly evert the foot.

**STEP 3 (FIGURE 4):** The second stirrup is applied with a one-half overlap of the first stirrup covering the upper half of each malleolus. It is applied with the same pressure and in the same manner as the first stirrup.

**STEP 4 (FIGURE 5):** A second anchor strip is placed around the base of the calf to hold the proximal ends of the stirrups in place. It is applied in the same manner as STEP 1.

**STEP 5 (FIGURES 6a & 6b):** The lateral heel lock is applied by starting on the lateral malleolus then coming over the top of the foot. Angle for the heel while crossing the sole of the foot, pass around the side of the heel and behind the Achilles tendon. Continue up and over the medial malleolus.

**STEP 6 (FIGURES 7a & 7b):** The medial heel lock is applied in a similar manner to the lateral heel lock. Start over the medial malleolus, go over the top of the foot. Angle down to the heel while crossing the sole of the foot, go across the heel and behind the Achilles tendon. Continue up and over the lateral malleolus.

**STEP 7 (FIGURE 8):** The Achilles tendon is covered by a strip that begins at the medial malleolus, goes behind the Achilles tendon and up to the lateral malleolus. Cover any holes in the back and sides, and secure the heel locks with this strip. This must be angled slightly to prevent buckling of the tape as it crosses the Achilles tendon.

**STEP 8 (FIGURE 9):** An anchor strip is applied around the arch of the foot. Tear a piece of tape about ten inches long off the roll. Place the tape under the arch and wrap it around the foot crossing the ends over the top of the foot.

**STEPS 9-14 (FIGURES 10-15):** Closing strips are applied starting just above the malleoli, angling around the back and finishing on the top of the foot near where they started. They are applied firmly but not tightly, and must be angled to prevent buckling of the tape. They must overlap the previous strip by one-half to two-thirds. The number of strips often varies between athletes. Be extremely careful to cover any holes between the pieces of tape as any open spaces may promote the formation of blisters.

**STEP 15 (FIGURE 16):** The top anchor strip is applied the same as the previous closing strips. It is the uppermost piece of tape and must cover all loose tape ends with nothing showing beneath it. Keep this piece below the bulge formed by the gastroc-soleus group.

**STEP 16 (FIGURE 17):** An anchor strip is also applied around the foot. Start on the top of the foot, and overlapping by one-half the tape already applied, wrap it around the foot. It should cover all loose tape ends with nothing showing beneath it. Keep this strip at least two finger widths away from the base of the fifth metatarsal, and off the head of the fifth metatarsal. Do not apply this too tightly as some athletes cannot tolerate this strip.

The taping is now completed. Remember that there should be no holes along the Achilles tendon or the sole of the foot, and the tape should lie smoothly, without wrinkles in all places (FIGURE 18). Have the athlete step on the foot. If it feels excessively tight, or if the toes are cold or changing color, remove and reapply the tape. It is normal for the tape to feel snug when first applied, however, it should be comfortable after a few minutes of movement.

Extra heel locks may be applied to provide more support if the ankle is excessively weak or has been recently injured. These are applied directly over the completed tape job. If the ankle has been recently injured, the athlete should also be on an exercise program to return muscular strength, endurance, and joint proprioception to the pre-injury levels. Don't depend on taping alone to protect an injured ankle.

## SUMMARY:

An alternative to the standard Gibney basketweave ankle taping method is presented. It has the following advantages over the Gibney basketweave: (a) It allows a more normal range of motion in plantarflexion while still providing adequate support in inversion; (b) it requires less time for application per ankle; and (c) it requires less tape per ankle. This ankle taping method has been very successful for athletes under our care, both for injury prevention in ligamentously lax athletes, and for injury protection. We recommend it as an alternative to the standard Gibney basketweave.

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# PROCEEDINGS of the NATIONAL ATHLETIC TRAINERS ASSOCIATION

## Twenty-Ninth Annual Meeting

June 13, 1978  
MGM Grand Hotel  
Las Vegas, Nevada

### TUESDAY MORNING SESSION

June 13, 1978

The Twenty-Ninth Annual Meeting of the National Athletic Trainers Association was convened at the MGM Grand Hotel, Las Vegas, Nevada, at 11:15 o'clock a.m., Mr. Frank George, President, presiding.

**PRESIDENT GEORGE:** Thank you for coming to this meeting and good morning. I would like to welcome the members of the National Athletic Trainers Association and their guests to Las Vegas and to this Twenty-Ninth Annual Meeting.

If you will all stand, we will have the Pledge of Allegiance.

... The membership arose and rendered the Pledge of Allegiance ...

**PRESIDENT GEORGE:** If you will remain standing, we will have the invocation.

Dear Lord, thank you for bringing us together today. Please instill in us the knowledge and ability to perform our duties as athletic trainers and thank you for giving me the opportunity to serve NATA. Amen.

Now, I would like to extend a special thanks from the Association to Bill Chambers, the Las Vegas Symposium Chairman and our new President; to Don Chu, the Program Chairman; Lew Crowl and Gary Tuthill, the Banquet Chairman; Roger Dennis and Monte Smith, for developing the Student Trainer Program and to our host trainer, Dave Knoeppel of the University of Nevada, Las Vegas.

I would also like to thank all of the Committee members for the many hours of work they devoted to the Association to make this Twenty-Ninth Annual Meeting of the NATA a success.

The first order of business is that I would request a motion to dispense with the roll call.

May I have that motion?

... The motion was made by Paul Zeek, seconded by Ken Murray, voted upon and carried ...

**PRESIDENT GEORGE:** The next item concerns the approval of the minutes of our 1977 business. These were published in the Journal and at this time I will entertain a motion for the dispensing of the reading of those minutes.

May I have such a motion?

... The motion was made by Dick Milder, seconded by Billy Pickard, was voted upon and carried ...

**PRESIDENT GEORGE:** The next order of business we will entertain is that of Otho Davis, who will give us the 1977-1978 Report of the Treasurer.

**MR. OTHO DAVIS:** This is the Treasurer's Report for the year 1977-1978, NATA, submitted by the Executive Director on June 9, 1978, to the Board of Directors as follows:

General Fund Account, \$14,163.78.

Deposited in the First State Bank of Greenville, North Carolina, certification account, \$9,505.66.

Certificate Savings Account, \$4,837.68.

Certificate Plaque Account, \$2,426.95.

All three of those are deposited with the National Bank and Trust Company, Ann Arbor, Michigan.

Journal Account, \$1,126.98.

Journal Account B, \$4,399.64.

Both of these accounts are deposited with the First State Bank of Greenville, North Carolina.

National Convention Account, \$25,991.12, deposited with the First National Bank of South Carolina.

Deposited in the Philadelphia National Bank, mortgage and realty account in the amount of \$78,000.

Fixed Maturity Certificate, \$10,000.

Passbook Savings Account, \$2,623.99.

Career and Information Services Committee, \$91.18, deposited with the Pioneer National Bank.

Total assets, \$153,166.98.

Disbursements for the fiscal year 1977-1978 were \$211,462.72 and this does include transfer of funds from specific checking accounts to the savings accounts.

There was a figure of receipts in the amount of \$292,206.31, giving a total of \$14,163.78 in General Funds.

As a comment, let me say that the Journal of Athletic Training, for the first time in the history of the Association, has operated at a profit.

Therefore, our total assets at the present time are \$153,166.98.

**PRESIDENT GEORGE:** Thank you, Otho.

May I have a motion to accept the Treasurer's Report?

... The motion was made by Warren Lee, seconded by Tom Little, voted upon and carried ...

**PRESIDENT GEORGE:** We will now have the Report of our Executive Director concerning a summary of the actions of the Board of Directors from June 9, to June 11 of 1978.

**MR. DAVIS:** This is a summary of actions of the Board of Directors.

The first meeting was held commencing at seven p.m. on Friday, June 9th, continued all day and into the evening of Saturday and adjourned on Sunday, June 11th at approximately one-forty o'clock p.m.

Mr. Frank George, our President, presided.

Regarding Career and Information Services, the Board accepted the financial report of the Committee and approved a budget request in the amount of \$200.

Regarding the Certification Committee, approved certification of Dusty Rippey, with her original effective certification number; approved a budget request in the amount of \$4,000 and approved the holding of a Mid-winter Meeting of the Certification Board, no funding being necessary.

Regarding the National Convention Committee, that in relation to all grants and scholarship awards, that the name of the contributor be included in the program of the Student Awards Banquet; announced at the Business Meeting; made a part of the press releases and also a part of the Board minutes.

Concerning History and Archives, accepted the report that the NATA history was being reworked and it was hoped by the end of the summer it would be in print.

