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• The Winner of the Second Annual NATA Student Writing Contest
• Managing the Emotional Reaction to Loss in Athletics
• A Special NATA Seminar: How To Live With Synthetic Turf
• A Case Report: The Use of the DAPRE Technique in Knee Rehabilitation
• Decision Making Process in Sports Medicine
• Proceedings of the 31st Annual Meeting and Clinical Symposium

VOLUME 15  
NUMBER 3  
FALL 1980
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The National Athletic Trainers Association

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ATHLETIC TRAINING • Fall 1980
Dear N.A.T.A. Members:

It was good to see so many people at our annual meeting in Philadelphia. We had an outstanding clinical program as proven by the attendance at each session. Also, the exhibit area was very busy with members looking and inspecting the various products of our profession. Many thanks, again, to District Two for putting together such an outstanding meeting.

The district meetings in Philadelphia were excellent. It was good to see so many of our members expressing their feelings about their organization. Some of the input from the district meetings helped the Board of Directors in its decision making.

The move of the Certification Office to Greenville has been completed. Thanks to the cooperation of everyone involved with this move — the move went smoothly. The move of our Certification Office is the first major step in bringing all NATA activities under one roof.

In Philadelphia, I established an Ad Hoc Long Range Planning Committee to study the feasibility of a full-time executive director for NATA. The Committee met in August for discussions and presentations of data that had been collected from various sources. Hopefully we will be able to present the findings as well as some recommendations to you at our annual meeting in Fort Worth.

Don't forget to send your CEU's directly to the national office. Course approvals can and should be done by your district CEU representative, however, it is each member's responsibility to send their CEU's to the national office. Should you have any questions about the number of CEU's you have earned, contact the national office.

I hope each of you had a nice summer and that you will continue to communicate with your officers.

Warm regards to all,

William H. Chambers
President
Editor’s Remarks

Ken Wolfert, ATC
Miami University

VACATION TIME IS OVER....

Hopefully those with time off in the summer will be recharged for what can be a successful new year of expected and unexpected activities. To the others, maintain the pace and look forward to the culmination of the undertakings in the not-too-far-off future.

PHILADELPHIA....

Quite a successful time was had by most attending the latest version of our Annual Meeting and Clinical Symposium. Many NATA Committee positions and responsibilities have changed hands and with it a renewed sense of enthusiasm with new ideas is born again. As these important members of our association proceed to carry on where their predecessors left off, it is imperative that each of us make an effort to react to their leadership and become involved in any possible way. Two of the most critical areas of change affecting all of us are in the Professional Education and the Certification Committee Chairs. The scope and the impact of the function of these committees is of utmost concern to each of us. The operation of both of these areas is quite difficult to do from a part-time volunteer situation. It is with extreme patience and understanding that we wish John Schrader and Paul Grace the best in their new roles as chairs of Professional Education and Certification respectively.

SPEEDY RECOVERY.....

We wish for a very quick come back for one of our Board of Directors, Dick Malacrea from District 2, who became ill this summer.

SURVEY RESULTS COMING.....

Look for the opinions of those participating members regarding the recent questionnaire about the status of Athletic Training in the Winter issue of this Journal.

NATIONAL OFFICE.....

Various factors have caused our Board of Directors to seriously consider the centralization of much of what is done in NATA. This includes the possibility of moving the National office site and the establishment and hiring of a full time executive director. Everyone should think deeply about the possibilities and consequences and make your thoughts known to your district director.

HYDROTHERAPY PRECAUTIONS.....

For the safety of athletes, any institution using equipment such as whirlpool baths is strongly urged to regularly show compliance with existing state safety regulations and to specifically implement use of ground fault interrupters.

Until later, do it and keep it safe.....

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Calendar of Events

Jeff Fair, ATC, MS
Oklahoma State University

October, 1980

12-15 NCSSAD Annual Advisory Board Meeting, Las Vegas. Contact Laurie Priest, Program Administrator, NASPE/NCSSAD, 1900 Association Drive, Reston, Virginia 22091.

26-28 LaCrosse Weekend Cardiac Rehabilitation Seminar, Chicago. Contact LaCrosse Exercise Program — Workshop Unit, Mitchell Hall, University of Wisconsin-LaCrosse, LaCrosse, Wisconsin 54601.

30-Nov. 1 Toronto Rehabilitation Centre, International Symposium on Exercise, Fitness and Cardiovascular Health. Contact Mrs. Nicky Arnold, Symposium Secretary, Toronto Rehabilitation Centre, 345 Rumsey Road, Toronto, Ontario M4G1R7.

November, 1980

2-5 10th Annual Western States Athletic Directors Conference, Las Vegas. Contact Don Kieling, 2455 W. Country Club Road, Lake Oswego, Oregon 97034.

December, 1980

4-6 American Heart Association, The Athlete: Risks on Injury and Sudden Death. Preventive and Therapeutic Considerations, New York City. Contact American Heart Association, Attention: Scientific Sessions, 7320 Greenville Avenue, Dallas, Texas 75231.

4-6 Sports Medicine Section of the APTA and the Sports Medicine Institute of the University of Cincinnati, 1st Annual Combined Physician-Therapist Conference on “The Evaluation and Current Treatment of Athletic Injuries,” Houston. Contact Robert Mangine, RPT, ATC, Department of Physical Therapy, Medical College of Virginia, Box 224, Richmond, Virginia 23298.

5-6 Rocky Mountain Chapter of the American College, College of Sports Medicine Winter Meeting, Fraser, Colorado. Contact Jack Harvey, MD, Director, Fort Collins, Colorado 80524.

5-7 International Medical Education Corporation, Seminar on Cardiac Rehabilitation, Los Angeles. Contact International Medical Education Corporation, International Health Systems, Cardiac Rehabilitation Services, 64 Inverness Drive East, Englewood, Colorado 80110.

7-9 LaCrosse Weekend Cardiac Rehabilitation Seminar, Dallas. Contact LaCrosse Exercise Program — Workshop Unit, Mitchell Hall, University of Wisconsin-LaCrosse, LaCrosse, Wisconsin 54601.

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 74078.

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If you have a substantial orthopedic caseload, you need virtually unlimited isolated-joint testing and exercise capability. Find out more about CYBEX II and the new CYBEX U.B.X.T.
Schedule of Future Sites and Dates
NATA Certification Examination
Revised: August 1980

REGIONAL
(All regional sites subject to a minimum of six candidates per site and limited to a maximum of thirty candidates).

January 18, 1981
Eugene, Oregon
Fort Worth, Texas
Grossingers, N.Y. (EATA)
Lexington, Kentucky

Deadline for requesting application forms:
October 15, 1980*
Deadline for returning application forms:
December 1, 1980*

March 15, 1981
Odessa, Texas
Oxford, Ohio
Pullman, Washington
Raleigh, N.C.

Deadline for requesting application forms:
December 15, 1980*
Deadline for returning application:
February 1, 1981*

NATIONAL
June 7, 1981 National Convention Site: Fort Worth, Texas
(Subject to a maximum of 50 candidates — applications accepted in order of remittance-only 25 additional candidates accepted for written examinations. June and August applications are processed under the same deadlines).

August 2, 1981
Ann Arbor, Michigan
Cedar Falls, Iowa
Eugene, Oregon
Oxford, Ohio
State College, Pennsylvania

Deadline for requesting applications forms:
March 15, 1981*
Deadline for returning application:
April 30, 1981*

Application forms available from:
NATA Board of Certification
P.O. Drawer 1865
Greenville, NC 27834

(Please indicate date you wish to take the exam when requesting the application; also indicate the section under which you plan to apply: I-NATA Approved Curriculum, II-Apprenticeship, III-Special Consideration, IV-Physical Therapy).

NOTE: 1982 exam dates will approximate the 1981 dates and sites on a regional basis. The national exam will be at the site of the NATA annual meeting and clinical symposium with similar numerical limitations.

*All items must be received by the NATA Board of Certification Office by the specified deadline dates.

CERTIFICATION COMMITTEE ITEM SOLICITATION
The certification committee is again in need of individuals who would be willing to construct questions for the certification exam. For details on construction format, contact: Carl F. Krein, ATC, Athletic Trainer, Central Connecticut State College, New Britian, Conn. 06050.

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.

Brochure Requests
All requests for the brochure entitled "Careers in Athletic Training" should go to Charles O. Demers, ATC, Chairman, NATA Career Information Services, Athletic Department, Deerfield Academy, Deerfield, MA 01342. Single brochures are supplied upon request at no charge. NATA officers and committees, schools having an approved athletic training curriculum, and those having an apprenticeship program are furnished multiple copies of the brochure upon request at no charge. Others requesting multiple copies are asked to pay a charge at 10 cents per copy.

1981 CONVENTION
The 32nd Annual Meeting and Clinical Symposium will be held at the Tarrant County Convention Center in Fort Worth, Texas, June 7-10, 1981. Have you started making your plans to attend?

Announcements continued on page 135
The game can be lost here

If just one or two athlete's foot or jock itch infections are left untreated, they can spread fast. In the locker room... in the shower; these fungus infections can spread like an epidemic and can impair team performance.

TINACTIN kills the fungi that cause both athlete's foot and jock itch infections. Prompt relief of itching, burning, and soreness means prompt return to action.

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FACT: Gatorade® has the following electrolyte concentrations:
- Sodium — 21.0 meq./liter
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FACT: This balance of electrolytes is not found in water, soft drinks or salt tablets.

So in addition to balanced diets, exercise, proper equipment, supervised training and team/coach dedication to win, complete the line-up with Instant Gatorade® thirst quencher.

Convenient and economical, Gatorade® is available in pleasant tasting orange and lemon-lime flavors.

Contact your nearest Instant Gatorade® thirst quencher representative TODAY. He’s listed on the facing page.
Announcements continued from page 132

1981 DUES

Statements will soon be in the mail. (Target date is October 1st.) Sandra Robinson implores members to please be sure to return the invoices with their payments. Every phase of our clerical work is made easier when the invoice accompanies your check. If your school pays your dues, impress upon the bookkeeper the importance of attaching the invoice to the check. Following this procedure will save time, trouble and expense for you and your Association. You are assured proper credit and will not risk a $10.00 reinstatement fee, plus Association personnel will only have to handle your file once. Remember that your membership expires at the end of 1980, so PLEASE be prompt in responding to your statement when it arrives.

NEW N.A.T.A. MEMBERS

If you became a member of the Association after August 5, then your 1981 dues are paid. While your membership becomes effective immediately, the dues are applied to 1981 and your membership card will state "1981". You will not be billed again until 1982 statements go out.

PLACEMENT

According to Barbara Manning, members who receive the Position Vacancy Notice need not notify Craig Sink of an address change. But please DO notify the National Office immediately — or in advance, if possible. In compliance with the Board of Directors’ decision at the St. Louis convention (See Volume 4 #3, Fall, 1979 Journal) the Position Vacancy Notice must be mailed to the NATA address of record. Prior to this ruling, some members chose to receive the Notice at a different address and we had to maintain two mailing lists — one for NATA mail and one for the Notice. Barbara also reminds recipients of the Notice that renewal cards will be sent out around the first of 1981 and if you do not return this card, your name will be deleted from the mailing list. Many people have written us, "I used to receive the Notice but it stopped coming." They have forgotten the card. The mailing list is updated annually and when the renewal card is not returned as requested, that name is automatically deleted at the computer.

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Announcements continued from page 135

MEMBER CREDITS AND AWARDS
Compiled by Chris Neuman

INTERNATIONAL TRAINERS

Being selected as a professional to represent the United States in international competition is an honor. Serving as an athletic trainer at this high level of competition is a rare and exciting experience. These trainers also represent the National Athletic Trainers Association and further promote the professional contributions we, as trainers, provide the athletic community.

Athletic Training would like to acknowledge and congratulate these individuals.

UNITED STATES ATHLETIC THERAPY STAFF 1979 PAN AMERICAN GAMES

| Roy Bergman, MD                  | Escanaba, Michigan |
| Anthony Daly, MD                 | Inglewood, California |
| Gerald Finnerman, MD             | UCLA |
| Jerome Patmont, MD               | Berkeley, California |
| Sherry Barbarian, ATC, RPT       | Stanford University |
| David Blanchard, ATC, RPT        | Stanford University |
| Carol Hubble, ATC                | Minneapolis, Minnesota |
| Tim Kerin, ATC, RPT              | University of Tennessee |
| Bob Moore, ATC, RPT              | San Diego State University |
| Al Ortolani, ATC                 | Pittsburgh State, Kansas |
| Naseby Rhinboth, ATC             | University of Montana |
| Tony Russo, ATC                  | Citrus College, California |
| Gail Weldon, ATC                 | UCLA |
| Troy Young, ATC                  | Arizona State |
| Dave Vigo, ATC                   | University of Nevada – Las Vegas |

UNITED STATES ATHLETIC THERAPY STAFF LAKE PLACID 1980 WINTER OLYMPICS

Anthony Daly, MD (Head Physician)
George Nogodas, MD
Cal Reber, MD
Dick Steadman, MD
Bob Beeton, ATC
Marcia King, ATC
Bruce Kola, ATC
Skip Pickering, ATC, RPT

ATHLETIC THERAPY STAFF PERSONNEL LAKE PLACID 1980 WINTER OLYMPICS

(Provided by the organization)

UNITED STATES ATHLETIC THERAPY STAFF MOSCOW 1980 SUMMER OLYMPICS

| Roy Bergman, MD                  | Escanaba, Michigan |
| Jerome Patmont, MD               | Berkeley, California |
| Doug Shaw, MD                    | Santa Barbara, California |
| Timothy Taft, MD                 | Chapel Hill, North Carolina |
| Sherry Barbarian, ATC, RPT       | Stanford University |
| Bob Beeton, ATC                  | United States Olympic Center |
| David Blanchard, ATC, RPT        | University of Tennessee |
| Christine Benci, ATC             | Sports Medicine Center, University of Pennsylvania |
| Charles Demers, ATC              | Deerfield Academy |
| Tim Kerin, ATC, RPT              | University of Tennessee |
| Mike Linkovich, ATC              | Bowdoin College |
| Bob Moore, ATC, RPT              | San Diego State University |
| Al Ortolani, ATC                 | Pittsburgh State, Kansas |
| Tony Russo, ATC                  | Citrus College, California |
| Larry Standler, ATC, RPT         | University of Oregon |
| Gail Weldon, ATC                 | UCLA |
| Troy Young, ATC                  | Arizona State |

UNITED STATES ATHLETIC THERAPY STAFF IMOSCOW 1980 SUMMER OLYMPICS

| William "Pinky" Newell, ATC, RPT | Chapel Hill, North Carolina |
| Bruce Kola, ATC                  | University of Oregon |
| Skip Pickering, ATC, RPT         | UCLA |
| Troy Young, ATC                  | Arizona State |

NATIONAL ATHLETIC TRAINERS ASSOCIATION SCHOLARSHIP AWARDS

The National Athletic Trainers Association has inaugurated five Undergraduate Scholarship Awards and five Post-Graduate Awards to honor outstanding undergraduates and seniors respectively who have excelled academically and in the field of athletic training. Each recipient is awarded a plaque and a scholarship of $500.00 which are encouraged to use for continuing education.

Undergraduate Awards

National Football League Charities
The National Football League Charities sponsor an Undergraduate Scholarship Award which has been given since 1978.

The 1980 winner of this award is Timothy Michael Madden from the University of Illinois. Tim is from Naperville, Illinois.

William F. X. Linskey

The William F. X. Linskey Scholarship Award was first presented in 1979. Bill Linskey was the first Secretary/Treasurer of the Eastern Athletic Trainers Association. He has participated as an athletic trainer for the Pan American Games and is a member of the Helms Hall of Fame. Mr. Linskey is currently Head Trainer for the Cambridge School System, Cambridge, Massachusetts.

This award is given to an undergraduate sophomore or junior and is sponsored by Johnson and Johnson Products.

The 1980 William F. X. Linskey Scholarship was awarded to Barbara Ellen Stike from Eastern Illinois University. Barbara’s home is Charleston, Illinois.

William E. Newell

The William E. Newell Scholarship Award was first presented in 1970 and signifies the beginning of the NATA scholarship program. "Pinky" has been a member of the National Athletic Trainers Association since 1950. He was the Executive Secretary/Treasurer for the NATA from 1955-68 and is presently the chairman of the Committee on Grants and Scholarships. After spending 28 years as the Head Trainer at Purdue University, Pinky is now working with the Purdue University Hospital as Supervisor of Physical Therapy. Pinky is also a member of the Helms Hall of Fame.

The Newell Award was sponsored by Cramer Products until last year and since that time has been sponsored by the Chattanooga Pharmacal Company. This award is given to a sophomore or junior.

The 1980 winner of the William E. Newell Scholarship Award was Richard Carl Young from the University of Maine – Orono. Richard’s home is in Gorham, Maine.
Robert H. Gunn
The Robert H. Gunn Scholarship Award has been presented since 1975. Bobby Gunn graduated from The Rice Institute in Houston, Texas, which is now Rice University, where he worked under the legendary Eddie Wojecki. After the NATA was re-structured, Bobby Gunn became the first elected president of the NATA in 1970 and was re-elected in 1972 to serve a second two-year term. Bobby is presently associated with Rawlings Sporting Goods.

The Gunn Award is sponsored by the National Athletic Trainers Association and is presented to an outstanding junior from the curriculum program.

The Robert H. Gunn Scholarship Award for 1980 was given to Joel F. Hanneman from Lamar University. Joel is from Elgin, Texas.

Sayers J. Miller, Jr.
The Sayers J. Miller, Jr. Scholarship Award was first given this year. Bud Miller was a member of the Professional Advancement Committee and became chairman in 1968 of the Professional Education Committee. Bud is considered by many to be the Father of professional preparation in athletic training.

The Miller Award is sponsored by the National Athletic Trainers Association and is awarded to an outstanding undergraduate junior from a curriculum program.

The Sayers J. Miller, Jr. Scholarship was first awarded this year to Robert James Deppen from the Pennsylvania State University. Robert’s home is in State College, Pennsylvania.

Post-Graduate Awards
National Football League Charities
The National Football League Charities has sponsored a post-graduate scholarship award since 1978.


National Basketball Trainers Association
The National Basketball Trainers Association sponsored a post-graduate award for the first time this year.

The first recipient of the National Basketball Trainers Association post-graduate award is James Gerard Nespor from the University of Nebraska — Lincoln. James is from Fairbury, Nebraska.

National Athletic Trainers Association
The national Athletic Trainers Association has sponsored a post-graduate award since 1974.

The 1980 recipient of the NATA post-graduate award is Jean Marie Sutton from Temple University. Jean’s home is Allentown, Pennsylvania.

Del C. Humphrey
The Del C. Humphrey Post-Graduate Scholarship Award was first given in 1977. Del Humphrey is an honorary member of the National Athletic Trainers Association and is associated with the Schutt Manufacturing Company. A backer for NAIRS and NOCSAE and a consultant for the NCAA rules committee, Del Humphrey has not missed a national convention since exhibiting first began. This award is sponsored by the Schutt Manufacturing Company.

The 1980 recipient of the Del C. Humphrey Post-Graduate Award is Meryl Sue Peyser from the University of California — Los Angeles. Meryl is from Chatsworth, California.

G. E. “Moose” Detty
The G. E. “Moose” Detty Post-Graduate Scholarship Award was first given in 1978. Moose Detty was the Head Trainer for the Philadelphia Eagles for many years before ending that career in 1973. For the next three years Moose was an Administrative Assistant with the Eagles.

Moose then established his own company, PRO Orthopaedic Devices, Inc., of which he is presently the president. A strong supporter of District and National meetings, Moose willingly participates whenever and wherever invited to do so. This award is sponsored by Pro Orthopaedic Devices, Inc.

This year’s G. E. “Moose Detty Award was given to John Bright Cagle from Indiana University. John’s home is in Texas City, Texas.

Eddie Wojecki Achievement Award
This achievement award honors the memory of Eddie Wojecki who achieved greatness at Rice University in Houston, Texas, then The Rice Institute. Eddie was a Director and later Chairman of the Board of Directors. Eddie Wojecki was the man responsible for involving the National Athletic Trainers Association with the Helms Hall of Fame and was chairman of that committee.

The Eddie Wojecki Achievement Award was first given in 1974 and is awarded to the individual who achieves the highest score on the certification exam. The award was originally sponsored by Larson Laboratory but since 1979 has been sponsored by the Mueller Chemical Company.

This year’s Eddie Wojecki Award went to Sandra J. Harms, Valparaiso, Indiana.

Living Memorial Scholarship Awards
The Living Memorial Scholarship Awards are sponsored by the individual districts and given only to members in the respective district. At the present time District Four sponsors an Undergraduate and Post-Graduate Scholarship Award.

The 1980 Living Memorial Undergraduate Award was given to Glenn Rodney Brickey from Indiana State University. Glenn is from New Lebanon, Ohio.

The 1980 Living Memorial Post-Graduate Award was given to Sherrie Lynn Springer from Indiana University. Sherrie’s home is in Gregory, Michigan.

President’s Challenge
The President’s Challenge Award is sponsored by Kwik Care Products Division of Kay Laboratories, Inc. This award is given to a Doctor of Medicine or Osteopathy who has made a significant contribution to the field of Sports Medicine.

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Receiving the award in 1980 was Frank McCue MD of University of Virginia.

For any further information concerning these Scholarship Awards or for applications please contact: The National Athletic Trainers Association, Committee on Grants and Scholarships, 3315 South Street, Lafayette, Indiana 47904.

Announcements continued on page 187
Current Literature


“Figure Skater’s Foot,” Davis, M.W. et al. Minnesota Medicine, 101 E. Fifth St., St. Paul, Minnesota 55101. 62(9):647-8, September, 1979.


“Figure Skater’s Foot,” Davis, M.W. et al. Minnesota Medicine, 101 E. Fifth St., St. Paul, Minnesota 55101. 62(9):647-8, September, 1979.


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Managing the Emotional Reaction
To Loss in Athletics

David F. Wehlage, MD

Introduction
The feeling of grief occurs whenever an athlete experiences the permanent loss of something he values or strongly desires. Other than the constant feeling of simple frustration, the most common emotional reaction athletes must face and resolve is grief. Grief is obviously quite frequent since a major portion of athletes experience competitive loss.

Although the emotional turmoil of grief (mourning) is universal, it remains poorly understood, frequently overlooked, and generally mismanaged by the professionals responsible for the well-being of athletes. The grief process, the management of grief, and the prevention of grief will be discussed.

Description of the Grief Reaction
Grief is the reaction to the irreversible loss of something an individual feels is important. The more important something is to a person, the more severe the sense of loss or grief. In varying degrees in the lives of most people, it is important to maintain a sense of control over the following general factors: one's physical strength, sexual potency, social influence, intellectual omniscience, emotional stability, and economic affluence. An athlete suffers a sense of loss anytime he does not perform or is prevented from performing up to his personal expectations in any of these general areas. An individual endows each aspect of his life with a personal importance that makes him vulnerable to (loss). The sense of loss caused by a defeat or an incapacitating injury is certainly understandable; but frequently, an athlete will react as if a significant loss or ending has occurred based on his own private interpretation of a situation. For example, if an athlete felt unreasonably remorseful after a defeat in an insignificant contest, one might find the importance of that contest was that a girl-friend or parent was in the audience.

Grief is a painful, powerfully motivating force in the lives of athletes. The fear of an anticipated loss or ending may actually motivate self-defeating (loss-inducing) behavior by an athlete. For example, the athlete may make sure he is defeated, since doing well threatens him with not being able to continue doing equally well each time. Predicting his own loss not only prevents him from experiencing future grief, but also gives him control over his losing or not performing well. This athlete rationalizes a significant difference between losing and not winning. He avoids taking the risk of losing something he values by deciding that the pain of not having it is less than the pain of losing it after it is possessed. Obviously, non-athletic losses like the death of a loved one or dissolving a close friendship can influence one's athletic performance until the grief is resolved.

The grief reaction is a process of resolving the emotion of loss. A competitive loss normally should be resolved within ten days or less. The death of a loved one or incurring a painful, irreversible physical injury is of such magnitude that six to twelve weeks may be necessary to resolve the grief. An athlete may need active, professional intervention to solve his grief if his reaction extends beyond these limits.

There are three sequential stages that can be understood and must be transversed for proper and complete resolution of grief; they are the stage of protest, the stage of hopelessness, and the stage of reorganization. The first stage of grief is dominated by a protest of having been rendered helpless and cheated. Anger is the first response to being faced with the loss of something one values highly. Bitter, angry efforts to retrieve what was lost are understandably evident. Repetitively asking oneself, "Why did this have to happen?" and getting no answer leads to an intensive, shock-like resentment. Anger may more than likely be expressed outwardly. The outward expression of anger may be direct with many angry verbalizations and explosive, violent outbursts. It may be indirect by the use of sarcasm, stubbornness, displacement (getting angry at or blaming an innocent person or thing), or by "acting out" behavior like depression, restlessness, reckless driving, or even a suicide gesture. All forms of expressing anger give a person some sense of power in the face of the helplessness precipitated by the irreversible ending. However, anger may be unexpressed by way of suppression. Suppressed anger usually becomes the force behind vigorous denial that what was lost was ever really important or firm disbelief that the loss is permanent. Suppressed anger may also be transformed into an emotional state of fearfulness with trembling or to a severe sense of guilt and self-blame or to a preoccupation with physical complaints and excuses to give up further striving. A person who normally suppresses anger will have more trouble getting over the first stage of grief since one must relieve the intense angry feelings before he can advance in the resolution of his grief. Most difficulties in handling grief occur at the stage of anger are incomplete in a lot of young athletes.

The stage of hopelessness occurs gradually as the full realization of never reversing the loss is faced. In the midst of despair, one will withdraw, become self-reflective, manifest a lack of emotional and social spontaneity, and lack the ability to concentrate. During this stage, one must begin to stop remembering the loss rather than "accepting it." No one can just "accept" a loss as is often advised. A sense of vague emotional fatigue, which is temporary, occurs in the second stage. Feelings of pleasure in the meaningful things he still possesses gradually emerge allowing him to focus on some hope for the future and to leave the loss in the past. Continued hopelessness with social detachment and exaggerated self-blame means this stage is not being resolved.

The stage of reorganization ends the grief reaction as the individual resumes the activities that were characteristic of his functioning before the loss. In overcoming the loss, he may find and use new skills or attitudes to help him in the future. One should always be more experienced and wise human being after resolving a grief reaction. The nature of the grief reaction is the same for losses that occur in connection with the non-athletic, as well as the athletic, parts of one's life.

Dr. Wehlage is a 1965 graduate of the Indiana University School of Medicine. He became board certified in Psychiatry in 1971. He presently has a full-time practice in psychiatry in South Bend, Indiana and is an Assistant Professor of Psychology at the University of Notre Dame.

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Management of the Grief Reaction

Once an irrevocable loss occurs and the grief reaction results, it is necessary that those around the mourner understand how to assist. During the protest stage, one should give the athlete permission to be angry. This means that the athlete should be encouraged to express his anger through verbalizing and/or non-destructive behavior. If he is converting his anger to denial or using indirect methods of anger expression, one should help the athlete understand it is normal and acceptable to be angry and disgusted when an irreversible loss is experienced. Helpful responses revolve around such statements as, “It really is disgusting to have lost, been hurt, etc., isn’t it?” or, “If you are so angry, why don’t you show it?” Do not reassure or offer sentiments of sympathy or pity for the athlete at this stage through statement implying, “. . .everything will be fine.” Also, do not chastise or reprimand the athlete for being angry and expressing it. The more completely and rapidly he gets the emotion of anger released, the more smoothly the first stage will be passed.

During the stage of hopelessness, the athlete should be allowed to withdraw and be alone. He needs the social isolation temporarily to cry and exhaust the sadness and hopelessness he is experiencing. One must resist attempts to cheer him up, but rather should be available to listen quietly if the athlete wants to share his misery, unhappiness and discouragement. Usually, a helper will talk too much to the athlete during this stage as opposed to just listening with no words and no reassurance. As the athlete shows signs of wanting to talk, a helper may begin to use responses like: “You must really have cared a great deal about . . . ?”; “What can you learn from this experience?” An understanding helper will not try to get an athlete out of his hopelessness and withdrawal by shaming him through comments like: “Don’t be a baby, etc.”

Prevention of the Grief Reaction

A more sound approach to handling grief reactions could be to try arranging the athletic situation in a manner that would decrease the possibility of loss or at least decrease the emotional impact of loss. Coaches can do two things to make athletics more emotionally healthy: 1) an athlete should be helped in defining reasonable goals with realistic, effective plans of action to bring about those goals and 2) have multiple varied goals and values to pursue. Irreversible loss causing grief by not accomplishing planned goals can be prevented significantly if one is attentive to developing only achievable goals and workable plans of action. This seems like common sense, but it is not very often clarified for the athlete in either his com-

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petitive or personal life.

Other factors must also be considered in preventing a personal sense of loss. The more one's sense of self-worth is based on varied and multiple values and goals, the less likely one is left unfulfilled. For example, if in a sport the athlete can feel successful about having achieved a lasting comradeship, fulfilled the goal of doing his best or just having finished the season, he will suffer less if he becomes a loser competitively. The athlete needs to be helped to understand there are multiple values in athletics besides winning. Athletes should have things that are valued besides performance-oriented tasks, e.g., friendships and hobbies, and should have values outside athletics, e.g., educational pursuits or a job. The broader an athlete's area of interests and activities, the more resistant he is to being overwhelmed by the irreversible loss of a single valued interest or expectation. It is interesting to note that any activity that requires skill makes one more vulnerable to grief when the skill does not bring about anticipated results. Can an athlete be helped to accept "chance" a little more than skill? Also, is it possible to teach athletic principles without performance goals? If there were no competitive goals to fail in achieving, grief would be less likely. Athletics without goals sounds like heresy, but it should be considered more seriously by those responsible for developing athletes. It might involve accentuating the value of fun or the value of execution without just having to win. The whole area of grief prevention in anyone's life should involve trying to broaden the base of meaningful pursuits so that "nothing is so totally important I cannot live without it." In other words, "Never put all your eggs in one basket."

Summary
A grief reaction occurs anytime one experiences the irreversible loss of something valued so highly the individual temporarily feels he cannot go on without it. The proper therapeutic assistance needed to resolve grief reactions is described. The factors involved in preventing or at least reducing the possibility of an athlete experiencing devastating endings are elucidated. Probably the most crucial issue in helping an athlete with grief is whether the helper understands and has developed the ability to handle endings in his own life. Many coaches and athletic personnel are more vulnerable to and overwhelmed by endings than the athletes. An athlete deserves a proper example and model.

BIBLIOGRAPHY
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EVALUATION AND CURRENT TREATMENT
OF ATHLETIC INJURIES: THE TEAM APPROACH

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A Tip From the Field

Two Aids in Training Room Organization

Mr. Weber is the Head Athletic Trainer at the University of Arkansas at Fayetteville and Mr. Rehbock is an Assistant Athletic Trainer at North Carolina State University at Raleigh.

Dean L. Weber A.T.C. and James M. Rehbock A.T.C.

Many times trainers must think of how best to utilize and organize the space in the training room. Here are two ways that this problem is dealt with at the University of Arkansas.

One way is that the training room filing system is combined with a treatment table or doctor's examining table. The table consists of five two-drawer filing cabinets. The table is 75 inches long, 28 inches wide, and 32 inches high. The filing cabinets cost from $74.95 to $102.95. The cost will be higher for cabinets with locks. The top costs between thirty to thirty-five dollars. The cost will vary depending on materials and labor costs.

The other item used to help organize the training room is a six drawer mechanic's tool cabinet on wheels. The cart helps organize training equipment and supplies on the sidelines for both practice and games. The cart is available from Sears and ranges in size from 2 drawers to 14 drawers. They cost from $104.99 to $259.99. One suggestion on the cart is to attach larger wheels than the standard ones so it will roll easier.

Hopefully these two tips will help to utilize and organize the training room.

Editor's Note: Anyone wishing to have an idea, technique, etc. considered for this section should send one copy to Ken Wolfert, Miami University, Oxford, Ohio 45056. Copy should be typewritten, brief, and concise, using high quality illustrations and or black and white glossy photos.
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How To Live With Synthetic Turf

Editor's note: Although this presentation is over a year old it is hoped that the information can be of benefit to those who were unable to be present at the time it was given. Each speaker has been given the opportunity to update their material for publication in this issue. The lead in to this discussion was made by the St. Louis Clinical Symposium Program chairman, Mr. Tim Kerin, Head Athletic Trainer at the University of Tennessee. — KW

Tim Kerin: We decided to change the format of the NATA conference a little bit because we felt we had a subject that was extremely valuable to the people that play on artificial surfaces. Whether you play seven or eight games a year on synthetic turf like we do at the University of Tennessee, or whether you play just one game every two or three years on it, the management of your people, your athletes, getting them ready to play on artificial surfaces and their adjustment to it (and there are very few differences) is extremely important.

At this time I’d like to introduce Mr. Ed Milner who is the manager of products technology for the Recreational Products group of Monsanto Company. This is a panel discussion that’s to deal with the management of artificial surfaces in total. The format of this is to present three speakers: Roy Don Wilson, from the University of Southwestern Louisiana; Dr. Stan Plagenhoef, from the University of Massachusetts and Eddie Lane, from the Independent School District, Dallas. They’ll each make a presentation, and then we’ll have a question and answer period to follow.

Moderator Ed Milner: The topic for our panel this evening is How to Live With Synthetic Turf. Synthetic turf got its start about 15 years ago with a test installation of a Monsanto material called ChemGrass at the Moses Brown School in Providence, Rhode Island. That test was expanded in 1966 when Judge Roy Hofheinz called on Monsanto to solve his problem in the AstroDome grass just — didn’t grow very well indoors. Monsanto got very busy and renamed the material AstroTurf®, and all of a sudden we were on national television.

It’s interesting to note that the next two installations of synthetic playing surfaces were for the public schools of Seattle, Washington in Seattle Memorial Stadium, and at Indiana State University in Terre Haute. Those were both installed in 1967.

In the years that followed, synthetic turf received most of its attention from the big time football schools — places like Alabama, Arkansas, Washington, Texas, Nebraska, Michigan, Wisconsin, Tennessee, just to name a few of the many colleges who installed synthetic surfaces of one sort or another. At the professional level, places like Erie County

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Figure 1. Susan Wagner High School on Staten Island before and after installation of synthetic turf.
Stadium, in Buffalo; or Busch Stadium, here in St. Louis; or Veterans, in Philadelphia; Riverfront, in Cincinnati; Giant Stadium, the Superdome, the Kingdome, and the Silver Dome in Pontiac, installed synthetic surfaces.

In 1976, at the Montreal Olympic Games, synthetic surfaces were used for three facilities during the games, primarily at Molson Stadium where field hockey was conducted. And then a fourth AstroTurf surface was installed in the main Olympic stadium just as soon as the games were over. In fact, 28 days after the games were over they were playing baseball on synthetic turf. Installations like these are the ones that you see on television and you see in the sports pages, but there have been some other things going on — perhaps more quietly.

In 1968 synthetic turf was installed in Atwood Stadium in Flint, Michigan. Contra Costs Community College came in 1969. 1971 brought joint school community ownership of synthetic turf to both Clarksville, Tennessee and to Murphreesboro, Tennessee. Middle Tennessee State and the local school district joined together to put in a synthetic surface. The public schools in places like Atlanta, Dallas, Chicago, Pittsburgh, Spokane, and Grand Rapids and a number of others joined the move to synthetic turf along with more colleges and universities both large and small. This year fields are being installed in New York City — one in each of the boroughs. (Figure 1)

The simple point is that you see lots of kids playing at the same time on synthetic turf. Installations have mounted up to over 200 in the United States — and nearly 300 installations worldwide. There are several different turf suppliers. The numbers here apply to Monsanto’s installations, but there are

**Edward M. Milner** is Manager, Product Technology for the Recreational Surfaces group of Monsanto Company. In this position, he is responsible for monitoring AstroTurf® surface installations in North America to help ensure product performance and customer satisfaction. Mr. Milner is a chemical engineer.
other people in the business also. The objective this evening is
to deal with something that has developed with the increasing
use of synthetic surfaces. There are lots of installations and a
lot of folklore and misinformation has developed. The ob-
jective is to bring you facts that will help you enjoy, rather
than just live, with synthetic surfaces.

The growth in synthetic turf installations has come in some
cases to fashion. "If the big school has it we've got to have it." More often synthetic turf is installed because it meets real
needs by providing places where more kids can play more
hours on a surface that's uniform, durable and dependable
regardless of the weather.

The records for Atwood Stadium in Flint, Michigan are just
one example. In 1967, with natural turf in Atwood Stadium,
they had 19 football games. Late in the season, the field would
be a quagmire. Even so, the operating costs for the natural
turf surface on that field in 1967 were $5.98 per player hour.
And 19 games is certainly more than the average for a grass
field. During the 11 years that synthetic turf has been used in
Atwood, there's been an average of over 330 events per year
in the same facility... from 19 to well over 300 events. The
cost has dropped to about $1.15 per player hour; and that's
maintenance cost plus the cost of replacing the turf, which in
this case lasted nine years before it was replaced. Dick Leach
who is consultant on high school inter-scholastic competitive
events for the Flint Schools equated the usage of that one
synthetic turf field to 17 natural turf fields.

You can tell the same story in a number of other places. At
Illinois State the synthetic field is used for over 3000 hours per
year. The synthetic intramural fields at the University of
California in Berkeley (at Underhill Field and Kleeberger Field)
are used for more than a million student participation hours
per year. Those fields are used from early morning until late at
night. At Islington, a suburb of London, the synthetic turf field
is used for 1200 soccer games per year. A study made by the
Sports Council for London and South England equated that
field to 19 natural fields.

At the University of Texas, the synthetic turf field in
Memorial Stadium is open. It's used by all the students. The
varsity athletic usage constitutes less than 20 percent of the
total occupancy of that stadium. It's a field for all the kids on
the campus. And that same story can be told in other places.
The thrust is that synthetic turf is here and it meets needs.
How may we take best advantage of its characteristics?

We have some people who are well-qualified to discuss
both the theory and the practical matters to help give us some
answers. Our first speaker will be Dr. Plagenhoef, professor of
biomechanics at the University of Massachusetts, and
president of Motion Analysis, Inc. He's made and studied
high-speed films of many athletes in different facilities. He's
involved in things that range from the analysis of race horses
and the design of shoes and tennis rackets, to the study of
athletic performance. As a consultant to Monsanto, Dr.
Plagenhoef has studied intensively the bio-mechanical as-
pects of surfaces, for soccer as well as for football and other
sports. What can he see and measure that will help athletes
perform most effectively on synthetic surfaces?

Dr. Stanley Plagenhoef: All of the research I've conducted is...
done with highspeed motion pictures, which are usually from 100 to 500 frames per second. The data collection is only important if you can measure the things that you want to study to avoid the misinformation and the myths. The misinformation that Mr. Milner talked about is the purpose for my film presentation. I will give you an idea of what is measured by showing several spots and fields that are in good and bad condition.

One of the first things that I found out is that you really can’t come up with good concrete data unless it is in competition, therefore, most of the film presented is during games that are sufficiently important to cause high stress situations. The first film, however, is not in competition. It is the English soccer team practicing on grass before the Bicentennial game in the Los Angeles Colosseum with Brazil. This drill is on wet grass with the players tagging a person to cause a quick change of direction. The first person slips badly but after that no other player falls. (Figure 2) (Editor’s Note: The following photos have been taken from Dr. Plagenhoef’s film that was shown at the time of the presentation and will be distorted-KW) The athletes recognized the problem and adjusted their steps accordingly. This is to point out the adaptation of humans to various conditions. One of the most important points I want to make today is how well athletes adapt to varying conditions. This film is unrealistic for measuring anything because it is unlikely to happen during a game.

The next sequence is a game showing Brazil playing the American All Star team on AstroTurf in the Kingdome. (The game was filmed at 100f/s and was shown without stopping). Now I am going back to show you some things that I measure
using a stop action projector. (The film was stopped to show: foot placement, foot movement, body angles, and body movement adaptations for a quick change of direction.)

The next sequence was done in England during a soccer game between Ipswich and Everton. Ipswich was the leading team in the league at the time. Winter soccer in England is played on very poor fields, as this muddy field illustrates.