The Board likewise accepted a \$25 check tendered by Spike Dixon, this money to be placed in a separate bank account to be called the Spike Dixon Memorabilia Account. This is for the future years' collection of various modalities, etc., concerning old trainers.

Regarding the International Games and the USOC, that for the 1980 Olympic Games, the experience requirement be dropped from seven to three years and that there be submitted to the Sports Medicine Committee of the USOC the previously established proposal of the NATA Board of Directors for their acceptance or rejection.

Regarding the Journal, approved an expression of thanks and appreciation to Mary Edgerley and the Office Staff for their outstanding work in relation to the NATA Journal during the past year in bringing it up to its present state and as I indicated, for the first time in history, it showing a profit.

The Board also approved that an order form for the subscription to the Journal be included with the various mailings from the National Office.

It likewise increased by ten percent the rate for advertisers in the Journal and, further, approved the Student Writing Contest as proposed, with a \$100 prize, the contest to be open to all undergraduate students members of NATA.

Concerning the Report of the Treasurer, the Board approved the report relative to the various funds, indicating a total net worth for 1977-1978 as being \$153,166.98.

With regard to Membership, the Board considered the various elements relative to membership criteria and by official action clarifying various items to eliminate confusion on the part of the general membership.

Concerning the American Corrective Therapy Association, approved Jeff Farr as NATA Representative to the next meeting in July.

Regarding the Professional Education Committee, approved the resignation of Mel Blickenstaff; approved a year's leave of absence for Phil Donley; approved the appointment of three members to the Committee; approved a one-year visitation extension for Central Michigan; increased the initial application fee to \$100 in relation to schools applying for approved accreditation.

Concerning the Public Relations Committee, accepted the resignation of Fritz Massman, with the proviso that the District Directors take this matter up with their respective Districts with a view toward obtaining District recommendations concerning the future solution of the problem of the Committee Chairmen for Public Relations.

Regarding the Placement Committee, approved the recommendation that the District Secretaries may reproduce position vacancies of the NATA Placement Committee in their Newsletters; that placement notices be sent to the President, District Directors, District Secretaries and approved Curriculum Directors and also approved a budget request in the amount of \$4400.

Concerning Liaison Reports to the various areas, and referring to the AAHPER, that this group's policy statement regarding the use of the trampoline be referred to NATA Legal Counsel for advice before the establishment of an NATA position in this regard.

Concerning the matter of elections, the Board unanimously elected Mr. Cash Birdwell to the office of Vice President and unanimously re-elected Mr. Otho Davis as Executive Director.

In relation to other actions, the Board approved the recommendation that the Joint Commission on Competitive Safeguards and Medical Aspects of Sports, through the NATA Representative, have called to their attention the request that face masks in ice hockey be mandatory at the scholastic and collegiate levels.

That a letter of welcome be issued from the District Director accompanying the membership card to all new members and that a like procedure be followed relative to newly certified candidates.

That the President's Challenge Award, Honor Award and all other matters of special recognition presented to the Board be accompanied with a brief biography of the nominee.

Upon the recommendations of both Districts Nos. 4 and 5, approved the request to have the University of Iowa transferred to District 5 from District No. 4.

Approved the establishment of criteria for the appointment of liaison representative members to other organizations and to inform appointees of their role in representing the NATA to other organizations.

Regarding the Northwestern University Faculty Trainer Education Program, that the membership of these students by made retroactive to the date the program was begun and that graduates of this program be permitted to take the certification examination, if possible, in August of 1978 and, if not possible, in January, 1979 or within five years from the date the program commenced.

The Board approved action on Article XX of the Bylaws, Membership Committee, Section 3, that the District Secretaries from each of the ten Districts of NATA will now make up the Membership Committee of the National Committee.

The Board of Directors approved membership provisions and the dues section under the Associate Class Code II of membership, that a member must be actively engaged in athletic training and continue to be actively engaged during the course of Associate Membership.

The NATA definition of actively engaged is as follows: "A person on a salary basis, not a fee-for-service basis, employed full time in an educational institution, professional athletic organization or other bona fide athletic association for the duration of the institution's school year or length of athletic organization sports season and who performs the duties of athletic trainer as a major responsibility of his or her employment.

The applicant for membership in this class must have athletic training work experience of at least 600 clock hours, no more than 300 clock hours which may be accepted in any one year, under the direct supervision of a Certified Athletic Trainer.

The work experience shall include preventive protective taping, recognition of injuries, medical care of injuries and the use of the usual training room modalities. The Certified Athletic Trainer under whom the person works will sign a record of the person's work experience.

For the continuance of Associate Membership, the person must accumulate a minimum number of six continuing professional education units every three years, this being effective January 1, 1982.

Present Associate Members in good standing for the calendar year 1978 may continue in this class without being bound by the actively engaged requirement. The effective date of this provision is June 10, 1978.

Under Section D, for Honorary Members, nominations may be only by a certified member through his or her District Director, who will then forward the nominees' names and resumes to the Chairman of the Honors and Awards Committee.

The Committee will make recommendations to the Board of Directors for their approval.

Regarding Section 4, pertaining to Military Service, this Section was omitted from the Bylaws.

Under Article XXVI, Section 5, the old Section 5, Change of Membership Class, is now changed to Section 4.

The Inter-District Transfer of Membership has now been made as Section 5 and reads as follows: "Any member of the Association in good standing and who moves into another District other than the one in which he holds membership, must transfer membership to the new District. This is done by filing an application or District Transfer request with the Secretary of the District in which he or she is moving from.

Another action of importance concerned the establishment of criteria for the appointment of liaison representatives, which was approved.

Likewise, there was a discussion pertaining to the redistricting request from District No. 4, regarding the appointment of an Ad Hoc Committee by the President to study the feasibility of voting on Board matters and District allocation of votes.

This request was not approved by a vote of three in favor, five against and two abstaining.

That completes the report.

**PRESIDENT GEORGE:** Thank you, Otho, and now I need a motion for the acceptance of this report concerning Board actions.

... Mr. Tow Diehm moved acceptance, which motion was seconded by Porky Morgan, was voted upon and carried.

**PRESIDENT GEORGE:** Now, the next order of business is Memorial Resolutions. These should be presented by each District and should be presented to me now, if you have them. Therefore, please turn in any Memorial Resolutions either from the audience or from the Board of Directors.

Some have already been turned in.

Now, at this point, I would like to have all of you please stand and rise for a moment of silence for our departed brothers.

... The membership arose in a moment of silence.

**PRESIDENT GEORGE:** The next order of business is for Porky Morgan to read to us the winners of the 25-year awards. These awards will be presented at the Awards Banquet tomorrow evening.

**MR. PORKY MORGAN:** The Award winners are as follows:

Harold J. Blackwell, District No. 4.

Jim Conby, District No. 7.

John T. Gimmler, District No. 2.

Louis K. Grevelle, District No. 6.

Eugene I. Harvey, District No. 9.

Fred Hoover, District No. 3.

Victor A. Keedy, District No. 1.

R.A. "Bobby" Lane, District No. 6.

Fritz Massmann, District No. 2.

Melvin Moretti, District No. 8.

Warren Morris, District No. 9.

Albert W. Rector, District No. 4.

C. Roy Rylander, District No. 2.

**PRESIDENT GEORGE:** Thank you, Porky.

The next order of business is for George Sullivan to read the Honorary Membership Award recipients. George is Chairman of the Honors and Awards Committee.

**MR. SULLIVAN:** These Honorary Memberships go to the following:

Dr. Frederic L. Behling.

Dr. Leslie M. Bodner.

Dr. Alfred H. Griess.

Dr. Philip H. McFarland.

Dr. Marcus S. Stewart.

**PRESIDENT GEORGE:** Thank you, George.

I would now like to read the Citizen's Savings Athletic Foundation Hall of Fame Awards but, before so doing, I would like to say that an award to the Hall of Fame is the largest and best honor we can bestow in behalf of our Association.

These awards will be presented at the banquet to the following.

C. M. Blickenstaff.

Dr. Martin J. Broussard.

Earl J. Porche.

George F. Sullivan.

Thomas D. Wilson, Jr.

Congratulations to all of you. (Applause)

I would also like to announce the award winner in connection with one of our scholarships, the W.E. Newell Award.

This award is being presented to Robert Edward Osborne, University of Pittsburgh, and if he is here, I would like to have him come up. This concerns a donation of \$500, donated and sponsored by Cramer Products, Incorporated.

Is Jim Cody in the audience? Well, he has had a delay but as you know, Kwik-Kold Products again has presented us with the President's Challenge Award, which is a \$1500 award to be given to someone who has made a significant contribution in the field of sports medicine or athletic training and, along with it goes a unique piece of art work. The art work in and of itself is worth \$1500. The announcement of the recipient and presentation will be made at the Awards Banquet tomorrow evening.