You can see my two-speed camera slow the action from 24 f/s to 100 f/s while the player is playing the ball. In this situation, he could not stop abruptly due to the mud, but he kept his balance. (Figures 3-6) This is the adaptation that is necessary to play decently under adverse conditions. As you watch the play you can see that there are many more sliding tackles than you would find on a field with good footing. The sliding tackle is often used when the player has failed and there is nothing left to do but slide. The soccer played on a poor field is less skillful which results in the more numerous sliding tackles.

The next sequence of film is on an extremely wet AstroTurf field. (Figure 7) The foot friction is lower than a dry field so the soccer players have to control their leg angle and how hard they push to maintain balance. If the foot begins to slip, the human computer makes adjustments to prevent further slipping that is difficult to measure even taken at these high camera speeds.

As a good illustration of these body adjustments, a good golfer can take his favorite club and drive a ball 10 times right down the middle. Give him another club and the first drive with it may go low and to the right. The next drive will probably go perfectly straight again due to minute adjustments that are undetectable by the camera. A good athlete will adapt that fast to a changed condition.

The next film sequence is women's field hockey. It is the Canadian National team playing a select group from the U.S. The women complain about not being able to play the game if the grass is not cut really short. This sport is helped tremendously by a good playing surface.

The next film sequence is of the Super Bowl between Miami and Minnesota. You will see a great deal of cutting and changing direction, and I look for those things that can be measured to counter conjecture on what is thought to have happened. This first shot was taken at 100 f/s, which is slowed down four times normal speed. If I run the film without stopping, it is difficult to see everything that happened. However, with the stop action projector, body positions, foot placements, and total body motions can be measured. Does the foot move when a player changes direction? Here you can see that the foot is planted in the direction that the player wants to go (Figure 8) and the hip joint allows the direction change. A shot is shown here taken at 500 f/s as this speed is needed for impact work.

It is possible to measure the velocity of the body as it is falling downward on the ground. It becomes a very sophisticated computer project when the first body part touches the ground because all the other body parts keep moving. It is important to measure the force of impact while landing because material testing cannot be done at the proper force levels otherwise. Very often tests are performed on equipment at force levels beyond their actual use. The man you see being tackled is hitting on his pelvis first, then the elbow, and then the legs. The other player is falling by touching his hand first, then his pelvis, and onto his back. (Figures 9-14)

You can see how difficult measurement problems become. A motion can be analyzed only if the camera angle happens to be in a favorable position for the motion filmed. Number 60 in the background is planting his foot, and the camera angle is perfect to analyze his change of direction. A great deal of film must be taken in order to obtain good pictures suitable for analysis.

In conclusion, I would summarize this presentation by saying I have shown you the type of research being done, and that my role is to measure everything possible that might enhance the players. I hope I have also made you aware of the importance of the athlete and how he must adapt to any surface he plays on.

Moderator Mr. Milner: Our next speaker will be Eddie Lane, who's head athletic trainer for the Dallas, Texas, Independent School District. Prior to that he was head trainer at SMU and at Washington State. Presently, he is responsible for the fitness and safety of the kids in 19 high schools and 20 middle schools in Dallas. Kids in Dallas compete on three natural and three synthetic surfaces. They practice on grass or dirt at their local schools and they compete on different surfaces every week. Mr. Lane, what information about synthetic surfaces do you think people should have at the junior high and high school levels before they begin to play on those surfaces?

Eddie Lane: Mr. Milner mentioned that we have three artificial surfaces and three natural fields in the Dallas school system. Basically these fields are used for all sports. I don't have the sophisticated figures that he has, but I know that we do use them a lot. In a typical football season, speaking only of varsity football, we will play approximately 1120 games on the artificial surfaces and only 133 varsity games on the natural surfaces. And then, in addition, we play our junior varsity, our 9th grade and our middle school games on a weekly schedule. We start each football season week basically on Wednesday with a double header, another double header on Thursday, and Friday night's easy, as we only have one varsity game. This includes all levels of competition.

In soccer it's a little bit different. In our soccer season, where we have both boys and girls playing soccer on a regular schedule, we had only 30 matches on the artificial surfaces this past spring as compared to 116 on the natural surface. The reason is that our artificial surfaces are also our main track facilities and our soccer season and track seasons coincide so we end up playing most of our soccer on the grass. The feeling of our soccer players at the high school level in Dallas is that they prefer to play on the natural surface as opposed to the artificial surface. I really don't know if this is from their own experience, their own observations, or what they hear from their coaches or from the pros, but they do believe it. I do know this: most of them had played soccer previously on natural fields and they want to play where they feel at home. As Dr. Plagenhoef pointed out, they play best where...
they have adjusted to the surface, so I think that’s probably the reason.

Dallas has an ideal situation in that our kids grow up playing on artificial surfaces. They start playing football on it in the 7th grade. They grow with the field and by the time they get to be 10th, 11th graders they’re old pros at playing on the artificial surface and they have very few problems. I think probably the key word Dr. Plagenhoef pointed out was “adaptation.” The word I like to use is familiarization. Our kids are familiar with it and adjust to it and experience very few problems. In fact, I don’t even think of “preparing” athletes to play on grass or to play on artificial surface.

When discussing artificial surfaces, shoes must be considered. It doesn’t matter what shoe the athlete wears at the high school level. The Dallas School District furnishes Adidas, Jr. for the smaller and younger athletes. For the bigger and older athletes the Spotbilt SA55 is used. These shoes have been found to be completely satisfactory on both the artificial surface and on the grass field. In the six years I’ve been with the district now, I don’t think I’ve seen over a half dozen players play with a regular football shoe with the seven cleats on it.

There are three basic things that you need to look for when you’re buying a shoe and it doesn’t make any difference whether you’re going to play on artificial turf or natural. The three things that I look for are: a shoe that has a good firm sole, a shoe that’s got a good heel counter, and a shoe that will face up easily. Price is basically the last thing considered. If we can buy a shoe for $7.00 on a bid process that we feel will do the job, we’ll pay $7.00. But if we can’t get it for $7.00 and we have to pay $12.50, we’ll pay $12.50 for it. Probably the last thing that we look for is durability even though this sometimes presents a problem.

In a lot of cases kids will buy their own shoes and wear them until they wear out. I think a lot of foot and ankle injuries on artificial surfaces and grass come from a shoe that is worn out, that has served its useful life and needs to go in the trash can. It is time to get a new shoe.

We have a shoe bank at our three artificial fields and furnish shoes for teams that come in from out of town. We will also keep shoes for our own schools to use if they need some additional shoes. This is especially helpful at the tail end of the season when the shoes that we have furnished the schools for daily use are getting a little worn.

The other important thing in foot wear on any surface is that the shoe properly laced. Then, as Dr. Plagenhoef pointed out, the foot can be planted to change directions and remain over the sole of the shoe giving the athlete maximum use of the cleat arrangement on the shoe.

As far as injuries: I really can’t say that I see anything different playing on artificial than I see on the grass fields. I think the trainer must educate the athlete whether he’s playing on an artificial surface or whether he’s going to play on a natural surface. I think it’s our role to teach the kids how to take care of their feet. They must cut their toenails. It doesn’t matter whether they are playing on grass or artificial turf. They must also take care of any callouses, and be taught general tips such as how many socks to wear and the importance of lubricating foot surfaces. With abrasions, it is most important to take care of them; clean them up and put a dressing on them and watch them.

In all honesty I can say that my experience in six years of comparing records and comparing the incidence of injury on the artificial surface to the natural surface that I cannot see any great difference in sprains of joints.

I think we have to pay a little more attention to conditioning if we are to play on the artificial surface early in the year because of the heat.

I think the trainer must educate the coach about the things I just talked about. I think another thing you have to remember when it comes to playing on artificial surface is what the athlete wants and what the coach wants doesn’t always coincide with what he needs. As trainers we have to determine what is best for him, what he really needs, and educate him along those lines.

One thing I liked about playing games on artificial surfaces is the uniformity of the surface. I know that my field at Loos, which is an artificial field, is going to be in the same condition on the 12th of November as it was on the 1st of September. I cannot say that about the grass field in Cobb Stadium, the stadium I work at. If you’ve been in Texas and you’ve seen one of those 3-inch gulley washers come through, we’re still going to play football and tear up Cobb field for the year. We can have the same 3-inch gulley washer at Loos and play on it the next day and I don’t have to worry about a kid stepping in a hole that was created by somebody the night before.

Moderator Mr. Milner: Thank you, Eddie. Our third speaker is Roy Don Wilson. Roy Don is head athletic trainer for the Ragin’ Cajuns of the University of Southwestern Louisiana, and he’s chairman of the Joint Commission on Competitive Safeguards and Medical Aspects of Sports. He was formerly head trainer at the University of Kentucky. Both schools have synthetic practice facilities and natural turf stadiums. Roy Don, how about what goes on at the college level? Your suggestions?

Roy Don Wilson: Well, let me say first of all I’m not here as an expert witness. Monsanto did put in a field for us at Kentucky and I’ve known Mr. Milner through our association with the Joint Commission on Competitive Safeguards. Because of this I was asked to come and relate to you a few of the experiences that I’ve had in working on artificial surfaces. I’m not going to cover some of the things that Eddie Lane did when he talked about shoes. I think more important than the type shoe you buy is just getting accustomed to the shoe and the surface that you’re going to wear that shoe on. In other words the familiarization of getting used to wearing that particular shoe on that particular surface. There is greater traction or friction on an artificial surface, and I think a shoe with a stronger upper probably is needed on the artificial surface than on grass. It’s been my observation that maybe the best shoe for artificial surface is the old tennis shoe. But because it doesn’t look like a football shoe not many will wear it.

As far as elbow pads are concerned to prevent abrasions they need to be comfortable. I think a high quality pad should be used, one that’s going to last a long time, because I’ve
found that as soon as the athlete becomes accustomed to playing on artificial surface, he's not going to receive the abrasions. I don't know how athletes familiarize themselves and develop their ability to take falls, but they do not receive the abrasions late in the year. If you'll notice, and I've seen this, the teams that practice and play on an artificial surface all the time will play a team that does not, and the team that does not will come out with all kinds of arm pads and protective gear to keep from getting abrasions. The teams playing on artificial turf regularly don't wear all the pads because they just don't get the bruises and abrasions. They've accustomed themselves to falling so they don't get the abrasions.

The knee pad we have on our football pants is not adequate. As you know, any time an athlete falls on a knee the leg has got to be bent and if the leg is bent then the knee pad is not covering the knee. Players are going to have to either wear a knee pad that slips over the leg, such as a commercial brand, or take the knee pad out of the pant, put it in the sock, upside down, and put a piece of tape around it to hold it in place. Then pull the pants down over the knee pad and it will stay in place then when the knee is bent. This works extremely well.

I think high socks should be worn. This is going to prevent the abrasions on the calf if this is a problem.

Jerseys and shoulder pads: Jerseys should be of a high quality, very strong, and shoulder pads should probably be covered as far as the epaulettes are concerned with some type of a leather covering. I think most of the manufacturers are going to this now. We found that if this isn't done, the more the athlete falls, the edges of that pad become jagged and will cut the jersey.

The next topic would be the heat and I don't think it makes that much difference whether you're on grass or artificial surface. The only difference is mostly down around the feet— you're going to get hot feet. So if you can, in the hot weather, practice or play off of the artificial surface. Of course, if you don't have a choice and heat does become a problem, just wet down the artificial surface. That's going to lower the temperature of the artificial surface down to what the grass would be.

One thing I've found, especially for the teams that don't play on artificial surfaces or practice on it all the time, is that you can psych your kids out by over-emphasizing the effects of the heat and trying too many precautionary measures. You set out, do what you're going to do, but then don't mention it or worry your kids about it. If they're worrying about the heat they're not going to be worried about the football game.

Take care of the minor abrasions before they become major. I've found that immediately applying an aerosol antibiotic to the abrasion and covering it with a dressing on the field and then after the game scrubbing it, applying an antibiotic ointment and wrapping it up, that we don't get infections or have the kid missing any games or practices. (Eddie Lane doesn't because of personal preference and he's on a high school level and doesn't have the medical back-up that probably the University or college trainers would have.)

If you're on grass and you have an abrasion, you're going to be able to see the mud, dirt and grass in the abrasion which you don't see on the AstroTurf. So many times, because we can't see the dirt, we don't clean these things out; so I just clean them out and apply the antibiotic prophylactically and I don't have any problems that way. I also think it's important to keep the abrasion dressed with an ointment on it for two or three days until it does have time to heal underneath and to prevent a scab from forming.

Moderator Mr. Milner: Thank you, Roy Don. Are there questions from the group? How about it?

The question is about watering the artificial field. How long does it stay cool?

Ed Milner: There's good data in the literature as to how much heat comes into a field on a real hot August day in the South—it amounts to about 200 BTU's per square foot per hour. That says that if about a quart of water per square yard is put on the field, that amounts to about 1500 or 1800 gallons on a typical football field, that will keep it cool for an hour or a half. And that's not a lot of water. That's enough to just moisten it. I would say that if you do want to wet a field to cool it down, it is important to wet it uniformly. You don't want to run from wet spots to dry spots and surprise somebody, so be careful to apply the water uniformly.
Question: Does watering the field create a humidity problem?

Ed Milner: When you don’t wet the field you have less humidity than you would have over a grass field. This data was published in the NATA journal by Chris Patrick in 1972. Up at chest height on the field at Florida, he showed the temperature was 4/10 of a degree warmer, and that’s not very much. He showed that the relative humidity was about 3 or 4 percent lower than it was over the grass field at the same time. When you wet the field lightly, all you’re doing is replacing the water that would be evaporating from the roots of natural grass. You’re just giving it something to evaporate and you can’t pick up any real difference in relative humidity.

Figure 18

Question: What measures should be taken, if any, in the protection of toes against hyperflexion, that is, the sprained toe, the so-called turf toe or tennie toe if it’s on a tennis court?

Roy Don Wilson: It’s the rigidity of your sole that’s going to protect the foot, so the less rigid your sole is the more chance you have of getting a “turf toe.” You’re going to have to give up flexibility for maybe comfort and speed but go the other way for protection. I think some of this problem is from lack of familiarization, and the athletes that get these are usually in a new shoe, or they’re new on synthetic turf and they’re not used to playing on it.

Eddie Lane: At the high school level, the turf toe I usually see involves that worn-out shoe that I was speaking of and I do my dangdest to get the athlete in a shoe that has a firm sole. I also use isopreme and make him an inner sole. I don’t even tape them if they have a hyper-extended toe, I just put them in an isopreme inner sole in that shoe.

Ed Milner: I might comment that in some of the work that Dr. Plagenhoef and we are doing, we have tested at least a dozen, maybe 15 different kinds of shoes and it’s been amazing to me to see the differences in flexibility from two shoes that look just alike. Some will be quite sturdy and the others you can roll up and stick in your pocket. There is a lot of difference there, and I think that’s important in your selection of shoes.

Question: Has Dr. Plagenhoef related the playing surface to injury trends or “injury causing conditions”?

Dr. Plagenhoef: The reason I got into this originally is because I did a five year study of injuries at the University of Massachusetts, which has a grass field. This work led to my participation on the NFL Committee to study injuries headed by Dr. McColl. My contention all along has been “don’t give me a subjective answer, give me something I can measure.” I could not measure very much from game films, however some of the injuries could be seen happening and the causes ascertained. (Several of these are shown in Figures 15-18). Therefore, filming at high speed was done to obtain more measurable impacts and injury producing situations.

From this work I would say that I have not found anything that relates the injury to the field surface, but instead injuries are related to the circumstance. If a player is running and somebody hits the leg that is weight bearing, it doesn’t make too much difference what he is standing on. (Figure 19). It would just happen to be that split second of vulnerability that made the player a victim of circumstance. If the leg is at an angle when hit, as in a change of direction, injury is almost inevitable unless the knee is bent sufficiently to allow motion to occur at the hip joint.

One example of the inevitable was a compound fracture of the tibia. A player was running down the field to tackle the punt returner when he was blocked. He was hit as he was slowing down to change direction, which placed the heel forward of the hip, and the leg was nearly fully extended (Figure 20). This injury could not have been avoided if he was standing on ice barefoot. These are the type of injuries that are circumstantial rather than field related (Figure 21).

Question: Do you have more groin sprains on turf than you do on natural grass?

Ed Milner: I have no data. Eddie, what about you or Roy Don?

Roy Don Wilson: I haven’t noticed any trends.

Dr. Plagenhoef: I could comment on that question because as I have moved around to test fields I have seen muscular troubles. Not so severe as groin pulls, but rather stiffness that was debilitating for a couple of days. In other words, the body is being used a little differently when changing from one surface to another, and the players need a few days to adapt the body to the change. The same thing occurs in tennis when the racket weight is increased or the string tension is increased. Before the body adapts fully some players experience muscle soreness, while others have developed a tendonitis that lasts for months. If the body is used in a slightly different way, caution for two days to a week will allow adaptation to take place with no problem other than some initial soreness.

Ed Milner: I think Eddie Lane said an important thing early on . . . get the players familiar with where they’re going to play, and this applies if it’s wet, if it’s muddy, if it’s synthetic, or if it’s an asphalt parking lot. Get the kids out, let them run some, get them used to where they’re going to be so they don’t think about the environment, but think about the game.

Question: What do you suggest to get ready for the first game on an artificial surface?

Roy Don Wilson: I think the only thing you can do is go onto the playing site a day early and work out there. And when I say work out we just go out and let the guys run around on the field and just play games. We may play volleyball or we
may just let them play touch football, just throw the ball around, that’s all, just let them play, and let them get accustomed and familiar with the surface.

**Dr. Plagenhoef:** I’d like to comment on that from my coaching days. It doesn’t make any difference what surface you are on, the coach must develop the team at gradually increasing force levels. As an example, I never let soccer players kick a long ball in early season. This is controlling the force level. I believe the type of thing that you are talking about is really a coaching problem more than anything else. In other words, you must work up into the most forceful motions in a step by step manner. Anytime you put a force on the body that is an extreme change higher, you are likely to have a problem.

**Question:** What are the differences in traction levels; and second, the differences in the impact levels?

**Dr. Plagenhoef:** Don’t forget that when you have friction you either slip or you don’t slip. It doesn’t make any difference how high the coefficient of friction is if you haven’t surpassed it. To say that the greater friction gives you greater speed is not true. If your foot doesn’t slip, you can’t run any faster if the friction is increased.

As far as the impact goes, the movies that I showed were used to obtain the force levels for the testing of materials. A material must be a good shock absorber without being so soft that the foot would literally sink down into the material. Softness has nothing to do with shock absorption qualities; so feeling if a material is soft is unrealistic. The maximum deceleration of the body during impact must be controlled.

Another point to remember when testing anything is that the whole system must be tested. Football players wear a great deal of equipment and the combination of two materials must be considered. My data shows that synthetic surfaces are not harder to land on than a good grass field when deceleration forces are measured.

**Ed Milner:** Let me add that from the standpoint of testing materials, Monsanto’s done a fairly elaborate amount of work. We went to a number of different grass fields and simply measured the shock absorbency with a static drop-test where we dropped a weight a certain distance and measured what happened to the weight. The first thing you have to say about natural fields is that they vary all over the map. In the course of about three or four weeks we went from a wet field at Baltimore to a frozen field at Metro Stadium in the Twin Cities. We went from a G level for a given impact of about 75 or 80 Gs for the mud to 275 Gs for the ice. We also did soil borings and had soil tests run at the same time that we took these measurements. The soil that we found in Baltimore was one that was extremely sensitive to moisture level. A difference of 3% in the moisture level from the infield of the baseball field to the outfield made a difference of about 50% in the impact properties of that particular field.

We went to Green Bay which has a different kind of soil and found that there could be radical differences in moisture level between the clay and “soup” levels. Synthetic surfaces are engineered to be in the middle range of natural turf field conditions. If it’s made too soft it’s sloppy to run on, if it’s made too hard, it’s uncomfortable. If you’re designing a field for soccer or field hockey where there’s little body contact, and little body collision and falling, then you deliberately make the field a little bit firmer because it’s more comfortable for the runner, and you don’t have to protect against the same kind of body impacts. So you do have to balance properties a bit for the principal sport to be played on the field.

**Question:** Does temperature affect the condition of the playing surface in shock absorbency?

**Ed Milner:** Most of the pad systems in use are closed cell foam systems. That is, you’ve got little closed bubbles and the walls of those bubbles are made of rubber-like materials. As the temperature goes down, that “rubber” gets firmer but the gas pressure in the bubbles tends to go down, giving some compensation in shock absorbency. In static softness/hardness you’ll find quite a difference, but in the dynamic-response it’s pretty well compensated out. Some pad systems do better jobs at this compensation than others. We think Monsanto’s got the most uniform one that’s around. We’ve done a lot of testing at temperatures from 0 to about 120 degrees F and we get a pretty flat temperature response curve in a dynamic test; even though when you poke your finger in it, it may feel hard or feel soft. Incidentally, a soft surface is not necessarily a good cushioning surface because you tend to go through it. You’re trying to get enough softness for comfort, while keeping it firm enough to attenuate the impact... to slow you down gradually.

**Question:** On the “All-purpose field”, the one that is used for baseball and football, is there an impact difference between that field and the field that is used exclusively for football, and what factors are involved there?

**Ed Milner:** When the original multi-purpose convertible stadia were installed about 1970, at least in the case of Monsanto’s surfaces, we went to a very firm pad that was very similar to the material that’s used in the dashboard of your automobile as a crash pad. It was a good shock absorber and it gave a little bit better baseball rebound properties. It felt uncomfortable, it felt hard, kind of like the first NOCSAE helmets that came out were very firm inside. Now as we have replaced those early convertible fields, we’ve gone to the same pad that we used for the football-only facilities. Baseball has found they can live with that and it’s more comfortable for the football player.
Achilles Peritendinitis

Patrick O'Connor, BS; Robert D. Kersey

Introduction

With the increase in popularity of distance running, those involved in the field of sports medicine are seeing a similar rise in problems associated with what is commonly referred to as overuse syndrome. Reports by Brubaker and James,
and Krissoff,
state that so-called "achilles tendinitis" is the second most prevalent disorder occurring in long-distance runners (with knee injuries being the most frequent disorder). This paper will deal strictly with "achilles tendinitis" and the long-distance runner. Specific areas to be covered include anatomy and physiology, peritendinitis, diagnosis and classification, causes, prevention, treatment and rehabilitation.

Anatomy and Physiology

Tendons are highly dense fibrous bands which connect muscle tissue to bone tissue, to provide motion. The tendon itself is made up of three proteins: elastin, reticulin and collagen. Collagen accounts for approximately 86% of the total tissue. Tendons are made up of individual tendon fibers which are arranged in a uniform and longitudinal fashion. Within the tendon, the individual fibers are grouped together in bundles which are held together by endotenon tissue.

Wherever a tendon passes over a rough or bony area, a protective tissue called a sheath will be found. At least two distinct types of sheath tissue exist in the human body: synovial sheath tissue and peritendon sheath tissue. A synovial sheath secretes a fluid to aid in the gliding action, whereas the peritendon sheath relies on omnipresent interstitial fluid for lubrication.

As a unit tendons are usually flexible, but lack great amounts of elasticity. Their tensile strength is rather high when compared to other body tissues. The fact that tendons in good health are rarely ruptured, even in extreme cases will exemplify their great strength. When a great force is placed on a musculotendinous structure, rupture, if it occurs, will usually occur at either end of the tendon (musculotendinous or tendo-osseous junction). Many times a fragment of the bone will actually be avulsed, while the tendon remains intact. The tensile strength of human tendons has been experimentally tested to be as much as 18,000 pounds per square inch.

Tendon tissue throughout the human body is usually innervated by sensory receptors at a relatively high level. Although there are many different types of receptors, usually three types are found in the tendon tissue. Golgi tendon organs are found in the musculotendinous junction and serve as proprioceptors. Pacinian corpuscles are usually found in the tendon sheaths, and are also proprioceptors, as well as being pressure receptors. Nociceptors (free nerve endings) are also found in the tendon sheaths and are mainly pain receptors.

Tendon is living and dynamic tissue and, thus, must be applied with the proper nutrients to maintain itself. To bring the proper nutrients to the cells of tendons a vascular distribution system is required. In the early 1900's it was established that tendons do have a system of circulatory vessels. Since then, tendon vascularization has been shown to originate at one of three locations: 1) musculotendinous junctions; 2) tendo-periosteal insertion; or 3) longitudinal surface of mesentery. It is now known that vascularization is found most abundantly at each end of the tendon. Lagergren, et. al., have shown that the middle third has the poorest circulation, and the highest injury rate.

Function and Mechanics

The functional purpose of the tendon is to create an efficient system of motion by connecting the body motors (muscles) to the body levers (bones). Contraction of muscles creates tension. Tendons transfer that tension in terms of force to bones at the insertion point, thus creating a lever system. Lever systems allow for great amounts of work to be done, with a minimal amount of effort.

During running, joint action at the ankle consists mainly of two motions: dorsiflexion and plantarflexion. Dorsiflexion is true flexion of the ankle joint, or bringing the foot and toes anterior and superior, using the anterior leg muscles. Plantarflexion is actually extension of the ankle joint, or moving the toes and foot inferior and posterior, using those muscles on the posterior side of the leg (the relationship between the posterior muscles and plantarflexion of the ankle may lead to the problems found in the achilles tendon).

The achilles tendon is the connective link between the calcaneous and the triceps surae (gastrocnemius and soleus). As the triceps surae contracts, tension is created in the achilles tendon. The achilles tendon, in turn, pulls on the calcaneous to create plantarflexion. Although other muscles are involved in plantarflexion, the gastrocnemious and the soleus muscles account for 95% of the plantarflexion action.

The achilles tendon itself is large and extremely strong. At the musculotendinous junction the achilles tendon is a wide, flat band of tissue which thickens into a cord superior to the heel. Insertion is a band-type tissue on the calcaneous. The achilles tendon is surrounded by periten-
In peritendinitis with tendinosis it was seen that the tendon tissue, rather than a synovial sheath\textsuperscript{11}. No synovial fluid is secreted to lubricate and/or protect the achilles tendon. Lubrication is left to those fluids found in and about the peritendon tissue.

**Achilles Peritendinitis**

Knowing the anatomy of tendons, and their lack of good vascularity, the tissue does not seem to be one predisposed to the process of inflammation. Yet the name “tendinitis” means inflammation of the tendon. It seems hard to understand how a poorly vascularized tissue such as the achilles tendon could become so inflamed, since the inflammation process requires good circulation.

Anatomically the achilles tendon is surrounded by peritendon tissue and, thus, cannot fall victim to tenosynovitis. Tendosynovitis by definition is an inflammatory response to the synovial sheath surrounding a tendon. Since the achilles tendon is surrounded by peritendon sheath tissue, rather than synovial sheath tissue, tenosynovitis is an impossibility.

What is this pain that a runner may get on the posterior side of his leg, if it is not tendinitis or tenosynovitis? Anatomically the one other tissue that might become inflamed in this area is the peritendon tissue. Studies done in the 1970’s by Puddu\textsuperscript{11}, et. al., do indeed suggest peritendon inflammation to be the case. They reported through surgical procedures that most cases of “achilles tendinitis” were actually an inflammation of the peritendon tissue surrounding the achilles. Some cases actually has tendon degeneration or tendinosis. Both peritendinitis and peritendinosis with tendinosis were reported with this study.

In pure peritendinitis there is a definite thickening of the peritendon tissue, which is somewhat adherent to the tendon itself. Puddu, et. al.,\textsuperscript{11} found partial fusing together of the two layers of the peritendon tissue sheath. In peritendinitis with tendinosis it was seen that the tendon itself had, indeed, thickened and become soft and yellowish. Small degenerative areas were seen on the tendon, and many times granulations were also seen. In most cases little or no calcificacation was recorded\textsuperscript{11}.

**Diagnosis and Classification of Peritendinitis**

As stated earlier, peritendinitis and/or tendinosis of the achilles tendon was second only to knee problems, when a survey of runners was completed\textsuperscript{13}. The pain that is involved in achilles peritendinitis can range from a slight ache to a disabling pain. A condition of this type is fairly easy to identify once in the acute phase. Thus, a basic clinical evaluation is relatively straightforward.

Signs and symptoms of peritendinitis will vary, depending on the stage or class of the injury. In most cases, the first sign noticed by the runner will be the pain, which can extend from the calcaneous to the musculotendinous junction or anywhere in between. The pain in many cases will occur upon running, and subside upon completion. Any activity which involves constant or prolonged plantarflexion may cause a flare-up.

Many times the tendon area will be painful upon palpitation. The pain may be accompanied with a warming sensation in some cases. Discoloration may or may not occur at the area of injury. Many times slight swelling of the area will also be present. Crepitus is another good indication of problems of the achilles tendon. Stiffness (lack of dorsiflexion) of the posterior ankle and leg will often be seen as well.

Pathologically, problems involving the achilles tendon should be evaluated and classified as one of three stages to help in deciding possible treatments. As described by Ryan, et. al.,\textsuperscript{12}, the classes involved would be acute, subacute and chronic.

**Acute:** (initial or short duration) During this phase the tendon is usually very tender and a variety of physical activities cause pain to the tendon.

**Subacute:** (shortly following acute stage) Pain usually flairs up with any strenuous activity. Such activity will lead to disablement for the next few days. After a rest the pain, signs and symptoms will usually subside.

**Chronic:** (constant) Signs and symptoms are usually the same as those in the subacute phase, except that they continue for long periods of time. Symptoms also flare up with activity and subside with rest. Tenderness and pain are usually less than that found in the acute phase. The range of joint motion is usually greater than in the acute phase\textsuperscript{15}.

**Causes and Prevention**

The exact cause of achilles peritendinitis is not always easy to determine. Causes are many, some of which may be easily controlled and others that are more difficult to control. Some causes are related to running mechanics, while others are related to the environment and shoes worn.

Subotnick\textsuperscript{18} has stated that the foot is the weak link in most running injuries. The foot makes contact with the ground and must absorb the constant stress mile after mile. Unless the foot has near-perfect structure, the added stress will result in overuse injuries, placing increasing strain on the achilles tendon and other foot structures.

Usually abnormalities in the foot would not cause any problems, however, with the increased need of absorption of stress in running, small malalignments can lead to injuries. Two basic foot types have been identified; rigid and flexible. The rigid foot is a foot that is in a valgus position where the lateral two or three metatarsal heads fail to touch the ground. Such rigidity causes the foot to supinate on landing. A valgus foot usually doesn’t absorb force well, and limited joint motion exists\textsuperscript{16}. The varus foot is the opposite. The medial two or three metatarsals don’t make contact with the ground. Over pronation on contact is the result. The added movement on landing places stress on the foot structures that may not be effectively handled and result in injury.

The foot must be flexible on contact with the ground and rigid on the toe-off. Added stress is placed on the achilles tendon and other foot structures due to the inability of the foot to rotate between contact and toe-off.

The running stride and placement of the foot can increase or decrease the chances of peritendinitis in the achilles tendon. Running with a varus foot has a tendency to strain the lateral side of the achilles tendon. The medial side is overstrained by landing in a valgus position. The increase in strain can lead to microtrauma or tears in the achilles tendon structure. In many cases determining whether the strain is medial or lateral will help determine the problem.

Inflexibility and/or imbalance of the lower leg muscles can be a contributing cause to achilles peritendinitis. Tight soleus and gastrocnemius muscles limit the joint movement and put strain on the achilles. A muscle imbalance between the gravity and non-gravity muscles of the lower leg can cause lack of muscle coordination and strains to the muscles and musculotendon junction.

Insufficient warm-up and stretching before running can limit the joint motion about the ankle. Without adequate pre-run procedures added pull and strain on the achilles tendon may increase or cause microtrauma to the tendon. Whenever excessive strain leads to microtrauma and tears in the tendon, the possibility of inflammation and scar tissue formation exists. Microtrauma may become a reoccurring problem and lead to what is called the “overuse syndrome,” as described by Ryan\textsuperscript{12}.

The overuse syndrome may develop into achilles peritendinitis, which can occur over short or longer periods of time. Trying to get into condition quickly can
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 treatment

No runner wants to be sidelined because of an injury. Even the best conditioning programs and preventive measures can be ineffective and result in injuries. Achilles tendinitis can be difficult to treat and recovery can be slow. Frustration for the runner and also those treating the condition is probable. The runner must realize and understand the signs and symptoms to Achilles tendinitis, and initiate treatment at the onset.

If the runner seeks knowledge and treatment of an athletic trainer early enough, a severe problem can be avoided. If there is just a minor strain that has lasted a few days, cryotherapy (ice therapy) should be started. The runner should ice the affected area both before and after running with either ice packs, ice massage or ice baths.

Stretching and warm-up are especially important. Stretching should be done with the knee in both flexed and extended positions. An inclined step can also be used to aid in stretching the Achilles tendon. Proper stretching techniques of the Achilles tendon are a must. At all times, the heel should remain in contact with the floor. The body weight should be over the lateral edge of the foot, making sure the arch does not collapse. The runner should be cautioned to avoid overstretching, which could lead to increased trauma.

A heel pad (¼") can be placed in both shoes. Heel lifts will help ease the strain placed on the Achilles tendon and prevent any unbalanced feeling, which could lead to more serious injuries.

If these preventive measures fail and pain and soreness develop, then rest and anti-inflammatory medication may be required. Getting any athlete to rest is usually difficult. When limiting the runner to just walking is impossible, it is best to at least decrease intensity and/or duration of the training. Whenever pain and irritation occur, the session should be terminated.

Shoes should be checked for excessive wear. Once adequate support is no longer given, new shoes should be obtained. Many runners are resoling and/or using glue to gain extra miles out of shoes. Although acceptable when used properly, such methods can also lead to bigger problems.

External methods for aiding and supporting the Achilles tendon may include orthotics. Artificial foot supports can be used to correct a poor foot position and/or alignment of the foot. They can be made with felt pads, or more complexly with soft and/or hard plastics. Added support can also be gained by taping the Achilles tendon in a longitudinal fashion. Care should be taken not to put any circular strappings around an injured Achilles tendon, as it may increase the problem.

The degree of tendinitis that a runner has will often dictate the treatment. If the runner has acute conditions and can barely walk, then it may be necessary to go directly to a cast or walking splint. Such devices give complete immobilization and allow for healing to take place without the constant daily stress placed on the tendon.

A splint has some advantages over a full cast. The ability to remove the walking splint allows for cryotherapy or other modality treatments. The splint allows for accessibility, but does not sacrifice stability to the full cast.

The best results for treating Achilles tendinitis seems to come from reducing the inflammation as soon as possible and increasing the blood supply to the area. Such outcomes can be accomplished with cryotherapy and anti-inflammatory medication.

After the splint is removed, heel lifts can be placed in...
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lead to strains placed on the body that it is not ready to handle. Work outs should start out light and build up slowly. Excessive intensity and duration of runs can result in a gradual build up to an achilles tendon overuse problem. Repeated slight strains over a long period of time can cause a formation of scar tissue. Increasing scar tissue causes crepitus, which interferes with the sliding of the tendon and its sheath.

Two factors which may have a bearing on peritendinitis are the type of shoes utilized and the running surface. James\(^{13}\) states that the all-weather tracks that do not allow for any slippage between the shoe and the surface transfer more stress to the achilles tendon. Older cinder tracks allowed for some slippage at the toe-off and this decreased the stress placed on the achilles tendon. Achilles peritendinitis can also be found in people who run strictly on grass or concrete.

Thick soles under the metatarsophalangeal joints are well suited for absorbing shock; however, they make it harder for the foot to flex through these joints, the consequence of which may be a strain of the achilles tendon. Overworn shoes can lose their shock-absorbing ability and allow the foot to roll and twist. Rolling and twisting makes the foot more unstable, and places strain on the achilles tendon.

The added strain that is placed on the achilles tendon by various means leads to microtrauma and tears which interrupt the structural integrity of the tendon. Stress, such as this, causes a breakdown and degeneration of the tendon tissue. Inflammation, crepitus, scar tissue and pain result from the degeneration of the tendon tissue; leading to peritendinitis, which, in turn, may sideline a runner for days, weeks or even months. Prevention then consists of limiting the strain in as many ways as possible.

Each runner is different and reacts differently to the stress and strain placed upon them. Thus, each individual must be treated differently in preventing achilles peritendinitis. Some general preventive techniques that pertain to all cases and other methods must be done to conform to the individual's particular circumstances.

Conditioning and warm-up should be part of any training program. Gradual increases should be made in distance and intensity. As a runner is returning after a lay-off period, the strentuation should not be returned to the same performance level. Rushing into a conditioning program can lead to injuries and restrict a runner for longer periods of time.

Warming up before running and cooling down afterward can prevent tenseness following workouts. Stretching should be done especially for the hamstrings, soleus and gastrocnemius muscles. The long-distance runner is well-known for having especially weak anterior lower leg muscles\(^{5}\). The weaker muscles must be strengthened in order to maintain proper muscle balance.

Many styles of running shoes are now on the market. One best shoe does not exist. Different styles and brands have distinctive strengths and weaknesses. The shoe selected should be chosen because it meets the individual's personal requirement. Shoes should be flexible across the metatarsophalangeal joints, yet sturdy enough to give the support needed. The foot should not be loose, but, instead, feel snug in the shoe. If the shoes are stiff across the metatarsophalangeal joints, then the sole can be cut with a saw, which allows for extended flexibility. Shoes that raise the heel slightly can also decrease the strain on the achilles tendon.

Shoes should accommodate the foot well and not cause any mispositioning of the foot. Certain shoes are made with a valgus or varus tilt. The shoes must not contribute to a condition that will cause strain to the achilles tendon.

With foot structure which is not suited for running or susceptible to running injuries, consultation with a physician who is knowledgeable about running problems can help prevent achilles peritendinitis. Orthotics may remedy the foot structure abnormalities and eliminate future problems.

Treatment

No runner wants to be sidelined because of an injury. Even the best conditioning programs and preventive measures can be ineffective and result in injuries. Achilles peritendinitis can be difficult to treat and recovery can be slow. Frustration for the runner and also those treating the condition is probable. The runner must realize and understand the signs and symptoms to achilles peritendinitis, and initiate treatment at the onset.

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A heel pad (\(\frac{1}{4}\)") can be placed in both shoes. Heel lifts will help ease the strain placed on the achilles tendon and prevent any unbalanced feeling, which could lead to more serious injuries.

If these preventive measures fail and pain and soreness develop, then rest and anti-inflammatory medication may be required. Getting any athlete to rest is usually difficult. When limiting the runner to just walking is impossible, it is best to at least decrease intensity and/or duration of the training. Whenever pain and irritation occur, the session should be terminated.

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A splint has some advantages over a full cast. The ability to remove the walking splint allows for cryotherapy or other modality treatments. The splint allows for accessibility, but does not sacrifice stability to the full cast.

The best results for treating achilles peritendinitis seems to come from reducing the inflammation as soon as possible and increasing the blood supply to the area\(^{4}\). Such outcomes can be accomplished with cryotherapy and anti-inflammatory medication.

After the splint is removed, heel lifts can be placed in
the shoes. The runner should work gradually to a full training schedule. Stretching should be emphasized again and ice therapy continued regularly. Because of the scar tissue that may result from the original injury, there tends to be a greater chance of reoccurrence of achilles peritendinitis.

If the runner has a subacute problem, it probably will not be necessary to splint the injury. More importantly, make sure that the runner does not keep re-injuring the tendon. Heel lifts again should be used. If mechanics of the runner are in question, orthotics may be necessary to correct the problem.

As long as tenderness and pain in the achilles area persist, cryotherapy should be continued. After any ice session, a stretching routine should follow. Such procedures will help increase blood flow to the area so that secondary trauma to the tissue will not take place. The healing process will continue, if this process is followed.

Typically the runner with chronic achilles peritendinitis is in most cases the hardest to treat. The achilles tendon has been injured for so long that limited treatments seem to exist. Two approaches to treatment for chronic achilles peritendinitis are conservative and radical. The conservative approach usually requires casting or splinting, anti-inflammatory medication, and in some cases, local injections or steroids. In the “typical” chronic case, the described methods do not appear to help much and the runner is left with ice therapy and running in pain.