Now, I would like to call upon Lindsay McLean to announce the winner of the Eddie Wojewski Scholarship Award. As most of you probably know, this will be Lindsay's last time in giving this award because he is retiring as Chairman of the Certification Committee and if you all could realize how important and how much of a contribution Certification has made to the profession of athletic training; if you can realize the people who write and want to be certified, how important this has been and that Certification is Lindsay McLean and Lindsay McLean is Certification in NATA, I am sure you will appreciate his efforts.

Therefore, I am happy to recognize Lindsay at this time. (Applause)

**MR. LINDSY McLEAN:** Thank you very much, Frank.

It has been my honor to have the opportunity to do this function for the NATA and it has been a privilege that I am sure that I will always remember.

You know, there are an awful lot of people in our organization capable of contributing a great deal to our future and that is one of the great things about our Association. I think it is nice to finally get somebody like me out of it and perhaps to give a younger individual, not necessarily a younger one, but a different one, an opportunity.

Now, the 1978 recipient of the Eddie Wojewski Scholarship Award, sponsored by Larson Laboratories of Erie, Pennsylvania, is Frank S. Harper, Athletic Trainer of Rose High School, Greenville, North Carolina. (Applause)

**PRESIDENT GEORGE:** Thank you, Lindsay.

I would now like to have Pinky Newell to announce the winners of the NATA Scholarships but before Pinky does, I would like to have him come forward to receive a check from Otho Davis, a special contribution from the National Football League.

**MR. OTHO DAVIS:** It is with great pleasure, representing the National Football League Charities and the National Football League and its Commissioners, as well as the 28 National Football League Teams, that I present a check for \$5,000 to the NATA Grants and Scholarships Committee.

... Presentation of check and applause ensued.

**MR. NEWELL:** Mr. President, I accept on behalf of the Committee with appreciation and, let me say, \$4,000 of this will be placed in the Endowment Fund; \$1,000, which was given last night, into Scholarships.

I would like to read the 1978 Scholarship Award winners for inclusion in the minutes.

The Undergraduate Scholarship Award goes to Eugene Selso Montano, California State University; Amy E. Oursler, Lock Haven State College and to Sayers John Miller of Penn State University.

The Robert H. Gunn Scholarship Award goes to Rex Lee Sharp, Ball State University. The sponsor is the National Athletic Trainers Association.

The Dan Arnheim Scholarship Award goes to Patrick K. Mahaffey, California State University.

The sponsor is Dr. Daniel D. Arnheim.

The William E. Newell Scholarship Award goes to Robert Edward Osborne, University of Pittsburgh. The sponsor is Cramer Products, Incorporated.

The Living Memorial Scholarship Award goes to R. Richard Ray, University of Michigan.

The Postgraduate Scholarship Award goes to Hillary Anne Ennis, Muehlenburg College and to Roger D. Harbour, Ohio University.

The Dell C. Humphrey Postgraduate Scholarship Award goes to Joseph E. Theisen of Mankato State University.

The G.E. "Moose" Dettly Postgraduate Scholarship Award goes to Donald K. Laxton of East Carolina University.

**PRESIDENT GEORGE:** Thank you, Pinky. (Applause)

I am sure you are all aware of how hard Pinky has worked in order to raise that money and as the funds become tighter, how much more difficult it is but he is learning to be more successful at it.

The next order of business is for Otho Davis to present the individual awards in recognition for work throughout the year on the Convention Committee.

**MR. DAVIS:** They all did a superb job and I'm sure all of you will agree. Before I even start presenting these awards, may I have a round of applause for the entire Committee, which has done such a tremendous job here in Las Vegas. (Applause)

Now, Mr. President, we would like to recognize Bill Chambers for the hard work that Bill has done in relation to the 1978 Convention.

... Presentation of Plaque and applause ensued.

**MR. DAVIS:** I would like to have Bill present the awards to his working committee.

**MR. CHAMBERS:** Let me say that several of our people who have worked very hard in order to put this meeting on are over at the Student Trainer Section doing things over there but I would like to recognize them at this time.

Monte Smith did handle our Student Trainer Program and is over there with it right now. He is from Chapman College.

Roger Dennis, are you here?

Well, Roger was in charge of the Student Trainer Program and they are both over there now. However, I did want to recognize them.

Lew Crowl. He is Co-Chairman of the Banquet. Just wait until tomorrow night and that is all I have to say. Thanks a lot, Lew.

... Presentation of award and applause ensued.

**MR. CHAMBERS:** Gary Tuthill, are you here?

He is working with Lew on the Banquet and I did want to get his name into the minutes.

Also, our Clinical Program Chairman, Don Chu. Thank you, Don.

... Presentation of award and applause ensued.

Last and certainly not least, our Host Trainer, Dave Knoepfel from the University of Las Vegas.



**MR. DAVIS:** Will Fred Hoover come forward, please?

Well, at any rate, he is busy with his activities. At any rate, I can say to you that I certainly can not say enough for Fred Hoover and all of his people in relation to the National Clinical Symposium Committee. I would like to say to you that it is a year-in job, especially all he goes through in relation to phone calls, even receiving some of them at two o'clock in the morning concerning people griping about why they did not get their hotel reservation, especially when they did not send their material in on time. Nevertheless, he has survived.

Is Glen Johnson here?

Will you please come forward.

... Presentation of award and applause ensued ...

**MR. DAVIS:** Dean Weber.

... Presentation of award and applause ensued ...

**MR. DAVIS:** Andy Clawson.

... Presentation of award and applause ensued ...

**MR. DAVIS:** Don Pickering.

I guess he is not present.

Also, Bud Tice. Sorry, he is already gone.

However, let us all give them a round of applause anyway.

(Applause)

**PRESIDENT GEORGE:** I believe Otho now has awards for two outgoing Directors.

**MR. DAVIS:** Well, let me first see what we do have here.

First of all we have a plaque for Bill Flentje, who is the Vice President of NATA for 1977-1978.

... Presentation and applause ensued ...

This is presented to Bill in recognition and appreciation for outstanding service on the NATA Board of Directors from 1974 to 1978.

Also, recognition to another Board of Directors member, your friend and mine, Bill Chambers.

... Presentation of plaque and applause ensued ...

**PRESIDENT GEORGE:** The 1977-1978 NATA Board of Directors are as follows:

Wes Jordan, University of Maine, District 1.

Richard Malacrea, Princeton University, District 2.

J. Herman Bunch, North Carolina State, District 3.

Gordon Stoddard, University of Wisconsin, District 4.

Bill Flentje, University of Missouri, District 5.

Cash Birdwell, Southern Methodist University, District 6.

Troy Young, Arizona State University, District 7.

William H. Chambers, Fullerton Junior College, District 8.

Bobby Barton, Eastern Kentucky University, District 9.

Larry Standifer, University of Oregon, District 10.

New Board Members will be Frank Randall for District 5 and Donald Chu for District 8.

Now, this will be the last opportunity I will have to address the Association and my last chance to express my gratitude for all the assistance I have received in the past four years.

I must especially thank the trainers at Brown University, who did so much to help me. They are Joe Castro, Joanne Dolcemanchio and Ed Jamiel.

There are few Associations whose members are as dedicated to a profession as the NATA member is.

There are three men who, over the past few years, have dedicated their lives to NATA in the tradition of Pinky Newell and Bobby Gunn. We could never thank them enough. These men are Otho Davis, our Executive Director, Bud Miller, Chairman of the Professional Education Committee, and Lindsay McLean, the Chairman of the Certification Committee.

Today we tried to express our gratitude to Lindsay, who is stepping down as Chairman of the Certification Committee.

These men have certainly given much of their lives to us and we all certainly appreciate it.

The professional image of the NATA and the athletic trainer have certainly improved. This has not happened by chance. The two most important contributing factors to this improvement have been Education and Certification. Lindsay and Bud should be proud and we are very grateful for the contributions they have made to this profession.

Now, as our Association grows, and it is growing at an astounding rate, our administrative problems become more complicated. In the past year, Otho Davis has spent a great deal of time and effort solving these administrative problems and we thank him for this.

We, all the members of the NATA, have a tremendous challenge and 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 a Certified Athletic Trainer. If the concept of a faculty-trainer is understood, it should be accepted. This is the concept by which many of the high school coaches are hired. The salary should be equal to that of the coach. I do not believe that would put an unreasonable strain on a high school athletic budget.

Another challenge which must be met concerns licensure. Our congratulations go to Kentucky, the third state to have a license for athletic trainers. This is something every one of us should be working and striving for in our own states.