If none of these conservative methods work, surgery can be performed. Although usually considered a radical approach, it has had positive results. In most surgical cases the tendon sheath tissue is found to be thickened and attached to the tendon in places. Nodules may or may not be present on the tendon. During surgery the sheath tissue is released from the tendon tissue. If there is any calcification or nodules present in the area, they are moved. After surgery the runner usually can return to training in about three to six weeks, with no reoccurrence.

Treatment of this type is only recommended for persons with a chronic problem. The conservative method is usually attempted first. If not successful, then surgery may be used.

In some cases local injections of steroids have been given as treatment. In most instances, this is contraindicated, as further damage can result. While local injections of steroids may reduce pain, indications are that this action can also promote degenerative changes in the collagen fibers. The possibility of further injury and/or tendon rupture indicates that steroid injections are not good treatment for achilles peritendinitis.

Treatment of achilles peritendinitis should consist of rest or a decrease in intensity and duration, anti-inflammatories, cryotherapy, heel lifts and/or orthotics and casting or splinting, if necessary. If none of these treatments alleviate the problem, then surgery may be required.

Rehabilitation

Rehabilitation of achilles peritendinitis consists virtually of the same procedures as those used in the treatment phase. The runner should gradually work back to their performance level. Hard workouts should be avoided until the runner is back to 100% performance level. Until then, hill running and any hard, high friction surfaces should be avoided. The runner may want to workout every other day and then later go into everyday workouts. By not building up the work load slowly, reoccurrence of previous conditions is likely.

If a muscle imbalance exists, the antagonistic muscles need to be strengthened. The quadriceps and the foot dorsiflexors need to be strengthened.

Stretching of the posterior muscles, the hamstring, soleus and gastrocnemius, should be done before and after running. A tightness in these muscles causes extra strain on the achilles tendon and can lead to reinjury.

After the athlete returns to full performance, cryotherapy and stretching should be continued as a preventive measure. The chances of reoccurrence, thus, will be diminished.

Preventing achilles peritendinitis before it becomes a problem is the best treatment. Stretching, correcting muscle imbalances, proper running mechanics, good shoes, and intelligent programs will lead to fewer problems and many more enjoyable miles and if simple precautions aren’t taken, may result in achilles peritendinitis.

Conclusions

1) “Achilles tendinitis” is actually an inflammation of the peritendon sheath tissue and should be referred to as achilles peritendinitis; 2) Many different causes of achilles peritendinitis exist, ranging from running mechanics to the shoes worn to the training intensity and duration; 3) Prevention is the best treatment for achilles peritendinitis. Good preventive measures would include: proper warm-up, warm-down and stretching techniques, good training program, good mechanics, properly fitted shoes and appropriate running surface; 4) In order to give the proper treatment, the causes and the phase of the peritendinitis must be individually determined. Treatment will consist usually of one or more of the following: rest, decreased intensity and/or duration, anti-inflammatories, cryotherapy, casting or splinting, heel lifts, possibly orthotics, and possibly surgery.

Bibliography


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ATHLETIC TRAINING • Fall 1980
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 undergraduate 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 this issue of Athletic Training. It is suggested that before starting students read: Knight KL: Writing articles for the journal. Athletic Training 13:196-198, 1978. NOTE: A reprint of this article, along with other helpful hints, can be obtained by writing to the Writing Contest Committee Chairman at the address below.

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, 1981.

NATA Student Writing Contest

c/o Dr. Ken Knight

Men's Physical Education

Indiana State University

Terre Haute, Indiana 47809
Book Reviews

Kinesiology and Applied Anatomy
By: Philip Rasch, PhD
and Roger Burke, PhD
List Price: $18.50
496 pages-illustrated
Lea and Febiger
600 South Washington Square
Philadelphia, PA 19106
1978

This text is standard in many college and university kinesiology courses. It is a complete, well-written work that can be of value to the coach trainer, or Sports Medicine Practitioner. The authors indicate that sports medicine is an area from which much kinesiological knowledge may be applied. And while, the book is not aimed toward the sports medicine practitioner, it provides him or her much useful athletic training information.

Those familiar with previous editions of Kinesiology and Applied Anatomy will note several changes in its sports medical content. The sections on fast/slow twitch fibers, muscle cramps and spasm, energy metabolism, and the physiology of muscular contraction are all updated. The applied anatomy sections provide information on such topics as the function of the Bursa, effects of insufficient flexibility, and fractures of the epiphysis included for each body part is a section on the implications for athletic training. Such sections are useful, but are limited to facts and ideas which are only very general in nature. Expansion of this aspect of the text would make it an even more welcome addition to sports medical literature.

Kathleen Heck, ATC

Social Psychology of Sport
By: Albert V. Carron
List Price $9.95
320 pages-illustrated
Mouvement Publications
102 Irving Place
Ithaca, N.Y. 14850
1980

This author shares a most interesting insight of a wide variety of topics related to the behavioral study, not only of athletes, but also other personnel involved with athletes. Sections are included on athletes, coaches, spectators, and team dynamics, and the breakdown of each section into subcategories is very helpful. For example, the section on the athlete has subsections on personality...
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perspectives and various motivational theories; the section on the coach details leadership dynamics and characteristics as well as interaction models; that portion concentrating on team dynamics details group interaction and task analysis.

In each chapter research is well documented, and a summary is included. Definitions are often supplied pertaining to abstract terms, and overviews and literature reviews often clarify the background of material presented. Indexes are subdivided into author and subject, and an extensive reference listing is given, though unfortunately, these are not footnoted to the text.

This text is highly recommendable as supplementary reading for the athletic trainer to delve into the abstracts and some theoretical view of behavior in those we interact with, rather than as a didactic reference for a specific problem or task. While it does not offer specific solutions, it does give valuable insight.

Greg Vergamini

Physiology of Fitness
Brian J. Sharkey
420 pages
Human Kinetics Publishers
Champaign, Illinois 61820
1979

This book is a good starting point for acquiring knowledge of the concepts of lifetime fitness. Unfortunately for trainers, it is a contradiction in depth and approach. It appears to be geared to different levels of understanding, depending upon the area of the book the reader is considering. There is discussion of relevant research that, while superficial, requires knowledge of microscopic cell structure, metabolic pathways, elementary endocrinology and the like. There is also an oversimplification of conclusions that leaves many unanswered questions and may even be regarded as incorrect by sophisticated readers. It is impossible to prove or disprove such all inclusive statements as "The benefits of aerobic exercise and fitness include: improved circulation; . . . reduced tension and stress; improved vitality; reduced fatigue; personality changes; enhanced self concept and body image; and emotional stability." The idea that aerobic exercise will keep you off the analysts couch is very questionable. The discussion of diet and exercise claims to describe "glycogen supercompensation" when in fact it describes the more benign, ineffectual practice of carbohydrate loading. Glycogen supercompensation is a useful concept in exercise lasting continuously for more than one hour and shows a definite tolerance effect if attempted more than three or four times in one year. Ideally it will yield 500% to 600% increase in stored glycogen. indiscriminate use of carbohydrate loading is being linked to glucose tolerance problems and should be carefully monitored. The discussion of methods of training uses a 1975 study by Pipes and Wilmore to promote isokinetics. Wilmore has since dissociated himself from this work and Pipes has published a retraction of the work (Athletic Journal, 59 (5): 60-2, 1979). These are just a few of the problems a sophisticated reader will encounter. With all of the negatives, this book does have some excellent things to say, but their application is better suited to the lay population; the joggers, racquetballers, and city league basketball players who are looking for information that will help them gauge their fitness levels, shortcomings, and ways to note improvements. Unfortunately this same population is not sophisticated enough to see that some material is still in a theoretical or statistically linkable state, rather than proven cause and effect

Continued on page 173
The Use of the D.A.P.R.E. Technique in Knee Rehabilitation

During the past year a rehabilitation program was introduced which presented an alternative form of rehab which seemed to be quite improved over standard exercise programs. The Daily Adjusted Progressive Exercise (DAPRE) technique was introduced at the National Athletic Trainers Association Convention in St. Louis and in articles in the Physician & Sports Medicine. During the course of the year the opportunity to utilize the program presented itself, and the results of the program were extremely encouraging.

The DAPRE program, adapted to quadriceps strengthening, involves repeated isotonic contractions at near maximal weight with the injured body part. According to Dr. Knight, four sets of repetitions should be performed each day. The first set consists of ten repetitions with 50% of the maximum weight the athlete can do. The second set consists of 75% of the maximum for six repetitions. The third set consists of as many repetitions as possible with the maximum weight. These repetitions count until the athlete is able to hold for a six count without bending the knee more than 5 degrees.

The fourth set consists of a maximum number of repetitions, performed against an adjusted working weight based on the number of repetitions performed in the third set. The next day’s weight is determined by the fourth set. Dr. Knight’s table for determining weight is listed below.

<table>
<thead>
<tr>
<th>Set 1</th>
<th>Set 2</th>
<th>Set 3</th>
<th>Set 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Working Weight</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>Number of Repetitions</td>
<td>10</td>
<td>6</td>
<td>Max.</td>
</tr>
</tbody>
</table>

* The adjusted working weight for the fourth set is determined by the number of repetitions performed during the third set. Use columns A and B below as a guide.

+ The number of repetitions performed during the fourth set determines the working weight for the next day. Use columns A and C below as a guide.

<table>
<thead>
<tr>
<th>Working Weight Adjustment</th>
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</thead>
<tbody>
<tr>
<td>A</td>
</tr>
<tr>
<td>Number of Repetitions</td>
</tr>
<tr>
<td>Performed</td>
</tr>
<tr>
<td>During the Set</td>
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</table>

In addition to this the body parts should both be worked, the injured and uninjured, alternately and independently. The uninjured leg establishes a goal for the injured.

This program was followed with minor variations to make it easier for the athlete to follow. If the athlete did 0-4 repetitions for the third set, he decreased the weight 5 pounds for the fourth set and the next day did the same weight as he did on the fourth as his maximum. If he did 5-9 repetitions, he did the same weight on the fourth set and used that weight as his maximum for 5 or 10 pounds on the fourth set and used the fourth set weight as his maximum for the next day. If he did 10 or more repetitions on the third set, he increased 5 or 10 pounds on the fourth set and used the fourth set weight as his maximum for the next day. It was felt that, with less categories, it would be easier for the athlete to make decisions on his weight and to see his goals.

In addition to this variation the athlete was periodically tested on a Cybex to have an “outside” objective measure of his progress.

CASE STUDY

On September 28, 1979, while playing defensive end in a football game, the athlete was blocked on the right leg by an offensive pulling guard. The leg was forced into extreme abduction. Upon exam it was evident that there was significant injury to the right knee. He reported extreme pain and numbness. The initial exam, by the trainer, showed more than 20 degrees of abduction in the right knee joint. The anterior drawer sign was also positive and indicated significant damage. Swelling was minimal at this time.

The athlete was assisted to the sideline and was prepared for transfer to the hospital. During this time, the team doctor on the sideline examined the knee and concurred with the trainer’s evaluation of a possible “triad” injury.

During the drawer test, the movement was minimal and splitting became evident. The knee was wrapped and packed in ice, and the athlete was transported by ambulance to the local hospital.

In the emergency room standard X-rays revealed no significant fractures. The athlete was admitted and his orthopedic surgeon called for consultation. At the time of exam swelling was minimal and abduction and drawer tests were not significant. The muscles had begun to take the place of the torn ligaments and splint the joint. The athlete was retained for further tests and possible surgery.

On September 30, an arthroscopic exam was performed and surgery was undertaken to repair a completely ruptured medial collateral ligament, a torn medial meniscus, partially torn anterior cruciate and partially torn lateral collateral ligament. The athlete was casted and remained hospitalized for six days.

During this time he began quadriceps setting exercises, straight let raises (SLR) and crutch and crutch walking. He was advised to quad set twenty-five times each hour, to do SLR’s — three sets of ten — once a day, and build up to three sets of 25, twice a day. He also did abduction exercises.

On November 7, the athlete had his cast removed and began walking with crutches. Measurements were taken on his range of motion. He had 178 degrees of extension in the right leg compared to 180 degrees in the left leg. Flexion of the right leg was 106 degrees compared to 138 degrees on the left leg. Also, at this time, it was noted that...
the athlete had a visable, contracting medialis muscle from origin to insertion. He was advised to continue the straight leg raises at three sets of 25 three times each day. He also continued the quad setting throughout the day to maintain muscle tone and to work on extension. For flexion he was advised to do active flexion — three sets of ten — and to contract for a five count between each active movement. While seated on a treatment table with back against the wall, he flexed and set the heel into the table and then actively flexed further and set his heel into the table until he could contract no further. He was also advised to perform straight leg sit-ups for hip-flexor strength.

Since the athlete was a fine varsity swimmer, he was motivated to resume competition before the swimming season was over. He was advised that it would be possible to return, but it would depend upon how his rehabilitation progressed. He was highly motivated and wanted to begin immediately.

On November 9, his measurements were again recorded; those were flexion of injured leg 115 degrees, extension 180 degrees. On November 12, measurements were repeated and flexion was now 129 degrees and extension 180 degrees. The Medialis tone was still evident and now was solid throughout the muscle. In addition to goniometer measurements a girth measurement was taken 11 inches below the anterior superior crest of each ilium. The left showed 18 inches in circumference and the right was also 18 inches.

On November 13, the athlete was seen by his physician and advised that he could begin walking without crutches, swimming and rehabilitation exercise. He began pool walking on November 14. The first day he walked for 15 minutes pain free; the second day 30 minutes and the third day 45 minutes. During this time he did not swim.

On November 19, he began to participate in regular swim practice. He began a manual resistance program which was continued from November 14 through the 26th.

The athlete's swim workouts during this time consisted of interval training distances varying from 100 yards to 1,000 yards, using freestyle and breaststroke. He was not allowed to “dive” into the water from a starting position nor to “flip-turn” and push-off the wall. He was also not allowed to kick at this time, which was accomplished through the use of a set of float bouys held between his legs. He did every other “swim”. For example, if the standard workout consisted of six 100 yard freestyle in a two minute interval, the athlete did every other one for a total of three intervals. During the week he averaged a total of two miles per day.

On November 26, the athlete was tested on a Quadriceps-Hamstring Exercise table on which weights were attached to pegs on the sides of the lifting bar. The object here was to test the athlete for the maximum amount he could lift with each leg. On the injured leg he did one set of ten repetitions at 20 pounds holding each lift for a ten count, then one set of ten at 40 pounds and was able to do one set of five repetitions at 60 pounds before he could not hold in complete extension for the six count. On the uninjured leg he was able to do a set of five at 110 pounds as his maximum.

On November 28, a Cybex® test was performed. The athlete tested out for strength on a setting of 30 degrees/second at 174 ft/lb on the uninjured leg for extension and 96 ft/lb on injured leg. This indicates that the injured leg was 55% as strong as the uninjured leg. These figures and others can be seen in table 1.

Following the initial Cybex® test, the athlete began the DAPRE Program, as described previously. He lifted under a trainer's supervision five days per week and was encouraged to lift on his own each Saturday and rest on Sunday.

Also, during his workouts, the athlete lifted with both the injured and uninjured leg alternately and independently for Quadriceps strength. He also did three sets of ten repetitions with half of his maximum weight on each leg with the hamstring group. In addition to these the athlete did two sets of ten repetitions of leg extension, only performing the last 20 degrees of leg extension, to emphasize the work on the vastus medialis. These were done with the athlete lying supine with towels rolled under the knee. Finally, the athlete finished his workout with a set of lateral step-ups done on a sixteen inch bench. These began with a set of twenty-five and eventually progressed to five minutes per day.

During his third and fourth weeks of active rehabilitation, November 28 to December 10, the athlete continued his swim workouts and progressed to 3 out of every 4 “swims”. He did not yet do any diving or pushing-off the wall. He did begin to use his legs in his swims.

On December 10, the athlete had his second Cybex® test. The complete results are noted in table 1. The test indicated that the injured leg has improved significantly but so had the uninjured, and the ratio of uninjured leg strength to injured had increased to 72%. The imbalance was such that he would not be allowed to compete until he reached approximately 85% of the uninjured. Also, during this time his maximum lift had gone from 60 pounds to 110 pounds.

The athlete continued the program through January 10 when he had his third Cybex test, also noted in the table, which indicated that he had reached a level of 83% strength in the injured leg compared to the uninjured leg. At this time he had lifted a maximum set of 120 pounds. He was also examined by his physician on this date and released for competitive swimming. It was felt that since he was in a non weight-bearing sport he could begin competition.

D.A.P.R.E. Technique Continued on next page

**TABLE 1**

**ORTHOTRON/CYBEX EXERCISE THERAPY RECORD**

<table>
<thead>
<tr>
<th>JOINT TESTED: RIGHT KNEE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Test #1 STRENGTH</strong></td>
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<tr>
<td>Speed Settings: ORTHOTRON #2% CYBEX 30 deg/sec.</td>
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<tr>
<td>L (Ext)(Abd) Max</td>
<td>174</td>
</tr>
<tr>
<td>R (Ext)(Abd) Max</td>
<td>96</td>
</tr>
<tr>
<td>L/R Ratio %</td>
<td>59%</td>
</tr>
<tr>
<td>L (Flex)(Add) Max</td>
<td>114</td>
</tr>
<tr>
<td>R (Flex)(Add) Max</td>
<td>72</td>
</tr>
<tr>
<td>L/R Ratio %</td>
<td>63%</td>
</tr>
<tr>
<td>L Flex or Add Ratio %</td>
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</tr>
<tr>
<td>R Flex or Add Ratio %</td>
<td>75%</td>
</tr>
<tr>
<td>Ext Abd</td>
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</table>

<table>
<thead>
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<th>Test #2 POWER</th>
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<tbody>
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<td>Speed Settings: ORTHOTRON #7 CYBEX 180 deg/sec.</td>
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</tr>
<tr>
<td>L/R Ratio %</td>
<td>59%</td>
</tr>
<tr>
<td>L (Flex)(Add) Max</td>
<td>96</td>
</tr>
<tr>
<td>R (Flex)(Add) Max</td>
<td>66</td>
</tr>
<tr>
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<td>69%</td>
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<tr>
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<td>79%</td>
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<td>Ext Abd</td>
<td></td>
</tr>
<tr>
<td>R Flex or Add Ratio %</td>
<td>85%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Test #4 ENDURANCE</th>
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<tbody>
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</tr>
<tr>
<td>L (Ext)(Abd)</td>
<td>32</td>
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<tr>
<td>R (Flex)(Add)</td>
<td>32</td>
</tr>
<tr>
<td>Total work done from CYBEX Digital work integrator — ft. lbs.</td>
<td>36</td>
</tr>
</tbody>
</table>

172
relationship. An example is Appendix E where longevity estimates are made using a number of complex factors which on the one hand may help some people change their lifestyle (which was the intent) but may also scare others into believing they will die next year, so why bother to exercise at all. The material is well intended but some mention should have been made that it establishes statistical links that do not always apply to an individual, rather a thorough physical examination and consultation with one's family physician and this appendix can be of some value to your lifestyle.

The book deals exclusively in aerobic fitness and has little or nothing to say to those athletes that, by the nature of their sport or event, must train anaerobically. Shotputters, football linemen, discus throwers, weight lifters, sprinters, hurdlers and all of the other power trained athletes would actually show a deficit in performance should they go into a heavy aerobics program. The failure of the author to consider anaerobic and power conditioning and their effects on the body makes this book of limited value to trainers. More likely, the book should be recommended to the weekend athlete seeking information on which to build a lifetime fitness program.

James M. Rankin, ATC

Sport Psychology: An Analysis of Athletic Behavior
By: William F. Straub (Ed.)
List Price: $9.95
295 pages
Mouvement Publications
102 Irving Place
Ithaca, N.Y. 14850
1979

Dr. Straub has compiled a respectable series of articles relating to athletics. The majority of the articles concern the athletes themselves, and attempt to explain mechanisms of their behavior, as opposed to interaction between athletes and other team personnel. Articles presented cover categories such as motivation, aggression, anxiety, sociology, personality, and team cohesion, though there are a few on leadership and coaching.

Because each article is by a different author, there are obvious lapses in congruity, which is to be expected. For example, of thirty-two (32) articles, only five (5) are preceeded by abstracts. In addition, footnoting of references is inconsistent. However, this is to be expected in a compilation, and the only truly detracting point associated with the potpourri of authors is the lack of either a subject or author index.

Overall this text is recommended to the athletic trainer who desires to broaden his/her insight of human behavior, prefers to read sporadically, rather than utilizing a textbook, and does not desire or need a specific source of reference which is readily reproducible.

Greg Vergamini

D.A.P.R.E. Technique Continued from page 172

He began within the next week and swam within one-tenth of a second of a personal record in the 50 yard freestyle on two different occasions. He continued to lift, now altering his program to lift with the injured leg three days per week. Rehabilitation can be a long and tedious process. The DAPRE technique offers many advantages to alleviate some of the problems in rehabilitation.
1. Long and short range goals are easily set.
2. Strength gains occur rapidly.
3. Motivation is enhanced since short range goals are con-

DAPRE technique Continued from page 172

The first Historical Flashback (Summer Issue, 1980) was written by Mike O'Shea, University of Miami. We would like to apologize for our omission of acknowledgement and thank Mike for his contribution.

The topics covered ranged widely from "Building Team Morale", "Half-Time Procedure" and "Jock-strap Itch" to "Demonstration of Research in Protective Equipment."

Prior to the clinic an announcement was sent out inviting trainers, coaches, instructors and students to attend this free training clinic. It was billed as "National in Scope" and "Strictly Business". According to the recollection of Jay Colville who was there, about 100 people were in attendance.

Those pioneers in 1950 helped establish a foundation for the Sports Medicine profession which is still a growing organization 30 years later.

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Admittedly, any program is successful when the athlete is committed to the program, as this athlete was, but the program was accepted readily by the athlete. I believe that this program contributed to bringing this athlete back to competition in an amazingly short time.

BIBLIOGRAPHY


Chris Neuman
Kansas State University

Thirty years ago this past June the first annual National Training Clinic was held in Kansas City, Missouri. The Clinic was sponsored by Cramer's of Gardner, Kansas and was held June 24-25, 1950.

The two days were filled with informative sessions including seventeen subject lectures, one symposium and one open forum. Many distinguished gentlemen participated as clinic speakers including: Frank Medina, University of Texas; Duke Wyre, University of Maryland; Edward O'Donnell, Yale University; Henry Schmidt, University of Santa Clara; and Al Sawdy, Bowling Green State University.

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BIBLIOGRAPHY

Decision Making Process
In Sports Medicine

Susan E. (Baltrusaitis) Genuario, MEd, ATC, William F. Walker, MA, ATC, Jay A. Bradley, MEd, ATC

Introduction
In the past little has been published on specific steps an athletic trainer takes in evaluating an injured athlete. The evaluation process begins the moment the athlete is injured and is not completed until the athlete has been released from the physician’s care.

The student trainer has oft times been left to acquire evaluation skills through observation and experience. How to communicate this decision making process to a student trainer presents a problem. In an attempt to make this process clear, a step by step evaluation was developed and has become an effective teaching tool for the student trainers at the University of Cincinnati.

I. Initial Evaluation of an Injured Athlete
An athlete has gone down on the field and you as the trainer are the first to evaluate the injury. This initial evaluation should include a six point evaluation which stresses talking to and observing the athlete.

A. Six Point Evaluation
1. History
   - Ask the athlete how they were injured, the position they were in when injured, any noticeable sounds that occurred and where they are experiencing their pain.

2. Gross Deformity
   - Obvious gross deformity would indicate a fracture, a dislocation, a muscle tear or tendon rupture.

3. Point Tenderness
   - If the athlete experiences: severe point tenderness, suspect a fracture or torn tissue; moderate point tenderness, there is the possibility of a fracture or torn tissue; mild point tenderness, there is the possibility of stretched or torn tissues or a contusion.

4. Range of Motion
   - A severe injury such as a fracture, dislocation or complete tissue tear will severely limit R.O.M. or result in excessive R.O.M. due to loss of joint integrity. Moderate loss in R.O.M. indicates a tissue tear, a strain or a sprain. Mild loss in R.O.M. may be due to a strain, sprain or contusion.

5. Swelling
   - Severe swelling may indicate a fracture, however this is not always the case. A dislocation or a severe tissue tear may be more likely. Mild to moderate swelling indicates the possibility of a fracture, subluxation, partial tissue tear or stretched tissue.

6. Pain
   - Throughout the evaluation the amount of pain the athlete experiences is important in determining the severity of the injury. It must be noted that pain, although an excellent sign, is subjective. Pain, as well as the findings on the previous five points will determine the initial management of the injury.

B. Initial Management
Initial management while on the field may in-
II. Rehabilitation Program

Following the injury, the decision making process continues throughout the rehabilitation of the athlete's injury. Check-points in the form of follow-up evaluations after each stage in the program determine the advancement of the athlete to following stages.

A good rehabilitation program begins with proper initial management followed by a physician's diagnosis. Three phases are included in the rehabilitation program. Phase I, the athlete is non-active, Phase II the athlete is on a limited activity schedule, and Phase III the athlete is continuing rehabilitation and full go.

A. Phase I

Initially the athlete is not participating through the first phase of the rehabilitation program.

1. Stage I - The objective of the first rehabilitative stage is to work towards an increased range of movement, decrease pain, and to control swelling.
   a. Therapeutic Modalities - Some form of therapeutic modalities to relieve the pain-spasm cycle and reduce any swelling should be instituted.
   b. Support - Some type of support for the injured area should be added and may also include some form of compression or elevation.
   c. Passive Exercise - In order to increase the joint range of motion the trainer moves the affected joint through pain-free excursion.

2. Follow-Up Evaluation

3. Stage II

   The objective of this stage is to increase the movement of the joint.
   a. Modalities - As ordered by the physician therapeutic modalities are used to enhance the rehabilitative response.
   b. Support - As needed, support is continued.
   c. Active Exercise - To increase the movement of the joint the athlete moves the joint through all possible pain-free planes of movement.

4. Follow-Up Evaluation

5. Stage III

   The objective of this stage is to curtail the disuse atrophy and allow the athlete to be returned to competition with minimal risk of re-injury.
   a. Modalities
   b. Active Exercise
   c. Progressive Resistive Exercise - Isometrics are the first strengthening methods employed followed by an isotonic or isokinetic progressive resistance program.

6. Follow-Up Evaluation

7. Stage IV

   The objective of this stage is to work on the endurance which is so often lost with an injury.
   a. Modalities
   b. Active Exercise
   c. Progressive Resistive Exercise
   d. Endurance - The local endurance program is aimed at improving the musculature involved in the injury. General endurance is improved through a good cardio-vascular program, and is indicated when the athlete has been inactive for a long period of time.

8. Follow-Up Evaluation

B. Phase II

As the athlete progresses in the rehabilitation program, return to play begins on a limited basis. The athlete should continue working on the following:

1. Increase Active Exercise
2. Increase Strength
3. Increase Endurance
4. Prevent Re-Injury - Some form of preventative strapping or padding may be utilized to prevent re-injury.

5. Follow-Up Evaluation
   a. Six-Point Evaluation - Some points may be omitted as indicated by the nature of the injury.
   b. Stability Tests
   c. Functional Tests
   d. Dynamic Sport Related Assessment - The
athlete should be evaluated on his performance of simple sport related activities. As his performance in these simple activities improves, contact with an implement such as a ball, racket, or blocking dummies should be assessed. Finally playing the sport with the team concept on a limited basis should be evaluated. When an athlete can demonstrate that he can participate in certain drills with the team, there is a gradual increase in activity until full participation is achieved.

C. Phase III

Rehabilitation often continues while the athlete is full go. Continuation of the following as indicated:

1. Active Exercise Program
2. Progressive Resistive Program
3. Endurance Program
4. Preventative Padding and Strapping

III. Preventative Measures

The third part of the decision making process should include an evaluation of preventative measures. Items that can be used to prevent further injury to the athlete or his teammates should be examined. These special topics are:

A. Nutrition
B. Psychology
C. Taping
D. Wrapping
E. Equipment
F. Condition
   1. Flexibility
   2. Strength
   3. Endurance
H. Education
   1. Health
   2. Safety
   3. First Aid

Summary

The checklist approach to evaluation is an aid to those working as athletic trainers and those preparing for a career in athletic training. This system is based on a close working relationship with the team physician. This system is only a guideline. With this checklist, education, experience and time, the student trainer should be prepared to make the pressure decisions that are common in the profession.

BIBLIOGRAPHY


Potpourri

Dennis Aten, ATC, RPT, MS Eastern Illinois University

Exercise and Heart Disease

The April, 1979 issue of the “Physical Fitness Research Digest” did a follow-up study relating to exercise and heart disease. Among the many implications were the following:

A. As was true at the time of the April 1972 “Digest”, the overwhelming majority of published reports from many countries lend strong support to an inverse relationship between the amount of physical activity in which one engages and the incidence of coronary heart disease and its severity and survival prospects should such an attack occur. The studies consistently supported the need for a moderate level of physical activity as a life style for maintaining a sound cardiovascular system; strenuous physical activity, including competition, does not appear to reduce further the incidence of coronary heart disease.

B. Several epidemiologic studies did not include reference to coronary heart disease but were concerned with risk factors associated with it. Among the significant risk factors that favored physically active men are the following: lower systolic, and diastolic blood pressures, lower serum total cholesterol, lower relative weight, fewer electrocardiographic abnormalities, and lower mean pulse rate and maximum oxygen consumption.

C. There was evidence to support the theory that exercise has a protective influence on such risk factors associated with coronary heart disease as blood pressure, cholesterol and triglyceride levels, heart rate, maximum oxygen uptake, electrocardiogram, and relative weight.

D. Bed rest for prolonged periods leads to significant changes in cardiovascular function.

Exercise and “Shin Splints”

In an attempt to learn more about the prevention of lower leg pain, often referred to as “shin splints”, Joe Donnelly and Paul Bishop of Kearny State College developed a training program for 20 athletes with a prior history of lower leg pain which was termed “shin splints”. This program was administered six weeks prior to the athletic season, five days per week. An isotonic resistance program was administered to the anterior and lateral compartments (70% 1RM) utilizing the Elgin Ankle Exerciser. Three sets of ten repetitions were performed. Ad-
ditionally, the posterior compartment was stretched via three fifteen second bouts performed on each leg by leaning against the wall with the foot flat on the ground. The general idea of the program was to strengthen what was weak and stretch that which is tight.

The following observations were made concerning the attempt to prevent shin splints prior to the season in chronic repeaters:

1. Of the twenty subjects in the program, only three returned to the training room with low leg pain during the athletic season. Two of the three who returned subjectively felt the condition was mild compared to previous years and were able to maintain a normal training schedule. If we could assume a continuance of around 50+ % who would have developed shin splints again this program represented an improvement of approximately 30%.

2. The isotonic resistance program demonstrated strength increase (cable tensiometer method) for both the males and females. Dorsiflexion strength increased in males by 1.52 and 3.07 in females. Eversion strength increased 2.02 in males and 1.87 in females.

3. The ankle exerciser was easy to use, required little space, and can be purchased from several supply houses at an affordable price. The ankle exerciser can be 'home made' for a very modest price as described in Athletic Training, Winter 1978. If several were made the coach or athletic trainer could administer a training program to several athletes efficiently.

**Comparison of Quad Strengthening Programs**

David Perrin, University of Pittsburgh reported the results of a study comparing exercise with a weight boot to exercise with a Universal Knee extension table in effectiveness in developing quadriceps strength.

Forty-six male college students enrolled in general physical education activity classes at Indiana State University participated as subjects in the experiment. Twenty-nine subjects enrolled in weight training classes were randomly assigned to one of two experimental treatment groups: a weighted boot group and a knee extension table group. Seventeen subjects enrolled in golf and table tennis classes were assigned to a non-training control group.

The training regimen for the two experimental groups consisted of two treatment sessions per week for five and one half weeks.

The findings of this experiment indicated that both the weighted boot and the knee extension table significantly strengthened the quadriceps musculature, with no significant difference in strength gains between the two groups.

**Long Distance Running for Females**

The January 1980 issue of the “Sports Medicine Bulletin” published the following opinion statement.

“It is the opinion of the American College of Sports Medicine that females should not be denied the opportunity to compete in long-distance running. There exists no conclusive scientific or medical evidence that long-distance running is contraindicated for the healthy, trained female athlete. The American College of Sports Medicine recommends that females be allowed to compete at the national and international level in the same distances in which their male counterparts compete.”

A review of the literature demonstrates that males and females adapt to exercise training in a similar manner. Female distance runners are characterized by having large maximal oxygen uptakes and low relative body fat content. The challenges of the heat stress of long-distance running or the lower partial pressure of oxygen at altitude seem to be well tolerated by females. The limited data available suggest that females, compared to males, have about the same incidence of orthopedic injuries consequent to endurance training. Disruption of the menstrual cycle is a common problem for female athletes. While it is important to recognize this problem and discover its etiology, no evidence exists to indicate that this is harmful to the female reproductive system.

Supporting references available on request from the American College of Sports Medicine, 1440 Monroe Street, Madison, Wisconsin 53706.

**Vitamins**

“Family Weekly” recently reported a breakthrough in blood testing that might reduce the indiscriminate use of megavitamins in athletics.

This new blood test that can quickly determine whether a person is getting the right amount of eight essential vitamins was recently devised by Dr. Herman Baker of the New Jersey Medical School and Dr. Seymour Hunter of Pace University’s Haskins Laboratory. Recognizing that vitamins are essential to the human diet, yet concerned about the rising number of people who are taking unnecessary vitamins, the two physicians can now pinpoint vitamin deficiencies in three days instead of the usual 28 days that the standard test takes.

**Playing Time in Football**

A study by H.C. and H.T. Hunter evaluated the various contact playing times for various situations in football.

Two teams were recorded with the stopwatch during the past season. One team compiled a record of 0-10 and the other 8-2. Times were kept for the offensive team, defensive team, special teams for kick-offs, punts, points after touchdown, and field goals. The average times were kept by quarters.

Total time of actual play averaged 11 minutes and 13 seconds per game. The longest time occurred for the team without any victories — 12 minutes, 41 seconds. The shortest game was 10 minutes, 6 seconds and was recorded for the 8 — 2 team. An interesting fact about this game is that it was played on a muddy field.

The average time the offensive team was in action was 4 minutes, 52 seconds. When this is broken down into quarters, it indicates very little difference in time played.

The defensive team had less contact time than the offensive team. The average was 4 minutes, 17 seconds. The shortest time was 3 minutes 12 seconds in a 13 — 0 victory. The longest was 4 minutes, 59 seconds in a loss 30 — 21. In one game by the losing team (7 — 28 score), the defense played 3 minutes, 35 seconds and the offensive team played 4 minutes, 49 seconds. In another game (0 — 29 score), the offense played 4 minutes, 34 seconds and the defense played 4 minutes, 37 seconds.

In a game played by the winning team (38 — 3 score), the offense played 4 minutes, 41 seconds and the defense 4 minutes, 23 seconds.

Special teams averaged 2 minutes, 30 seconds per game. Special kick-off teams saw an average of 1 minute, 14 seconds actual play time per game. The average kick-off took 7 seconds.

Punts took an average of 1 minute, 13 seconds per game. The average punt took 9 seconds from the snap of the ball to the ensuing tackle.

There were two blocked punts during the season totalling 18 seconds for an average of 9 seconds.
Total average time for points after touchdown was 17 seconds per game. The average time per PAT was 3 seconds from the snap of the ball until the whistle.

Field goals took an average of 3 seconds and an average of 6 seconds per game.

Statistics show the teams average about 4 minutes a game for defense and offense. Special teams average 2½ minutes of play. The records of the teams observed were at opposite ends of victories and seemed to have little effect on the time played.

**Favorable Football Fatality Trend**

“One death is one too many; but the trend is favorable and we are approaching the point of an irreducible minimum.” This was the comment of Richard D. Schindler, National Federation of State High School Associations assistant director, regarding the 48th Annual Survey of Football Fatalities, which he helped prepare.

In 1979, there were three deaths caused directly by high school football, the lowest total since the survey began in 1931. The total is a dramatic change from the 18 deaths which occurred ten years earlier and the record 26 deaths which occurred in 1968.

The report — prepared jointly by Schindler and Carl S. Blyth, Ph. D. of the University of North Carolina for the American Football Coaches Association, the National Collegiate Athletic Association and the National Federation — credits changes in rules, equipment and coaching techniques for the favorable trend. According to the report:

“In their effort to reduce serious injuries and fatalities, the football rules governing bodies, as well as the administrative organizations, made some rule changes for the 1976 football season. The primary rule change eliminates the head as a primary and initial contact area for blocking and tackling.

“The equipment for football athletes continues to improve under the guidance of the National Operating Committee on Standards for Athletic Equipment (NOCSAE). The NOCSAE organizations continue their research on improving helmets for football. The authors of this study are firmly convinced that the rule changes that eliminate the head in blocking and tackling and the helmet research of NOCSAE have played the primary role in reducing fatalities and serious head injuries in football.”

The report notes that most direct fatalities since 1960 have been caused by head and neck injuries and it offers suggestions for reducing those injuries:

1. Athletes must be given proper conditioning exercises which will strengthen their necks so that participants will be able to hold their heads firmly erect when making contact.

2. Coaches should drill the athletes in proper execution in the fundamentals of football skills, particularly blocking and tackling.

3. Both coaches and officials should discourage the players from using their heads as battering rams when blocking and tackling. The coaches and officials should enforce the rules prohibiting spearing in practice and in games. The players should be taught to respect the helmet as a protective device and that the helmet should not be used as a weapon. All coaches, physicians and trainers should take special care to see that the player's equipment is properly fitted, particularly the helmet. Enforcement of the rules prohibiting 'spearing,' properly fitted helmets and excellent physical condition are the factors which will help reduce fatalities and serious head and neck injuries resulting from participation in football.”

**Journal Deadlines**

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 all materials for any selection of the Journal other than formal articles and “Calendar of Events” to:

Ken Wolfert
Miami University
Oxford, OH 45056

This includes sections such as “Tips From the Field”, “Announcements”, “Case Studies”, “Letters to the Editor”, etc. The deadlines are:

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<td>Fall Issue</td>
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<td>March 15</td>
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Deadline for “Calendar of Events”: Information on upcoming events should be sent to:

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

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Manuscripts must be sent to:

Clint Thompson
Jenison Gym
Michigan State University
East Lansing, Michigan 48824
(517) 353-4412

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

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

The following recommendations are offered to those submitting manuscripts:

1. Seven copies of the manuscript should be forwarded to the editor and each page typewritten on one side of 8½ x 11 inch plain paper, triple spaced with one inch margins.

2. Good quality color photography is acceptable for accompanying graphics but glossy black and white prints are preferred. Graphs, charts, or figures should be of good quality and clearly presented on white paper with black ink, in a form which will be legible if reduced for publication. Tables must be typed, not hand written.

3. All artwork to be reproduced should be submitted in black and white line art (either drawn with a Rapidograph [technical fountain pen] or a velox stat or PMT process) with NO tonal values, shading, washes, Zip-a-tone — type screen effects, etc. used. All artwork to be reproduced in black plus a second (or more colors) should be submitted as black and white line art (see above paragraph), with an Amateur*® or similar-type overlay employed for each area of additional color(s). Also, all areas of tonal value, shading, “washes”, etc. should also be supplied on a separate clear or frosted acetate or Amateur*® overlay. In addition, all areas to be screened (a per cent or tint of black or color) should be supplied on an Amateur*® overlay.

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

4. In view of **The Copyright Revision Act of 1976**, effective January 1, 1978, all transmittal letters to the editor must contain the following language before manuscripts can be reviewed for possible publication: "In consideration of the NATA taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns or otherwise conveys all copyright ownership, to the NATA in the event that such work is published by the NATA." We regret that transmittal letters not containing the foregoing language signed by all authors of the manuscript will necessitate return of the manuscript.

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

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

5. Manuscripts are reviewed and edited to improve the effectiveness of communication between the author and the readers and to assist the author in a presentation compatible with the accepted style of **Athletic Training**. The initial review process takes from six to eight weeks. The time required to process a manuscript through all phases of review, revision, and editing, to final publication is usually six to eight months depending on the timeliness of the subject. The author accepts responsibility for any major corrections of the manuscript as suggested by the editor.

Galley proofs of accepted papers are sent to the author for corrections prior to publication. Reprints of the article may be ordered by the author at this time.

6. It is requested that submitting authors include a brief biographical sketch and acceptable black and white glossy photograph of themselves. Please refrain from putting paper clips on any photograph.