This Thursday some members of the NATA will be meeting with members of the APTA to discuss and hopefully to influence APTA positively regarding the licensure of athletic trainers. I have met with the President of the APTA and discussed this. He has established a committee to make a recommendation to the APTA Board of Directors and House of Delegates last year.

It has really been an honor for me to serve as President of the NATA. I appreciate all of the assistance I have received from the membership. I appreciate the warmth and friendship that was extended to me from all of the Districts of NATA.

Further, there is so much to be done. I wish I could have accomplished more.

Now, I was just going to turn this over to Bill Chambers but there is an item of old business that I have to take care of first.

I have talked to the Districts about it and there is controversy and some of us have a problem with others in the District.

This has to do with the proposal from District No. 4 that was brought up at the Business Meeting last year at Dearborn.

I received a letter from the District President and I would like to read to you the short paragraph regarding what the proposal is.

Now, this is a letter from Bob Behnke which came to me in March. I turned it over to the Board of Directors for their consideration.

Bob has tried to make some very important points in relation to his letter.

I would like to call to your attention this paragraph.

"We are not requesting restructuring of the ruling body of the Association. We are not requesting re-districting, new districts or any one of this nature. We are requesting that an Ad Hoc Committee, named by the NATA President, conduct a feasibility study. That study would be to determine whether or not a method to provide a more equitable

representation of the total membership of the NATA reflected in its Board of Directors is a valid and feasible request".

Now, I think the next item I must talk to you about is that the Director of District 4, at the Board Meeting, asked me to name that Committee, an Ad Hoc Committee to perform that feasibility study and not go through the Board of Directors to get that done.

Now, I really cannot think of many things that I did in the last four years that I did not ask the Board for their approval on and there comes a time when something you want, "you" meaning a certain group of members out there, and Otho and I push it through and do not put it through the Board of Directors, well, we are criticized for railroading.

Now, maybe it is not too bad, especially if it is something you desire. However, if it is something everybody else doesn't want, at least they should have the right to discuss it.

I asked the parliamentarian, in front of all of the Board of Director members, what he thought and he said he thought the best thing to do would be to put it to the Board of Directors and so that is what we did and Otho read you the results.

I want you to be encouraged by the results.

The vote was three in favor, five against, with two abstentions. Last year you could not even get a second on it.

You know, you have Pinky Newell and you should know how many times requests of his, in the past, have been turned down. However, he did not quit after one or two of them being turned down — he kept coming back with them, changing words a little bit here and there with the hope that, after a while, his request would be recognized. In some cases we eventually gave in to him.

You have to keep trying but, of course, the people you have to convince are the people out there sitting right next to you. You have to convince the members of the Districts that voted against it that they should convince their Director to vote for it.

Now, I am sure that somebody from District 4 would like to get up and speak on the matter and, if they do, will they please come to one of the microphones, either Bob Behnke or Woody Graham or others.

**MR. GRAHAM:** Well, let me say, Mr. Chairman, as an elected representative of the District, that you took a little of the thunder away with your presentation there. However, again, we want to emphasize that all we have requested is the formation of an Ad Hoc Committee to study particularly the advantages or disadvantages of changing our District boundaries to allow for more equal representation within the District, especially as reflected in our Board of Directors.

As has been indicated, during the past eight years, we have tripled in size. Further, this died twice because of the lack of a second and the last time, while it was seconded, it died by a vote of three in favor, five against and two abstentions.

Now, in checking, we have found that the three ayes represented some 48 percent of the Certified Membership of our District, of the National Association, excuse me.

Really, all we are asking is the members to return to your District meetings this afternoon, discuss support of the formation of such a committee and, really all we want to do is to have a study made as to the advantages and disadvantages of possibly changing some boundaries, maybe eventually even restructuring.

Now, I think what we would like to do is to hear comments from the District Directors as to why this study could not be performed.

... Cries of "out of order" ...

**PRESIDENT GEORGE:** I will ask Bruce, is that out of order?

The Parliamentarian says it is out of order.

Now, I will recognize the District Directors to speak to it.

First of all, Wes, do you have any comments you would like to make?

**MR. JORDAN:** I would like to first talk to my District.

**PRESIDENT GEORGE:** Now, District 5 voted against it and, therefore, Bill, is there anything you would like to say?

**MR. FLENTJE:** I think it is the feeling of District 5 that at this point in time we are not in favor of this study. Our District is satisfied with the way that the organization is being operated.

**PRESIDENT GEORGE:** I believe that District 6 also voted against it. Cash, do you want to say something?

**MR. BIRDWELL:** I presented this to the District during the year. There were no votes for it and so I voted the way my District felt.

Our feeling was, or in Dearborn we got the impression, that there was a lack of communication in other areas. Now, we have certain guidelines in our area insofar as communication is concerned. If they are not met, we take care of them in order to see they are met.

We felt that better communication between the membership, possibly bringing down and electing State Chairmen to communicate with your National Director from your District, would open up these lines of communication and that is our feeling.

**PRESIDENT GEORGE:** Troy Young, District 7, do you wish to say anything?

**MR. YOUNG:** I felt a lot like Cash did — that it was something that should be taken care of within your District, within the lines of communication. However, I will bring it up to my members this afternoon at our Business Meeting. We are always open for comments.

**PRESIDENT GEORGE:** Bob Behnke is the President of District 4 and would like to make some comments.

**MR. BEHNKE:** A couple of comments, Mr. President.

First of all, speaking to the Directors of Districts 6 and 7, I don't know the type of jobs you do in your District but Gordon Stoddard has kept District 4 informed during the last two years as well, if not better, than any of the other Districts in this organization.

However, that is not the point and perhaps we can very briefly show you what we are talking about.

For example, if you will look at the distribution of the membership of this organization — well, one example I can cite to you is that our District, District No. 4, has over 450 Certified Members. There is another District that has approximately 87 Certified Members. We outnumber that District approximately five to one in our voting power and yet our District Director has one vote out of ten.

Now, we are not looking toward having District No. 4 dominate this organization and, in fact, if you will look at this closely, District 4, from the standpoint of membership is going to be drastically weakened if we do reorganize and maintain ten Directors across this country.

In fact, District 5 will grow in strength and numbers as a result of change in redistricting.

You will gain from us. District 2 will gain from us.

Our organization is willing to sacrifice its membership so that each and every one of your Directors up there represent approximately the same percentage of voting membership of this Organization.

Thank you very much. (Applause)

**PRESIDENT GEORGE:** Well, from the applause, it appears that there are a lot of you who seem to be in support of that. When you go to your District Meetings, you have to tell your Director how you want him to vote.

Now, is there anyone else from District 4 who would like to be heard on this matter?

Is there anyone else who would like to be heard?

**MR. TOW DIEHM:** Would this not require an amendment to our Constitution?

**PRESIDENT GEORGE:** Well, okay.

To do the study, and I will ask our Parliamentarian to verify this for me, it would not require any amendment or Bylaw change or anything like that. However, after the study is done and recommendations are made to the Board of Directors, then it would require a Constitutional change, which, in turn, would have to be voted on by the entire membership before it could be passed. A Constitutional change would require the membership having at least a sufficient notice until they could be permitted a vote.

**MR. HICKMAN:** The only thing I would like to say is the fact that we presented this motion at Dearborn last year and, at that time, I think there was a misunderstanding on the part of the membership.

Again, we are not trying to change anything. We are satisfied presently as the Board of Directors have acted. However, what we are suggesting is that there be a study attempted by the Committee and presented to the membership and to the Board of Directors. We are not recommending any kind of changes in a resolution form, as it stands at the present time.

This is what we are trying to get across to the membership — we do not want to force any type of change. We want the Committee to study all the possibilities insofar as redistricting is concerned, making individual boundaries, a House of Delegates or whatever, to give the NATA more equal representation in relation to all of its members.

**PRESIDENT GEORGE:** Thank you, Skip.

Is there anyone else who would like to speak for or against this particular subject before we go on to another subject?

I believe Otho has something he would like to say.

**MR. DAVIS:** As a member of the NATA and not as any representative of any office, I, as a member, would like to again ask the members of District 4 if they feel that they have ever been misrepresented in any way on voting matters of the Association.

**MR. SKIP HICKMAN:** The only thing I can say to you is that the way the Board has voted on this resolution, it was three in favor, five against and two abstentions and yet those three aye votes had about 48 percent of the total membership, Certified Membership of the National Organization. Therefore, I do feel that it does show some unequal representation insofar as the votes are concerned.

**PRESIDENT GEORGE:** Does anybody else have any comment they would like to make on this subject before we proceed?

I will recognize Gordon Stoddard, Director of District 4.

**MR. STODDARD:** I really do not believe the question is whether there has been any misrepresentation or whether District 4 has been dealt with fairly or not.

The question is one of whether or not the possibility of a change is necessary. All we are asking for is a study to be conducted. It could well be that a change would not be necessary but we would at least like to have the opportunity to have someone study this situation and come up with possible recommendations.

I do not believe that District 4 feels they have been treated unfairly but would like to have a little more representation in terms of total National Membership.

**PRESIDENT GEORGE:** Thank you. Is there anybody else?

**MR. JOE GODAK** (District 2): I spoke in favor of it this last year. It is inconceivable to me how an organization that prides itself in its growth and progress can possibly suddenly become afraid of self examination. (Applause)

**PRESIDENT GEORGE:** Well, okay.

Now, in taking this to your Districts, what you have to do is to sell the other people out there to indicate of their District Directors how to vote. That is what you should be

working on.

Now, is there anything under old business?

If not, my first item of new business is a very pleasurable one. I have appreciated having had the opportunity to serve as President of the NATA and I would like to present Bill Chambers, our new President of the NATA, with his gavel and membership name tag with "President" at the bottom of it.

... The membership arose and applauded as Mr. Chambers was presented the gavel.

**PRESIDENT CHAMBERS:** My first order of business is something that I am sure that Frank George is happy to receive, his Past President's badge. (Laughter)

You know, I have a lot of admiration for him because of all the hard work he has done, not only for the Association but for me and for his District and I don't think people here realize what he has done for us. He has really taken us down some rocky roads and we have had to replace the shocks a couple of times.

Frank, it is with a great deal of pleasure that I am able to present you with your Past President's badge.

... Presentation of Past President's badge and applause ensued ...

**PRESIDENT CHAMBERS:** I am honored and pleased to accept the opportunity to serve you as your President. I welcome the challenge.

There are just a couple of things that I would like to say before we continue this morning.

I can remember, as a youngster, when my father purchased for me my first bicycle. I had never ridden one before. Patiently my family and friends tried to teach me the art of cycling. I soon found out, however, there was one thing I must do if I was to stay on the bicycle and that was to keep moving forward because if I did not, I would fall and hurt myself.

We can never live this life on the highest plane and attain the things we want for the NATA unless we are continually growing and moving forward.

To do this, each of you must have confidence and faith in your elected officers, your Association and, most of all, yourself.

The first verse of the eleventh chapter of the Book of Hebrews states "To have faith is to be sure of the things we hope for, to be certain of things we can not see".

I am asking each of you to have faith in your officers and also in your fellow trainers. If we have faith in one another and patiently grow and move forward, I am sure we will continue to become stronger and, hopefully, a unified organization.

I would be very remiss if I did not say something to one special person, Ken Rawlinson. To the man whose patience and faith has allowed me to be where I presently am, I say simply this — if I do not do a good job, as President, it is my fault. If I do a job most of the members are pleased with, Ken, it is because of you.

I hope and pray that my service to you will be equal to the confidence you have shown by electing me to this position.

Thanks for allowing me to have the privilege of serving as your President. (Applause)

Now, our next order of business is that of new business.

Is there any new business to be brought to the floor?

If not, may I have a motion to adjourn?

**MR. BOBBY PATTON:** I would so move.

**MR. DAVID HEATH:** Second the motion.

**PRESIDENT CHAMBERS:** All in favor will say aye; opposed?

The motion is carried and we are now adjourned.

... Whereupon, at 2:15 o'clock p.m., the meeting was adjourned ...

## TRAINERS SUGGESTIONS *Continued from page 149*

burgers, pizza, potatoe chips, candy and all the hollow calorie foods.

Athletes must be instructed on good eating habits and the choice of foods. Unless there is a training table, and they have to get up and eat three meals a day, athletes diets are lacking in vitamins and minerals — total calories they get plenty of. Unless the coaches or trainers insist the athletes eat breakfast, most athletes will sleep late and miss breakfast. Missing breakfast, the athlete will get very little or no vitamin C and B's, very few eggs, fruit and cereals.

Breakfast is perhaps your most important meal. It is difficult with athletes living off campus and doing their own cooking. Many will lose weight, and seem to develop more colds and respiratory infections due to poor eating habits and vitamin-mineral poor diets. We try to instruct them on what foods to buy and better diet habits.

For athletes living in dorms, we try to make it mandatory that all athletes eat breakfast and three meals a day at their dorm or cafeteria. Diets in dorms, frats and cafeterias are figured for the day on total calories, carbohydrates, proteins, fats, vitamins and minerals on a three meal basis. If one meal is low on vitamins and minerals the other two for the day are higher. You will miss the best meal several times a week if you don't eat your three meals a day and eventually suffer from vitamin and mineral deficiencies.

A number of physicians believe athletes should have a diet supplement or vitamin-mineral pills due to poor eating habits, and not eating many vegetables that are your best sources of vitamins and minerals daily. Many suggest a multiple vitamin and mineral pill daily. Knowing athletes usual poor diet, this may be a good idea. Consult your team physician for his recommendation.

## *Exercise must be prescribed*

At Southern Illinois University we believe exercise must be prescribed for each athlete according to his or her needs.

Every athlete has complete, year round conditioning booklet for his or her sport. Every athlete is examined for strength, flexibility and cardio-vascular endurance by the physician and athletic trainer. Exercise is then prescribed for his or her needs. The exercises they must do for their needs are marked in their exercise booklet.

Conditioning is an individual problem. Every athletes' needs are different. They all need strength, flexibility and cardiovascular endurance. Most athletes on all levels have an old injury (sprain, strain, etc.); most have an area that is underdeveloped; most have tightness and flexibility problems; and all have different needs cardiovascular wise according to their present physical condition and the sport they are playing.

Athletes are re-examined several times a year and always after any new injury. Booklets are re-marked when other exercises are necessary to re-strengthen a new injury.

We have fewer injuries at SIU than many other schools when comparing notes with other trainers around the country.

Everyone is welcome to use our conditioning booklets for their teams if they like. Most of the pro sports and many universities, colleges, high schools and little leagues are using our booklets in the U.S., as are many foreign countries. Drop me a line if you are interested.

Conditioning programs must be supervised daily if one hopes to prevent injuries and have winning teams.

Should you be having problems with head colds, infections, muscle injuries and head injuries we suggest you try some of our methods.



# PROCEEDINGS of the National Athletic Trainers Association

## Summary of Actions of Board of Directors

June 9-11, 1978  
June 14, 1978  
MGM Grand Hotel  
Las Vegas, Nevada

### NATA Board of Directors

The Board of Directors of the NATA, in reviewing the various reports and agenda items referred to it during its meetings held at the MGM Grand Hotel, Las Vegas, Nevada, commencing at 7:00 p.m., Friday, June 9, 1978, continuing all day and evening on Saturday, June 10, 1978 and commencing again at 9:00 a.m. on Sunday, June 11, 1978 and terminating its sessions at 1:40 p.m., Mr. Frank George, President, presiding, and with the following in attendance, approved the following actions concerning various reports made and recommendations considered:

#### PRESENT:

|                      |                    |
|----------------------|--------------------|
| Mr. Frank George     | President          |
| Mr. Otho Davis       | Executive Director |
| Mr. Bruce Melin      | Parliamentarian    |
| Mr. Wesley Jordan    | District 1         |
| Mr. Richard Malaerea | District 2         |
| Mr. J. Herman Bunch  | District 3         |
| Mr. Gordon Stoddard  | District 4         |
| Mr. William Flentje  | District 5         |
| Mr. Frank Randall    | District 5         |
| Mr. Cash D. Birdwell | District 6         |
| Mr. Troy Young       | District 7         |
| Mr. W. H. Chambers   | District 8         |
| Mr. Bobby Barton     | District 9         |
| Mr. Larry Standifer  | District 10        |

### TREASURER'S REPORT

Approved the report concerning the various funds as presented by Mr. Davis, indicating the total net worth of the Association for 1977-78 as being \$153,166.98.

### MEMBERSHIP:

That the application for membership be the date received at the National Office.

Officially adopted the following changes with regard to Certified, Code 1:

1. Units of continuing professional education (CPEU) shall be defined and designated by the Professional Education Committee and approved by the Board of Directors. To maintain certification, the minimum number of six (6) units shall be accumulated every three years.

2. A Certified Athletic Trainer is responsible for sending to the NATA National Office an approved statement of any continuing professional education units to be put on his record. Such a statement must be sent to the National Office within thirty days after the date of acquiring such units.

Officially adopted the following changes with regard to Certified, Code 2.

1. The applicant for membership in this class must have athletic training room work experience of at least 600 clock hours (no more than 300 clock hours of which may be accepted in any one year) under the direct supervision of a Certified Athletic Trainer. The work experience shall include: preventive and protective taping, recognition of injuries, immediate care of injuries and the use of usual training room modalities. The Certified Athletic Trainer under whom the person works shall sign a record of the person's work experience.