7. Unused manuscripts will be returned, when accompanied by a stamped, self-addressed envelope.

Address all manuscripts to: Clift Thompson, Department of Athletics, Michigan State University, East Lansing, Michigan 48824

The following recommendations are offered to those submitting CASE HISTORIES:

1. The above recommendations for submitting manuscripts apply to case studies as well but only two-copies of report need be sent to the Editor-in-Chief.

2. All titles should be brief within descriptive limits. The name of the disability treated should be included in the title if it is the relevant factor; if the technique or kind of treatment used is the principal reason for the report, this should be in the title. Often both should appear. Use of subtitles is recommended. Headings and Subheadings are required in the involved report but they are unnecessary in the very short report.

Names of patients are not to be used, only 3rd person pronouns.

3. An outline of the report should include the following components:
   a. Personal data (age, sex, race, marital status, and occupation when relevant)
   b. Chief complaint
   c. History of present complaint (including symptoms)
   d. Results of physical examination (Example: “Physical findings relevant to the physical therapy program were . . .”)
   e. Medical history - surgery, laboratory exam, etc.
   f. Diagnosis
   g. Treatment and clinical course (rehabilitation until and after return to competition) use charts, graphs when possible
   h. Criteria for return to competition
   i. Deviation from the expected
   j. Results - days missed

4. **Release Form**
   It is mandatory that **Athletic Training** receives along with the submitted case a signed release form by the individual being discussed in the case study injury situation. Case studies will be returned if the release is not included.
How CPR training helps business.

CPR—cardiopulmonary resuscitation training is one of the valuable assets an employee can have.

If even one employee has this training, (which is available from Red Cross), every other co-worker benefits. Everybody can breathe easier knowing that in the event of a cardiac arrest, help is immediately available.

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CPR training from Red Cross is one way you can help your company be ready. And a way you can help keep Red Cross ready, too.

Keep Red Cross ready.
The Annual Business Meeting of the National Athletic Trainers Association was convened at the Philadelphia Sheraton Hotel, Philadelphia, Pennsylvania at eleven o'clock a.m., Mr. William Chambers, President, presiding.

PRESIDENT CHAMBERS: I would like to call to order the 1980 NATA Business Meeting. At this time I would like for Ken Murray, from Texas Tech University, to come forward and lead us in the Pledge of Allegiance and then please remain standing while Ken offers the invocation.

MR. MURRAY: Let us pray.

MORNING SESSION

Mr. Murray led the members in the Pledge of Allegiance. Mr. Murray: We thank you for the opportunity we have to serve people and mankind.

MR. JEFF CIOLEK: I would move, Mr. President, we dispense with the reading of the Roll Call.

PRESIDENT CHAMBERS: The motion has been made and seconded, does anyone have any discussion or is there anything objectional? If not, all in favor by saying aye; opposed. Are there any abstentions? The motion is carried.

PRESIDENT CHAMBERS: Thank you, Ken.

The Chair will entertain a motion to dispense with the Roll Call.

PRESIDENT CHAMBERS: Mr. Jeff Ciolek would move, Mr. President, we dispense with the reading of the Roll Call.

MR. KATHY GOLMARI: I second the motion.

PRESIDENT CHAMBERS: Is there any discussion on this motion? If not, all in favor signify by saying aye; opposed. Are there any questions? The motion is carried.

The minutes of the 1979 Business Meeting were published in the Journal. I would like to remind the members that if you do have any particular questions or comments to make, that you discuss those with your respective District Directors and, also, let me further announce that any item that has to be brought before the Board of Directors has to first go through a District Director.

I would now like to present Brooks McIntyre, our accountant, to report the financial aspects of the association up with the NATA Scholarship Fund. It is a pleasure to be here.

I have a business consultant firm, accounting firm in Eastern North Carolina. I began working with your Association, approximately twelve years ago. Since that time I have worked very closely with the National Office at Greenville and with your Board of Directors, with Otho Davis and also with Bill Chambers.

I have been very impressed with the organization. It is growing very fast and obviously is experiencing some growing pains.

These are some of the areas I have been retained to assist with — to try to bring the financial reporting and financial management aspect of the Association up with the growth of the Association.

You have received in your pre-registration packets a summary of the financial operations of the Association for the year ending April 30, 1979. I don't know how many of you are aware of the fact that we elected to change the fiscal year from one ending May 31 to one ending April 30 so that we would have more time to prepare this document for your consideration at this Convention.

I am going to assume that I am basically dealing with a non-financially oriented audience and try to explain some basics about the document you have in front of you.

This document is mainly composed of three major sections.

The first of these concerns assets. Assets are what you own or what the Association owns that is of value.

The second section is liabilities and you will note that there are no liabilities. The reason for this is we elected to use the cash basis of accounting, which means that we do not have to record the expenses until they occur — we record expenses and income as they occur. As we write checks, we record that as an expenditure and as we receive money, we record that as revenue. Therefore, we do not have any liabilities that are recognized at this time.

As you can see, the third part is the balance section and that is the equity section of the statement and which basically reveals the net worth of the organization.

You will notice, for example, that the total assets are $222,000. The total fund balance is $222,000, which is all of it, and specifically that is what I mean that is that on April 30, 1980, your Association had in assets an equal amount of equity.

This also represents a growth over the prior year of 23.3 percent which, in my opinion, is significant. That is quite an increase for any type of organization whether it is a profit entity or non-profit entity, such as all of you are.

On the bottom of the page I have a section entitled "Summary of Operations." Basically what this is, is it is the money taken in from all sources and the money that was expended. Of course, the difference indicates excess of revenues over expenditures of $3,000. This represents a 23.3 percent increase in the fund balance or net worth at the end of the last fiscal year.

Also, you will notice here in the left hand column, where we have tried to break down these figures into the various elements of the organization, such as the National Office, Board of Certification, Career and Service and also Professional Education. Our purpose in doing this is that we are trying, over a period of time, to define the elements that make the organization function and we want to get into areas of preparing budgets for these.

We want to plan what is coming during the period instead of what has already happened. It is very easy to record what has occurred in the past but we want to try to make plans in relation to our fund balance increasing next year and, of course, we also want to compare that subsequently with what we actually did so that we may, in turn, have some analysis of what our objectives were initially and how well we met them.

Now, in summary, that is your Treasurer's Report and, of course, I will be happy to answer any questions that any of you may have at this or a subsequent period of time. Thank you very much.

PRESIDENT CHAMBERS: Thank you, Brooks.

I would now like to present Brooks for the approval of the Treasurer's Report as submitted. Do I have a motion to this effect?

AL GREEN: I would second the motion.

MR. BRUCE SWARTH: I will second the motion.

PRESIDENT CHAMBERS: The motion has been made and seconded, does anyone have any discussion or is there anything objectional? If not, all in favor by saying aye; opposed. Are there any abstentions? The motion is carried.

At this time, Mr. Otho Davis, the Executive Director of our Association, will give you a report as to the actions taken at the various meetings held by our Board of Directors since arriving here and up to this point in time.

At this point, Mr. Davis presented a summary of Board actions to this point in time of the Annual Convention.

(This appears in the minutes and will not be reprinted in this section.)

MR. DAVIS: That is the report.

PRESIDENT CHAMBERS: Thank you, Otho.

Would I like to remind the members that if you do have any particular questions or comments to make, that you discuss those with your respective District Directors and, also, let me further announce that any item that has to be brought before the Board of Directors has to first go through a District Director.

I will now entertain a motion for the acceptance of the Executive Director's Report of Board actions to this point. These written minutes, of course, will, in toto, appear in our Journal.

Do I have a motion for the acceptance of the minutes as presented by Mr. Davis?

MR. BAKER: I would move.

MR. MIKE OSHEA: Second the motion.

PRESIDENT CHAMBERS: We do have a motion and a second. Is there any discussion? If not, all in favor signify by saying aye; opposed. Are there any abstentions? The motion is carried.

At this time we are privileged to have with us from the National Football League Charities, Mr. Joe Shible. He is here representing Mr. Pete Rozelle, the Commissioner of the National Football League and he has a special presentation to make at this time.

Mr. Rigney: Members and Officers of the NATA, thank you again for the opportunity to be with you at this National Convention.

As we indicated to you in St. Louis last year, our visit here today is two-fold. First, on behalf of Commissioner Pete Rozelle and twenty-six National Football League Clubs we wish to offer our sincere thanks to the members of this Association, particularly those at the collegiate level. We call on you often during the course of the season for information and we appreciate your effort and your fine cooperation and, of course, we hope that our fine relationship will continue.

After the cocktail reception that we had in St. Louis last year, we are happy to report that we are likewise planning a similar function for tonight, right here in this room. Invitations were provided in your pre-registration packets.

Our second purpose in being here this morning is one that is equally important to Commissioner Rozelle. It involves National Football League Charities and our relationship with the NATA Scholarship Fund.

As many of you heard me say last year at the meeting, the National Football League Charities was formed in 1973 as a means by which the clubs collectively could make grants on a national level.

The National Football League Charities is funded, in part, by the licensing of National Football League merchandise, caps and shirts that you would purchase in a department store, but the profits, instead of going to the clubs for their use and given by the clubs to NFL Charities, are presented in the form of grants.

Since our beginning in 1974, the grant commitments made by our Charity has grown to nearly $3 million.

At the meeting last year, we announced a commitment grant of $20,000 to the Scholarship Fund which, in addition to the two $5,000 grants that have been awarded previously, brings the NFL's commitment to scholarships for a six-year period to some $30,000.

We are here today to present to you the third $5,000 installment. However, before I do this, I would like to congratulate all of the scholarship award winners, including those awarded previous NFL Charity grants and also to thank the officers of the Association for your cooperation with the National Football League and to also thank Pinky Newell for his assistance in relation to the Scholarship Committee.

At this time, I would like to call on Bill Chambers to accept this grant in the amount of $5,000 for the continuation of your fine efforts in relation to the Scholarship Fund.

Mr. Chambers stepped forward to receive the grant and after thanking the Scholarship Committee and applause there ensued.

PRESIDENT CHAMBERS: Joe, as a little token of our appreciation to you, and also to Commissioner Rozelle, we would like to present to both of you this little momento...
I have a little presentation for a very distinguished and honored member of our Association, Tow Diedem.

Just very recently, this distinguished gentleman was inducted into the Albequequerque, New Mexico Sports Hall of Fame and in and of itself, is quite an honor and so, Tow, I would like to present this plaque.

... Presentation of plaque to Mr. Diedem and applause ensued ... 

MR. DAVIS: Also, I would like to present Mr. James Nespor of the University of Nebraska and to Jean Marie Schulte of Temple University. They have been present with the following list of award recipients:

The Sayers J. Miller, J~r.-Scholarship Award goes to Robert James Deppen of Penn State University.

The Robert H. Gunn Scholarship Award goes to Joel F. Hanneman of Lamar University.

The NATA Committee on Grants and Scholarships is pleased to present the following list of award recipients:

The Undergraduate Scholarship Award goes to Timothy Michael Madden of the University of Illinois.

The Robert H. Gunn Scholarship Award goes to Joel F. Harneman of Lamar University.

The Sayers J. Miller, Jr. Scholarship Award goes to Robert James Deppen of Penn State University.

The William F. Linsky Scholarship Award goes to Barbara Stokes of Eastern Illinois University.

The Gene E. Moosie Deity Postgraduate Scholarship Award goes to John R. Cape of Indiana University.

The Graduate Scholarship Award goes to Joseph Novak of Central Connecticut State University.

The NATA Committee for Grants and Scholarships is pleased to announce the award recipients:

The Undergraduate Scholarship Award goes to Timothy Michael Marden of the University of Illinois.

The Robert H. Gunn Scholarship Award goes to Joel F. Harneman of Lamar University.

The Sayers J. Miller, Jr. Scholarship Award goes to Robert James Deppen of Penn State University.

The William F. Linsky Scholarship Award goes to Barbara Stokes of Eastern Illinois University.

The Gene E. "Moosie" Deity Postgraduate Scholarship Award goes to John R. Cape of Indiana University.

The Graduate Scholarship Award goes to Joseph Novak of Central Connecticut State University.

The Graduate Placement Award goes to Joseph Novak of Central Connecticut State University.

The NATA Placement Committee continues to assist members by compiling and sending out information on job openings.

Indications are that salaries for athletic trainers have generally increased in some areas to NATA minimums. Employment opportunities for the athletic trainers. Membership survey results are made available for salary comparisons when athletic trainers are negotiating salary adjustments.

There appears to be good communication between the membership, the National Office and the NATA Officers as well as good communication among the individual members.

It is important that we continue to communicate and share with one another. There are differences between each place of employment. However, there can be a sharing of ideas, concerns and problems.

As you share your ideas and concerns with your officers and fellow athletic trainers, keep in mind that we must take the leap of faith and dare to be guided by our hopes and dreams.
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ATHLETIC TRAINING • Fall 1980
The following agenda items were considered and actions taken by the NATA Board of Directors at its meetings held during the period of June 5-11, 1980, at the Sheraton Hotel, Philadelphia, Pennsylvania, Mr. William Chambers, President, presiding and with the following present:

Mr. William H. Chambers, President
Mr. Otho Davis, Executive Director
Mr. Bruce Melin, Parliamentarian
Mr. Larry Graham, Attorney
Mr. Wesley Jordan, District 1
Mr. John Baynes, District 1
Mr. Richard Malheure, District 2
Mr. Andy Clawson, District 3
Mr. Gordon Stoddard, District 4
Mr. Bob Behnke, District 4
Mr. Frank Randall, District 5
Mr. Cash Birdwell, District 6
Mr. Warren Lee, District 7
Mr. Dale Mildenberger, District 7
Mr. Donald Chu, District 8
Mr. Bobby Barton, District 9
Mr. Gary Craner, District 10

I. FEBRUARY MEETING AND JOURNAL MINUTES:
Concerning the issue of retrospective increase in dues of fees of those who already had an application in process, the action item on this indicating District 7 to be in opposition was corrected to indicate District 2 as the district being in opposition.
Concerning the procedure for certification, it was moved by District 10, seconded by District 5 and carried to change the hours in Item 1, Section 4, procedure for certification from six hundred to eight hundred hours and from three hundred hours in one year to four hundred hours.

II. AUDIOVISUAL AIDS:
There being no report received, the Board took no action.

III. CAREER INFORMATION SERVICES:
Moved by District 1, seconded by District 2 and carried to budget $1500 for the publication of a revised brochure.
Moved by District 8, seconded by District 10 and carried to accept items 1, 3 and 4 of the report for information.

The Career Information Services Committee Report is as follows:
TO: Otho Davis, Executive Director
FROM: Chuck Demers, Chairman, Career Information and Services Committee
DATE: April 26, 1980
SUBJECT: Committee Report for the Annual Board of Directors Meeting
1. The supply of career and placement information brochures will be expended in the near future. The present brochure material will need to be updated prior to its next publication.
2. The committee requests that $1500 be budgeted for the publication of a revised brochure, cost of brochure distribution, and to cover any other business expenses for fiscal 1980-81.
3. The present NATA policy on brochure distribution is as follows:
   a. Single brochures are supplied upon request at no charge. NATA officers and committee members, schools having an approved athletic training curriculum, and those having an apprentice program are furnished multiple copies of the brochure upon request at no charge. Others requesting multiple copies are asked to pay a charge of ten cents per copy.
   b. This policy has been adopted to help defray the rising costs of printing and distribution.
4. The committee suggests that the policy on brochure distribution be published in the NATA Journal. Making this information known by the membership would greatly alleviate committee correspondence on this matter.

IV. DRUG EDUCATION COMMITTEE:
Moved by District 9, seconded by District 3 and carried to accept the first portion of the report for information.

Moved by District 1, seconded by District 3 and carried to appoint Scott Biron as a member of the Drug Education Committee.
Moved by District 8, seconded by District 9 and carried to provide the committee chairman with a computer printout of the names and addresses of the certified membership.

The Drug Education Committee Report is as follows:

DRUG EDUCATION COMMITTEE REPORT: APRIL 28, 1980

The first article requested by the Board of Directors, "Phencyclidine A Major Drug of Abuse," appeared in the Spring, 1980, issue of Athletic Training: The Journal of the National Athletic Trainer's Association. The second article regarding drug interactions will be submitted by July 1, 1980.
A mailing to the membership was tried using the directory distributed by the Cramer Company. Due to the large percentage of returns this directory is not proving justifiable. Therefore, the Drug Education Committee is requesting to receive a computer printout of the names and addresses of the Certified members to be used to establish a membership mailing list.
Mr. Scott Biron ATC, Assistant Trainer at the University of New Hampshire, has requested membership on the Drug Education Committee. His duties will consist primarily in the area of literature research and duplication.

Recommendations To The Board of Directors
1. No Additional funds needed at this time.
2. A computer printout of the names and addresses of Certified membership mailing list.
3. The appointment of Scott Biron ATC as a member of the Drug Education Committee.
Respectfully submitted,
John Wells, Chairman

V. HISTORY AND ARCHIVES:
It was indicated that the book concerning the NATA History was still contemplated to be published in time for the June 1980 National Convention. This item was declared to be received for information.

VI. HONOR AWARDS:
Moved by District 3, seconded by District 10 and carried to approve the names of all award winners submitted. The 1980 recipients are as follows:

Twenty-five Year Awards:
John Herman Bunch, ATC - District 3
Raleigh, North Carolina
Arno Buntrock, ATC - District 4
Bendill State University, Minnesota
Otho Davis, ATC - District 2
Philadelphia Eagles Football Team
Charles Demers, ATC - District 1
Deerfield Academy, Massachusetts
Jack Jones, ATC - District 4
Western Michigan University
Kerkor Kassablian, ATC - District 1
Northeastern University, Massachusetts
Charles Kerr, ATC - District 2
Ithea, New York
Paul Kichline, ATC - District 2
Lafayette College, Pennsylvania
Robert Lewis Martin, ATC - District 3
Wake Forest University, North Carolina
Sayers "But" Miller*, ATC - District 2
Penn State University
Edward Motley, ATC - District 3
Virginia Tech University

Honorary Membership:
Carl Blyth, PhD

Chapel Hill, North Carolina
Vincent J. DiStefano, MD
Philadelphia, Pennsylvania
Fred Halilip
Staunton, Virginia
Joseph S. Torg, MD
Philadelphia, Pennsylvania
Paul C. Trickett, MD
Austin, Texas
James E. Nixon, MD
Staunton, Virginia

Citizen's Savings Hall of Fame:
Bobby Brown, ATC - District 6
Houston, Texas
Edward Phillings - District 2
United States Military Academy

Edward Phillings, Chairman
Joseph Abraham, Districts 1 & 2
Hunter Smith, District 3
Patricia Troesch, District 4
Sandy Miller, Districts 5, 6
Jim Welsh, Districts 7, 8, 9
Steve Moore, District 10

VII. INTERNATIONAL GAMES:
It was noted that to date no committee members had been assigned to this committee
and no contact with the International Games people had been made.

VIII. LICENSURE:
The information concerning licensure in the various states was noted.

IX. MEMBERSHIP COMMITTEE AND DISTRICT SECRETARIES 1980-81:
Bruce Melin, Chairman
Joseph Abraham, Districts 1 & 2
Hunter Smith, District 3
Patricia Troesch, District 4
Sandy Miller, District 5
James Dodson, District 6
Dan Libera, District 7
Jim Welsh, District 8
Steve Moore, District 9
Mark J. Smaha, District 10

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* Foreign subscribers add $5.00 per year for postage.
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X. MEMORIAL RESOLUTIONS COMMITTEE:
It was indicated that the committee was doing an excellent job in the handling of these resolutions. Moved by District 9, seconded by District 10 and carried to accept the report for informational purposes.

XI. DIRECTOR REPORTS:
The Board noted, for informational purposes, several comments made by the District Directors concerning activities within their districts.

Moved by District 4, seconded by District 9 and carried that a resolution be prepared indicating that ground fault interrupters be installed in all hydrotherapy facilities.

This resolution, prepared by Mr. Graham, legal counsel, Mr.白菜, Mr. Chua and others, was subsequently presented at a later Board session, with the Board then, acting as a Committee of the Whole, making certain word changes and upon motion by District 9, seconded by District 8 and carried, approving the resolution as follows for distribution to the press:

"For the safety of athletes, any institution using equipment such as whirlpool baths is strongly urged to regularly show compliance with existing state safety regulations and to specifically implement use of ground fault interrupters."