2. To be eligible for continuance of Associate Membership, the person must accumulate the minimum number of six (6) continuing professional education units (CPEU) every three (3) years, effective January 1, 1982.

3. An Associate Member is responsible for sending to the NATA National Office an approved statement of any Continuing Professional Education Units (CPEU) to be put on record. Such a statement must be sent to the National Office within thirty days after the date of acquiring such units.

4. An Associate Member who does not accumulate a recorded number of continuing professional educational units (CPEU) every three (3) calendar years equal to at least the minimum requirement shall have his membership suspended. He has the right to appeal.

5. If he does not accumulate sufficient CPEU Units to meet the minimum requirement within two years after the date his membership was suspended, his membership shall be cancelled.

6. Present Associate Members in good standing for the calendar year 1978 may continue in this class without being bound by the actively engaged requirement.

Officially approved the following change with regard to Retired, Code 3.

1. A Certified Member or an Associate Member who retires because of age shall have the privilege of continuing in the class of membership held at retirement without further payment of dues. A Certified or Associate Member who is eligible for retired status and who wishes to continue membership in the NATA in the Retired Class must request change to this class through the secretary of the district in which he is a member.

Officially approved the following change with regard to Honorary, Code 8:

1. Nominations may be made only by a Certified member through his/her district director, who will then forward the nominee's name and resume to the Chairman of the Honor and Awards Committee. The Committee will make recommendations to the Board of Directors for their approval.

Officially approved the following change with regard to Approval of Applications for Membership:

1. Membership in the NATA must come through a district and is subject to the district secretary's approval. In cases of doubt regarding an applicant's qualifications for membership, the National Membership Committee should be consulted.

Officially approved a change in paragraph 3 of the provision concerning dues from the words "The Membership Committee of the District" to "The National Membership Committee."

Officially approved the revision of paragraph 1 concerning change of membership class to read as follows:

"1. If a member wishes to change his membership class and believes that he is eligible for such a change, he should request form 'Change of Membership Class' from the secretary of his district. This form should be completed and sent to the district secretary for review. If approved, the change is recorded and form sent to the National Office for final approval."

Likewise changed the section number of this paragraph from Section 5 to Section 4.

Officially approved the revision of the paragraph on Interdistrict Transfer of Membership to read as follows, after first changing this from Section 6 to Section 5:

"Any member of the Association who is in good standing and who moves into another district other than the one in which he holds membership must transfer his membership to the new district. This is done by filing an 'Application for District Transfer' request with the secretary of the district from which he is moving."

Officially approved the recommendation that the district secretaries be the Membership Committee.

#### INTERNATIONAL GAMES & USOC:

1. That for the 1980 Olympic Games, the experience requirement be dropped from seven to three years.
2. That there be submitted to the Sports Medicine Committee of the USOC the previously established proposal of the NATA Board of Directors for their acceptance or rejection.

#### AUDIO VISUAL AIDS:

Discussed briefly the proper acknowledgment regarding scholarship presentations with no official action being taken regarding this matter.

#### CAREER INFORMATION AND SERVICES:

1. Accepted the financial report of the Committee.
2. Approved the requested budget in the amount of \$200.

#### CERTIFICATION:

1. Approved the certification of Dusty Ripplemeyer with her original effective certification number.
  2. Approved the budget request of \$4,525.
  3. Approved the holding of a mid-winter meeting of the Certification Board, no funds being necessary.
- The Board complimented Mr. McLean for his long and faithful service as the chairman of this committee, following which there ensued a long discussion regarding the certification examination.
- Approved the recommendation that the Board NOT consider any special cases for certification.

#### NATIONAL CONVENTION:

Mr. Hoover commented on the status of the presently approved and negotiated convention sites from 1979 through 1984. Following discussion of the 1985 date, it was generally agreed that Districts 4, 5 and 6 would return with bids for the 1985 convention.

A brief discussion also ensued in relation to the holding of future conventions at three or four sites for the purpose of being able to gain better prices and more concessions, the general consensus being that this matter be taken up by the Directors with their individual districts for the purpose of ascertaining their feelings and later report to the Board.

Approved the addition of a ten-dollar (\$10.00) site registration fee for all classes of membership.

#### GRANTS AND SCHOLARSHIPS:

Approved the requested budget in the amount of \$2400.

Approved the recommendation that in relation to all Grants and Scholarship Awards that the name of the contributor be included in the program of the Student Awards Banquet, announced at the business meeting and made a part of the press releases and also a part of the Board minutes.

Approved the recommendation that in relation to the Pinky Newell Award that Cramer be requested to sponsor the award in the amount of five hundred dollars; that in the event of their refusal to endeavor to obtain sponsorship by another company in the amount of \$500.

#### HISTORY AND ARCHIVES:

Accepted as information the brief report that the NATA history was being reworked and that it was the hope that by the end of summer, this history would be in print.

Accepted a \$25.00 check tendered by Spike Dixon, this money to be placed in a separate bank account to be called the Spike Dixon Memorabilia Account.

#### HONOR AWARDS:

It was indicated that there was no action to be taken by the Board at this meeting as this matter had all previously been handled through the mail.

#### JOURNAL:

A brief discussion ensued relative to the publication of memorial resolutions in the Journal and the criteria regarding the submission of articles. It was also further indicated that during the past year, for the first time in the history of the organization the Journal had made a slight profit.

Approved the budget request, to be used if necessary, in the amount of \$5,420.

Approved the recommendation that an order form for subscription to the Journal be included with the various mailings from the National Office.

Approved the recommendation to increase by ten percent the rate for advertisers in the Journal.

Approved the student writing contest as proposed, with a hundred dollar prize, the contest to be open to all undergraduate student members of the NATA.

Approved an expression of thanks and appreciation to Mary Edgerley and the office staff for their outstanding work in relation to the NATA Journal during the past year.

#### PLACEMENT COMMITTEE:

A discussion ensued as to the volume of placement announcements sent out by the committee during the year, it being indicated that last year there were twelve releases, far too many in the opinion of the Board members. A discussion likewise ensued relative to the filing of positions with definitive Board Action being taken.

Approved the recommendation that district secretaries may reproduce position vacancies of the NATA Placement Committee in their newsletters.

Approved the recommendation that placement notices regarding placement vacancies concerning the Placement Committee be sent to the President, District Directors, District Secretaries and approved Curriculum Directors, with the provision that other individuals desiring these notices make a request to the National Office for same.

Approved the budget request of this Committee in the amount of \$4400.

#### PUBLIC RELATIONS:

#### AMERICAN ACADEMY OF PEDIATRICS:

Attention was called to the previously furnished report, with the Board, by official action, then accepting the report and recommendations as proposed, these recommendations concerning a request for a letter of endorsement from the Committee regarding the state licensure of athletic trainers; to cooperate with any clinics formed by Dr. Flynn by providing names of certified athletic trainers in those geographic areas and to offer NATA support in development of "how to" kits of model programs to be offered to state chapters and, lastly, to continue liaison with the Committee.

#### AMERICAN COLLEGE HEALTH ASSOCIATION:

Accepted the brief report together with approving the recommendation to continue liaison with this group.

#### AMERICAN COLLEGE OF SPORTS MEDICINE:

Attention was called to the liaison of Ken Knight in connection with this group, with it further being indicated that a more detailed report would be presented by him at a later meeting of the Board.

#### AMERICAN CORRECTIVE THERAPY ASSOCIATION:

Attention was called to the \$230 request, with the consensus being that this group be contacted for additional information relative to this request and this be later reported to the Board.

#### JOINT COMMISSION ON THE COMPETITIVE SAFEGUARDS AND MEDICAL ASPECTS OF SPORTS:

Mr. Davis, in presenting this report, called attention to the budget and financial aspects of this organization, indicating that all member organizations had, by official action, been assessed a sum of \$250; that the NATA as yet had not received its billing and that in due course its obligation to this group would be taken care of.

Approved the recommendation that attention of the Commission be called to the provision that face masks in ice hockey be mandatory at the high school and college level.

#### NATIONAL ASSOCIATION FOR GIRLS AND WOMEN IN SPORTS:

Attention was called to the report as previously furnished with the report, by regular motion, being accepted by the Board.

#### NATIONAL ASSOCIATION OF COLLEGIATE DIRECTORS OF ATHLETICS:

It was indicated that a meeting of this organization had been planned for the latter part of June and that a further report would be tendered at a subsequent session of the Board.

#### N.A.I.A.:

No definitive action was taken by the Board regarding this group, the general consensus being to talk with the NATA representative in order to acquire a little more input in relation to the activities recommended.

#### NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS:

Mr. George presented a brief summary regarding NATA efforts in cooperation with this group, indicating nothing tangible had been achieved up to this point and then further indicating that possibly Mr. Chambers, as the new President, might possibly write them and offer his cooperation on behalf of the NATA. This report was then indicated to be received as informational.

#### NATIONAL COLLEGIATE ATHLETIC ASSOCIATION FOOTBALL RULES COMMITTEE:

Attention was called to the previously furnished report, with this report, by common consensus, being accepted as information.

#### NOCSAE:

Mr. George commented on the ease of cleaning in relation to the new helmets, concluding his comments by indicating there was nothing further to be reported at this time in relation to this committee.

#### NATIONAL HEAD AND NECK INJURY REGISTRY:

Mr. Davis called attention to the confidentiality of conclusions as presented to the Directors, it then being further indicated that there was nothing further to report at this time.

#### AMERICAN PHYSICAL THERAPY ASSOCIATION:

It was indicated that the proposal concerning this group had previously been discussed, that it had been referred to the Joint Commission on Competitive Safeguards and Medical Aspects of Sports and no further action was indicated at this time.



## PROFESSIONAL EDUCATION:

Mr. Bud Miller, Mr. Dick Hoover, Dr. Al Proctor and Dr. Bachman, at the request of the Board, appeared before the Board and in considerable detail explained the problems and present accomplishments concerning the Northwestern program, following which they answered various detailed questions presented to them. The Board, by official action, then approved the recommendation that the membership of the students presently in this program be made retroactive to the date the program was begun and that graduates of this program be permitted to take the certification examination, if possible, in August of 1978 and, if not possible, in January, 1979, or within five years from the date the program commenced.

The Board, by official action, approved the following:

1. Approved the resignation of Mel Blickenstaff.
2. Approved a year's leave of absence of Phil Donley from the Committee on account of illness.
3. Approved the appointment of three members to the Committee (Osternig Schrader and Snow).
4. Approved a one-year visitation extension for Central Michigan.
5. Increased the initial application fee to \$100.

## AAPHER:

Attention was called to the statement made by this group regarding the use of the trampoline. It was moved, seconded and unanimously carried that this statement be referred to NATA legal counsel for advice before the establishment of an NATA position in this regard.

## AMERICAN CORRECTIVE THERAPY ASSOCIATION:

Approved Jeff Fair as NATA representative, with expenses not to exceed \$230.

## ELECTIONS:

Unanimously elected Mr. Cash Birdwell to the office of Vice President.  
Unanimously re-elected Mr. Otho Davis as Executive Director.

## SUMMARY OF ACTIONS NATA BOARD OF DIRECTORS Wednesday, June 14, 1978

The Board of Directors of the NATA, following the regular convention sessions, was reconvened at nine o'clock a.m., at the MGM Grand Hotel, Las Vegas, Nevada, Mr. William Chambers, President, presiding, with the following in attendance and approved the following actions concerning the various reports made and recommendations considered:

### PRESENT:

|                      |                    |
|----------------------|--------------------|
| Mr. William Chambers | President          |
| Mr. Otho Davis       | Executive Director |
| Mr. Bruce Melin      | Parliamentarian    |
| Mr. Wesley Jordan    | District 1         |
| Mr. Richard Malacrea | District 2         |
| Mr. Andy Clawson     | District 3         |
| Mr. Gordon Stoddard  | District 4         |
| Mr. Frank Randall    | District 5         |
| Mr. Cash Birdwell    | District 6         |
| Mr. Troy Young       | District 7         |
| Mr. Don Chu          | District 8         |
| Mr. Bobby Barton     | District 9         |
| Mr. Larry Standifer  | District 10        |

## N.A.I.A.:

Attention was called to section number three of the report, namely, strongly recommending use of emergency medical personnel or technicians for all athletic events, it being indicated that this recommendation was made on the basis of there being many schools that did not have or could not support a certified athletic trainer. The Board, by official action, accepted this report with the recommendation that emergency medical personnel be provided at athletic events where the services of a certified athletic trainer was not available.

## ETHICS COMMITTEE:

Mr. Tow Diehm, Chairman of the Committee, indicated that no serious problems of ethics had been presented to the Committee during the preceding year, then making several recommendations which, by official action, were approved by the Board as follows:

1. Approved the addition of the following sentence to Article I, Section 5: "It is unethical for a member to knowingly recommend a candidate for the national certification examination who has not fulfilled all the eligibility requirements as specified for the Board of Certification."
2. Approved the addition of a new Section 8 to Membership as follows: "It is unethical for a member to sponsor a candidate for membership in the NATA who does not know the candidate and his or her qualifications."
3. Approved the recommendation to place Mr. Leon Skee on the Ethics Committee.

## CONVENTIONS:

The Board listened to the presentations of Mr. Tom Higler and Mr. Jerry Baker relative to the availability and offerings of the City of Amarillo, Texas as a possible future convention site for the NATA.

Mr. Standifer commented upon the feelings of his District regarding the holding of the convention in Seattle, reporting that his District felt that this would be appropriate, that this city met all of the requirements of the National Convention criteria and that in the event of any unforeseen difficulties that Vancouver and Sun Valley might likewise be considered as alternate sites. The Board received this report as information without any definitive action being taken and with the proviso that reports would be made on a periodic basis regarding progress relative to this site.

Mr. Stoddard likewise again mentioned the possibility of Columbus, Ohio, for a

possible future site, with it being indicated that the Board would merely accept this as information and as a part of the record regarding convention sites.

A further discussion as to the advantage of three or four regularly selected sites ensued, with this matter being left in the status of having Mr. Hoover continue selecting convention sites in the same manner as was presently being followed.

## PROFESSIONAL EDUCATION COMMITTEE:

Upon the recommendation of the Committee, the Board approved the following:

1. Reapproved the following athletic training educational programs: Indiana University (undergraduate program); Ohio University; Oregon University (undergraduate program); Northeastern University; Purdue University and Southwest Texas State University.
2. Approved for probation the programs at Western Illinois University; Louisiana State University and the Indiana State University (graduate program).
3. Approved the recommendation that the Board of Directors remove from probation and approve the athletic training educational program at California State University at Long Beach since they have met all of the stipulations placed upon this program by the NATA.
4. Approved the recommendation that the following athletic training educational programs be placed on probation for one year and at that time be reevaluated to see if they have satisfactorily met the stipulations as presented for reapproval by the NATA: Oregon State University; Washington State University; Texas Christian University; Ball State University and Appalachian State University.
5. Approved the new programs at Ithaca College, Western Michigan University (graduate program) and the Indiana State University (graduate program), and withholding approval of the State University of New York at Brockport until such time as a new program director was hired and it meets the NATA guidelines.
6. Did NOT adopt, for lack of a second, the recommendation that the program directors may only endorse applicants for Section I of the NATA Procedures for Certification.
7. Approved the following revisions in the Guidelines for Development and Implementation of NATA Approved Undergraduate Athletic Training Education Programs:  
That, page 7, item 4, "Equal Opportunity", read as follows: "Equal access policies for admission to the athletic training education program must be consistent with the admission policies of the institution sponsoring the program. Athletic training education programs must insure equal opportunity for classroom instruction, clinical experience and other educational activities for all students in the program. Institutions sponsoring coeducational programs designed to prepare students to work as athletic trainers must insure academic and clinical experience opportunities in both men's and women's athletic programs."

That page 12, item 2, "Clinical Instructors" read as follows: "A minimum of one year of experience as an athletic trainer beyond the undergraduate level. Certified Athletic Trainers who have less than one year of experience may serve as clinical instructors under the supervision and direction of otherwise qualified full time clinical instructors."

That in relation to NATA Short Term Course Approval, the last sentence in item 8 read as follows: "Short term courses primarily developed for student trainers shall not be approved."

8. By official action, returned to the Education Committee for further interpretation the suggested change with regard to Page 10, "c", "Program Director."

9. Approved the budget request of \$8,400 for the employment of a part-time secretary and then likewise approved the budget as corrected.

## CERTIFICATION BOARD:

Mr. Rod Moore, in reporting for the Certification Board briefly commented upon arrangements being made for the moving of the Board Office facilities to Valparaiso University; called attention to the yearly increase in candidates thus also necessitating a change in sites and format and that these changes must be continually faced by the Board. The Board of Directors, in relation to the recommendations submitted, officially approved the following:

1. That the funding requested by Lindsay McLean for secretarial help along with additional monies appropriated for said services be transferred on a quarterly basis to the Board of Certification Account.
2. Approved the reappointment of the following members to the Board of Certification:

Marjorie Albohm; Indiana University  
James Dodson, Midland High School  
Joe Gieck, University of Virginia  
Buford Harmon, Mt. San Antonio Jr. College  
Richard F. Irvin, Oregon State University  
Carl Krein, Central Connecticut State College  
Russell Miller (On leave 1977-1979)

3. The Board likewise approved the reappointment of Edward J. Pillings until at least February 1, 1979, with a replacement to be named at the January meeting of the Board.

4. Approved the new appointment of Michael Capetto of Columbia University to the Board of Certification.

## AMERICAN COLLEGE OF SPORTS MEDICINE:

Mr. Ken Knight gave a report concerning the last meeting of this organization, indicating it was their intent to cooperate more fully with the NATA in the future, to the point that this organization desired to co-sponsor a symposium with the NATA. Mr. Knight further called attention to the intent of this organization to create some form of Fellowship class for Athletic Trainers.

In closing his brief report, Mr. Knight indicated the need of an on-going liaison representative to this organization rather than following the present procedure wherein each time this organization has a meeting, of sending the closest NATA representative.

It was indicated that the Board would take these matters under advisement and that perhaps at the January meeting of the Board, the College would be in a position of submitting some form of proposal to the Board for its consideration concerning the matter of Fellowship status for trainers.

## CONTINUATION OF MEMBERSHIP IN THE STUDENT CLASS:

Mr. Melin, in order to provide ways for certain students to continue membership in

the Student Class in situations not presently covered submitted the following proposals as additions to the statements in the Bylaws, Article XXVI under Student Membership, which proposals were approved by the Board.

1. A Student Member who is awarded a degree (bachelor's or master's) and who ceases to be a full-time student, and who does not become Certified but does not obtain a job as an actively engaged Athletic Trainer may continue membership in the Student Class for one year after the degree is awarded.

2. A Student Member who transfers to a school (as a full-time student) at which he/she is unable to satisfy the requirement of performing athletic training under direct supervision of a Certified Athletic Trainer may continue membership in the Student Class provided that he/she has had a minimum of 600 hours of acceptable athletic training experience under direct supervision of a Certified Athletic Trainer.

#### DISTRICT 4 STUDY PROPOSAL:

Mr. Stoddard presented and moved adoption of the recommendation that the President and the Board of Directors reconsider the request of District 4 to have the present NATA structure as it relates to representation of the total membership reflected in the Board of Directors, the results of such a study to be made available to the NATA membership.

Following a lengthy discussion involving the reasons for this request, how it was to be done, the motion was voted upon and was declared to be defeated with Districts 2 and 4 being in favor, Districts 3, 6, 9 and 10 being in opposition and Districts 1, 5, 7 and 8 abstaining. It was further suggested that District 4 appoint a subcommittee, if so desired, to further explore this matter relative to the scope of the study and objectives to be gained and if it so desires, that this information be presented at a subsequent Board Meeting.

#### DATES OF ELECTION OF NATA PRESIDENT:

The Board officially approved the changing of the present dates to the procedure wherein ballots for this election would be mailed prior to February 1st and with the provision that they be returned prior to March 1st or earlier.

#### WEDNESDAY EVENING SESSION

June 14, 1978

The meeting of the Board of Directors was reconvened at eleven-thirty p.m., President Chambers presiding and with the items as indicated below being considered and acted upon as indicated.

#### NAIRS:

Mr. Powell, in making his report, called attention to the present status of the HEW study, the use of NATA statistics therein and then followed with a brief report indicating the status of various other research projects. The Board then acted on the recommendations presented as follows:

1. Disapproved the proposed budget for travel as listed at a figure of \$1400.

2. Approved the recommendation to go on record as in full support of research efforts from the membership.

3. Approved the proposal for the development of a research symposia to be in the present format used by other organizations and to be conducted in relation to the National Meeting to be held at St. Louis.

4. Approved the development and implementation of a membership survey both in depth and annually as previously requested by the Board.

5. Denied the request for the Committee to come in a day early in connection with its next meeting in relation to its in-depth evaluation necessary to determine the quality of research.

6. Held up approval of the proposed budget pending further clarification.

#### WOJECKI AWARD:

Approved the recommendation that the Wojecki Award be awarded to that individual who scores the highest number of points on the certification examination.

#### AMERICAN ACADEMY OF ORTHOPAEDICS PROPOSAL:

1. Rejected the proposal as offered in relation to the \$16,000 mentioned in this proposal.

2. Adopted the recommendation that the Certification Committee and the Education Committee meet and come up with some alternate proposals for the use of the \$16,000 mentioned by the Academy and that a further report on this matter be made at the mid-year Board Meeting.

#### GENERAL:

Discussed the use of the term "Chairman" versus "Chairperson", with it being indicated that it was the feeling of the Library of Congress that the use of the term "Chairman" was still proper.

That a letter of welcome be issued from the District Director accompanying the membership card to all new members and that a like procedure be followed relative to newly certified candidates.

That the President's Challenge Award, Honor Awards and all other matters of special recognition presented to the Board be accompanied with a brief biography of the nominee.

Upon the recommendations of both Districts 4 and 5, approved the request to have the University of Iowa transferred to District 5 from District 4.

Approved the establishment of criteria for the appointment of liaison representative members to other organizations and to inform appointees of their role in representing the NATA to their organizations.

Approved the recommendation that the Trainer of the Year Award be authorized for another year.

Approved the disposal of the presidential election ballots by Mr. Davis.

Regarding the Twenty-Five Year Award, approved the recommendation that Mr. Sullivan be instructed to find some way of upgrading the presentation certificate involving this award.

## ANNOUNCEMENTS *Continued from page 145*

### *Brochure Requests*

All requests for the brochure entitled "Careers in Athletic Training", previously handled by Mel Blickenstaff, A.T.,C. of Indiana State University, should now go to **Charles O. Demers, A.T.,C. Chairman, NATA Career Information Services, Athletic Department, Deerfield Academy, Deerfield, MA 01342.**

### *A Timely Reminder...*

Your contributions and continuing support to the NATA Scholarship Fund are always welcome and are necessary so that the endowment goal of \$500,000 can become a reality. Please remember that our program of financial assistance is a four-fold one that offers scholarships, loans, grants and part-time employment. Organizational support from the NATA to the Fund continues, but your individual contributions are vital to the Scholarship Fund's ultimate success. All contributions are tax deductible. Won't you consider now the importance of your participation in the NATA Scholarship Fund? Make your checks payable to Scholarship Program, and mail them to this address: William E. Newell, Purdue University Student Hospital, West Lafayette, Indiana 47907.

## *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.**



## guide to contributors

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1. One original and five copies of the manuscript should be forwarded to the editor and each page typewritten on one side of 8½ x 11 inch plain paper, double spaced with one inch margins.
2. The first page of the manuscript should include title of paper, full name of author(s), academic degrees, name of the department and institution of author(s).

The second page should contain a brief biographical sketch of each author, suitable for publication with the article. A recent photograph of each author is also requested, but not mandatory.

The text of the article should begin on page three and is to be followed by the bibliography, tables, and illustrations and legends to illustrations in that order.

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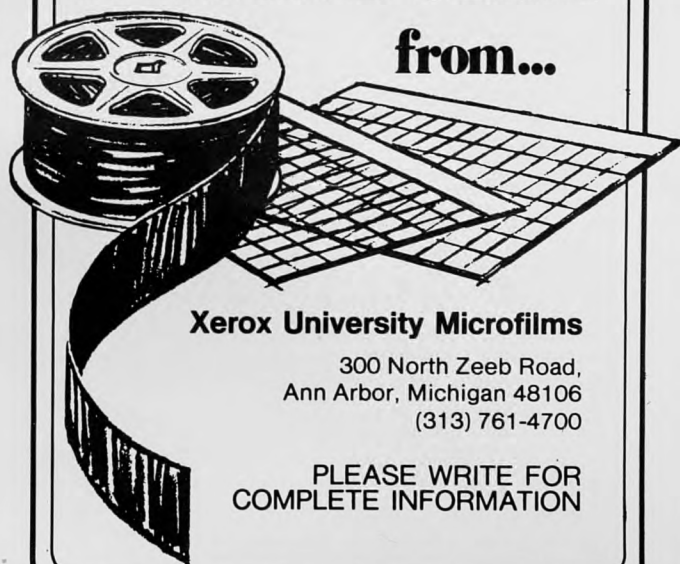
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  - a. Knight K: Preparation of manuscripts for publication. *Athletic Training* 11(3):127-129, 1976.
  - b. Klafs CE, Arnheim DD: *Modern Principles of Athletic Training*. 4th edition. St. Louis, CV Mosby Co. 1977 p61.
  - c. Albohn M: Common injuries 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.
7. Potential authors are referred to references above for help in preparing their manuscripts.
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