XII. AMERICAN ACADEMY OF PEDIATRICS:
Motion by District 9, seconded by District 6 and carried to accept the report for informational purposes.

April 30, 1980
Richard Malacrea
Head Trainer, Athletics Department
Princeton University
P.O. Box 71
Princeton, New Jersey 08540

Dear Mr. Malacrea:

The American Academy of Pediatrics concurs in principle with the position of the National Athletic Trainers' Association as expressed in the model legislation that in order to assure minimum standards for the educational program and subsequent performance of the athletic trainers, these individuals should be licensed by each state.

We also stress the importance of physician direction of athletic trainers as expressed in Section 2 of the Model Athletic Trainers' Act. We feel strongly that a pediatrician ought to supervise the activities of and be available to consult with athletic trainers involved in children's recreational and sporting events.

Sincerely yours,

AAP Executive Committee

Bruce D. Graham, MD, President
R. Don Blin, MD, Vice President
Robert Fraiser, MD, Executive Director

XIII. AMERICAN COLLEGE HEALTH ASSOCIATION:
Motion by District 9, seconded by District 8 and carried to accept this report for informational purposes.

TO: NATA Board of Directors, Otho Davis
FROM: Bill Chambers
DATE: April 23, 1980
SUBJECT: Liaison Representation at American College Health Association Meeting

On April 9th and 10th, I represented NATA at this meeting which was held in San Diego, California.

The opening speaker was Mike Greer, an attorney, whose talk was entitled "Togetherness Under The Law." He warned members of ACHA of their being very susceptible to litigation and that this will not end in the near future. He stated that another special issue that had been added to the health care team was the law. He also stated that people are becoming more sensitive to legal counsel and more time is being spent with lawyers.

Greer praised ACHA for their team work in dealing with public health. He called for the members of ACHA to work together more than ever before.

The next speaker was Dr. Irwin Hirta, President of ACHA. Togetherness was the theme of his talk. He called upon the members to have mutual respect for one another and to continue to improve the relationships within the organization. He pointed out there are differences among members and that more can still be sharing among all. In his closing comments he stated that ACHA must provide the best, most efficient, and most economical health care possible.

The Sports Medicine section met on April 10th. A panel made up of Bob Moore, Athletic Trainer; Claude Gilbert, Head Football Coach; Dr. Brown, Team Physician; (all from San Diego State) discussed the athletic trainer, doctor and coach relationship. Mr. Moore explained the importance of an athletic trainer and talked about the relationship he had with his team physician and head football coach. Dr. Brown gave the athletic trainer a lot of praise and stressed the importance of having a certificated athletic trainer on any staff.

The question of drug storage in training room was brought up and discussion ensued in regard to the legality of the athletic trainer doing this. This was passed by Mr. Graham, legal counsel, because the concept of licensure for the athletic trainer and it's members were urged to help us at the local level.

There were 55 in attendance. Dr. Don Cooper acted as my host and was very helpful in introducing me to various physicians.

I enjoyed attending this meeting and I feel we must continue our liaison with this group.

March 8, 1980
MEMORANDUM
TO: Executive Committee of ACHA regarding Liaison Activity with the NATA
FROM: Don Cooper, MD Liaison Representative to the National Athletic Trainers Association
SUBJECT: Liaison Report for Year 1979 from National Athletic Trainers Association

The 30th Annual Meeting of the National Athletic Trainers Association was held at the Stouffer Riverfront Inn Hotel in St. Louis, Mo. on 17, 18, 19, and 20 June 1979. The attendance and participation was excellent. The total attendance was over 1340 people with over 1100 trainers and student trainers present. The total national membership of all classifications of the NATA is approximately 7000. This past year of 1979 they had approximately 500 students taking the NATA certification examinations. At the present time there are 50 colleges or universities that offer a degree in athletic training.

The NATA presently is working with COPA, an accrediting agency for the various colleges and universities offering degrees in athletic training.

The NATA continues to get better participation by its members at their scientific sessions than by any other organization I have ever been associated with. As always it is a refreshing experience to have the opportunity to attend the NATA National Meeting.

There are still some problems in the area of job placement for both the student trainers and the certified trainers. Funding of jobs remains a very difficult area for many school boards and athletic departments. The main hope is that more and more high schools will hire full time trainers. At the present time, there are three states that have legislation for athletic trainers. The trainers in all of the other states are working on getting a state licensure plan for their respective states. The increased activity with lawsuits in sports puts the trainers in a vulnerable position as well as the coaches, team physicians, and the schools themselves. The trainers are being advised to get liability insurance.

Continuing education is a vital part of their overall programming. In January of 1980 a third graduate educational program was held in Nashville, Tenn. Over 100 participated in it and the reports of it were excellent. In addition to the January continuing education meeting held in Nashville, there was another continuing education meeting held in Palo Alto, Calif. In February, 1980 and over 100 attended this meeting. This year their President's Challenge Award went to Dr. Jack Hughston of Columbus, Ga. The NATA continues to award many scholarships each year to deserving young student trainers. The trainers are still working on the collection of meaningful data for the NAIRS project in cooperation with Penn State University.

Mr. Chambers of Fullerton Junior College in Fullerton, Calif., is the president of the NATA, and Mr. Otto Davis of the Philadelphia Eagles remains the Executive Director. Mr. Joe Gieck, head trainer at the University of Virginia, was present at our last national meeting in Washington, D.C. to represent the NATA to the ACHA as their liaison person. The trainers have their home office located at Greenville, N.C. where Mary Edgerley is the full time administrative Assistant for the organization.

The Journal of the NATA continues to improve and furnish many excellent papers on Sports Medicine. It continues to be an enjoyable experience for me to have the honor of being the liaison representative to the NATA from the ACHA. The next Annual Meeting of the NATA will be held on 8, 9, 10 and 11 June 1980 at the Sheraton Hotel in Philadelphia, Pennsylvania. All ACHA members are welcome to attend.

Donald L. Cooper, M.D.
April 14, 1980
Mr. William A. Chambers
Fullerton Junior College
Fullerton, CA 92834

Dear Bill:

At the American College Health Association's annual meeting, the Athletic Medicine Section spent some time reviewing the need for and value of licensure for athletic trainers on a state by state basis. Subsequent to that discussion, the Section unanimously approved a motion that we go on record as expressing such licensure and being in support of efforts to that end. This letter is written to let you know of that endorsement and support. If we can be of assistance to you in this regard, please let us know.

We are aware of the sample licensure law you have developed, and we anticipate that our individual members will provide active support at the local level.

Sincerely,

John Miller, M.D.
Secretary, Athletic Medicine Section
American College Health Association

April 30, 1980
John M. Miller, MD
Student Health Service
Indiana University
600 North Jordan Student Health Service
Bloomington, Indiana 47405

Dear Dr. Miller:

On behalf of the National Athletic Trainers Association, I want to thank the American College Health Association for their endorsement and support of licensure for the athletic trainer. This will certainly help us in our quest to gain licensure on a state to state basis.

I enjoyed attending the ACHA meeting in San Diego. It was most enjoyable and I appreciated having the opportunity to attend the meeting of the Sports Medicine Section.

Again, thanks for the support and endorsement. If NATA can ever be of service to you or ACHA, please let me know.

Sincerely,

William H. Chambers
President

WHC:jmc

April 30, 1980
Mr. Otto Davis
Head Athletic Trainer
Philadelphia Eagles
Veterans Stadium
Philadelphia, PA 19148

XIV. AMERICAN CORRECTIVE THERAPY ASSOCIATION:

The Board noted that the next meeting would be held in Boston on July 14-18, 1980. It was moved by District 4, seconded by District 9 and carried that the President appoint an individual to represent the NATA at this meeting from the Boston area.

April 21, 1980
Mr. Otto Davis
Head Athletic Trainer

Continued on page 188

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Continued on page 188
CONTINUING EDUCATION UNITS

Proposed courses for CEU's should be sent to the District CEU Representative for the district in which the program occurs. The District CEU Representative approves and evaluates the courses for CEU's and notifies the National Office. The CEU Report Forms should be sent directly to the National Office. Watch for your current CEU status on the upcoming 1981 statement. Should you have any questions regarding the CEU's credited, contact the National Office, NOT the District Representative.

The three year period ends December 31, 1981; another three year period begins January 1, 1982. There is no requirement for a single year as long as there are 6.0 CEU's for the three year period. Newly certified members will have the CEU requirements pro-rated for the remaining time of the three year period.

Lungs are for life

From birth, healthy lungs work silently, effortlessly to bring life-giving oxygen to the body cells. They have a natural defense system to clean the entering air. Germs weaken this defense...So does smoking...And air pollution.

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7801 Woodmont Ave., Bethesda, Md. 20014 • 301/654-2303
Dear Dr. Cahill:

Continued from page 186

I am writing to ask for support from the American Orthopaedic Society for Sports Medicine in our efforts to get Athletic Trainer Licensure at the state level. It is our goal to have licensure in each state.

From Joe Gieck, NATA liaison to AOMSM

The AOMSM met February 5, 6, 7, 1980 at the Omni in Atlanta, Georgia. Approximately 1,460 members were in attendance. Dr. James Nicholas, president, conducted the meeting consisting mainly of research oriented papers. Contact was made with the board of directors informing them of our newly established liaison to their group. All expressed their satisfaction with this action by the NATA and their interest that the NATA & AOMSM work closely together.

They requested that we submit articles for publication to their journal and that the NATA send a liaison contact. Dr. Jim Andrews of Columbus, Georgia for items of joint interest to be published in their journal. Dr. Andrews is the NATA writer for the society.

They also emphasized that they would like to help with licensing or any other areas the NATA which needed backing or policy statements.

Enclosed is a copy of a proposal Dr. Lesile Bodner, in charge of legislation, public affairs, and liaison, plans to submit to the American Red Cross in May. He requested the NATA give him feedback as to the proposal. I informed him that the Board of Directors, rather than me, should comment on this. He would like these comments prior to May for incorporation into the proposal. As you can see in the proposal, this vitally concerns us.

In conclusion I believe this to be a very worthwhile liaison as this is a group who are most supportive of the NATA, its programs and objectives. This group has mid year meetings and as NATA liaison to the AOMSM, I would like direction as to whatever the board would like liaison at both meetings.

January 25, 1980

I met with Lew Gillespie of the South Bend Chapter of the American Red Cross and discussed with him the interest of their chapter in working with athletic trainers. His interest in working with athletic trainers was apparent and he asked for some more specific information before they might make a formal request for the NATA, NPTA, and AOMSM to further discuss these possibilities.

Leslie M. Bodner, MD, Chairman
Committee on Public Relations, and Liaison

March 3, 1980

Bernard R. Cahill, MD

1461 St. Mark Court
Peoria, Illinois 61603

Dear Dr. Cahill,

I am writing to ask for support from the American Orthopaedic Society for Sports Medicine in our efforts to get Athletic Trainer Licensure at the state level. It is our goal to have licensure in each state.

It is my understanding that you had talked with two members of our Board of Directors, Wes Jordan and Dick Malarea, about this.

There are some important points about athletic trainer licensure that I should mention.

1. We want to make sure the best possible health care is delivered to athletes at all levels of competition. By having licensing anyone that practices athletic training will be required to meet certain requirements and/or standards.
2. Licensure would define the parameters of practice for the athletic trainer. It is not intended to give the athletic trainer the legal right to "hang out a shingle" and establish a private practice.
3. Licensure would spell out and define where an athletic trainer could practice.
4. Licensure will not mandate that high schools or colleges must hire an athletic trainer.

Our organization would appreciate getting a supportive letter from the AOMSM which would help in gaining local support in the individual states. Licensure is our (NATA) number one objective at the present time and we earnestly solicit your support.

Should you or any of your members have any questions about athletic trainer licensure, please let me know.

Looking forward to hearing from you in the near future.

Sincerely,

William H. Chambers
President

March 9, 1980

William H. Chambers
Fullerton Junior College
Fullerton, CA 92834

Dear Mr. Chambers:

I did indeed discuss licensure with Wes Jordan and Dick Malarea along with many other items relevant to the profession.

As I indicated to those gentlemen, the American Orthopaedic Society for Sports Medicine is very aware and concerned about the activities of the National Athletic Trainers Association and feel that there is need for more cooperation between our two organizations if we are to continue development.

I will contact Dr. James Nicholas, the President of the American Orthopaedic Society for Sports Medicine, directly and I am sure that our Executive Board can take some immediate action on your request for our Society to endorse your efforts to acquire licensure for athletic trainers.

Best personal wishes.

Sincerely,

Bernard R. Cahill, MD

MEMORANDUM:

TO: NATA Board of Directors

FROM: Kathleen Heck, Chairperson

NAGWS Athletic Training Council

1. Submitted athletic training articles to AAHPERD's Journal of Physical Education and Recreation.
2. Revised the ATC operating code.
3. Written the attached position statements on mouthguards, Lacrosse injuries, and protective equipment.
4. Begun work on a publication entitled "Tips on Training" for the Paramedical health professional.

At this time the ATC recommends that its liaison status with the NATA be maintained. We have no items to be placed on the agenda for discussion.

K.H./df

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Websites that provide this information to the public include:

1. The American Orthopaedic Society for Sports Medicine's website
2. The National Athletic Trainers Association's website
3. The American Medical Association's website
4. The National Institute of Sports Medicine's website

These websites provide detailed information on athletic training, sports injuries, and the importance of proper training and recovery techniques. They also provide resources for individuals interested in pursuing a career in athletic training.
becoming increasingly competitive, the style of play is changing. Injuries, particularly
following:

Injuries to teeth, gums, mouth, etc.

 Mouthguards in Athletes’ Position Statement

The NAWS Athletic Training Council strongly endorses the use of mouthguards in

athletics. Adopting regulations requiring mouthguards to be worn has resulted in
dramatic decreases in mouth, tooth, cheek, and head injuries in men’s football and ice hockey.

Not only do mouthguards provide protection for the teeth, gums and lips, but they also can be instrumental in absorbing the concussive forces of a blow to the head, neck, or

face. The protection a mouthguard provides may be significant enough to prevent and/or to reduce the severity of head injuries in athletics.

ATC Position Statement—Prosthetics and Protective Equipment

Integrating students with handicapping conditions and development of new prosthetic and protective devices, has raised concern among coaches, trainers, and

physical educators in regarding legality of such devices in competitive athletics. If wearing a prosthetic or protective device enables an individual with a handicapping

condition or a previously injured athlete to compete safely, he or she can not be denied

certification opportunities because such devices are required.

An athlete must first receive medical approval to participate in his or her chosen

sport, devices worn must be in accordance with state or local athletic governing body

rules and rules of the sport itself. The prosthetic or protective device must pose no hazard to the athlete, his or her teammates, or opponents. Protective devices such as

knee braces containing metal parts (including Lemos-Hill knee braces), metal or

orthoplaster splints, plaster fiberglass, or silicone (RTV-11) casts, felt, and foam rubber

protection padding are all used to protect injured body parts. Such devices should not

be allowed if they are dangerous to the athlete, his or her teammates, and opponents.

Nor it is acceptable for wearers of prosthetic or protective devices to gain an athletic

advantage via a device itself. All such devices must be well-padded so as to avoid

presenting a non-yielding or dangerous, harder than the human body itself, surface to the

individual’s teammates or opponents. Most items, when covered with approxi

mately one-half inch of close-cell slow recovery foam rubber, pose no hazard to

other participants.

XVI. NATIONAL ASSOCIATION OF COLLEGE

DIRECTORS OF ATHLETICS:

The Board noted, without taking any action, the brief informational report submitted.

XVII. NATIONAL ASSOCIATION OF

INTERCOLLEGIATE ATHLETICS

The report, as presented, was noted for information with the Board, at the request of

Mr. Davis, noting no further action on this report until Mr. Davis could pursue further

investigation with regard to the future activities of this group.

April 11, 1980

Mr. Fred Hoover

Convention Chairman

NATA

Clemson University

Box 31

Clemson, South Carolina 29631

Dear Fred:

The NAIA has recently organized an NAIA Athletic Trainers’ Association at the request of the many trainers.

Enclosed please find a copy of the membership form used for such a purpose. You will

note that the mission statement of this Association starts with that of promoting the

growth of certified Athletic Trainers within the Association.

There are currently seventy-three (73) Athletic Trainers (both full-time and student)

who have joined the NAIA Athletic Trainers’ Association, and we felt that an annual

meeting of this group would be more effective and beneficial to NAIA and NATA if it

could be held in conjunction with the NATA Annual Convention.

Al Ortolani at Pittsburg State University, Kansas, suggested that we contact Otho,

concerning the possibility of securing a meeting site at the NATA Annual

Meeting, where we could hold our business session meeting.

We understand the NATA Annual Meeting was held in Philadelphia, in June, and

we are contacting you to see if there is any possibility in hopes that we may be included in your planning.

In that the NAIA Athletic Trainers’ Association has as its basic aim, that of promoting growth of certified NAIA Athletic Trainers, we of course would not want to conflict with any NATA clinic, or session, but think perhaps there might be a space we could use

for a meeting the Sunday evening or possibly Monday afternoon of the NATA week.

While our current membership consists of seventy-three (73), a room that would hold approximately forty (40) people would be ample for our first meeting.

We appreciate any consideration you can give us in promoting the growth of Certified

NAIA Trainers with the NAIA.

Sincerely,

Wally Schwartz

Assistant Executive Director

NATA

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XX. NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS:

It was indicated by Mr. Davis that no report on the activities of this group had been received since the last Board meeting. He likewise called attention to a change in staffing of this organization.

ROBERTS TO LEAVE FEDERATION STAFF

(National Federation Press Service, Interscholastic Athletic Administration magazine, the National Federation Handbook and the National High School Sports Record Book. Recently, Roberts was successful in arranging a nationwide distribution network for the Handbook and a soft goods merchandising plan to promote National High School Activities Week.

ROBERTS COORDINATES THE MUTUAL LEGAL AID Pact which acts as a clearinghouse and advisory service for legal problems affecting school sports. He also administers the Federation's licensing program and serves as sanctioning officer. Roberts is staff liaison for the NCAA Football Rules Committee and serves as sanctioning officer. Roberts coordinates the Mutual Legal Aid Pact which acts as a clearinghouse and advisory service for legal problems affecting school sports. He also administers the Federation's licensing program and serves as sanctioning officer. Roberts is staff liaison for the NCAA Football Rules Committee and serves as sanctioning officer. Roberts coordinates the Mutual Legal Aid Pact which acts as a clearinghouse and advisory service for legal problems affecting school sports. He also administers the Federation's licensing program and serves as sanctioning officer. Roberts is staff liaison for the NCAA Football Rules Committee and serves as sanctioning officer. Roberts coordinates the Mutual Legal Aid Pact which acts as a clearinghouse and advisory service for legal problems affecting school sports. He also administers the Federation's licensing program and serves as sanctioning officer. Roberts is staff liaison for the NCAA Football Rules Committee and serves as sanctioning officer. Roberts coordinates the Mutual Legal Aid Pact which acts as a clearinghouse and advisory service for legal problems affecting school sports. He also administers the Federation's licensing program and serves as sanctioning officer. Roberts is staff liaison for the NCAA Football Rules Committee and serves as sanctioning officer.

GROUP II

No report was submitted by Group II for the academic year of 1978-79. As evident, there is a consistent decline in basically all injury categories since the 1976 football rule changes. Continued monitoring, however, of these catastrophic injuries is appropriate.

I would like to take this opportunity to thank the directorship and membership of the National Athletic Trainers Association for their continued support and assistance to the Registry.

Sincerely yours,

John E. (Jack) Roberts, assistant director of the National Federation of State High School Associations, will resign from the Federation headquarters staff to become chief executive officer of Doug Rueflinger, Inc., the nation's largest administrator of student insurance programs. The corporation also administers the Federation of Insurance, Inc., a litigation fund for athletic organizations; and it holds the management contract for The Fund Insurance Company, Ltd., a company which will specialize in serving the insurance needs of schools, colleges and athletic organizations.

Roberts, who will establish headquarters offices in Kansas City for the corporation which is now located in Topeka, Kansas, will begin his new responsibilities August 1, 1980, although he may remain in a part-time capacity with the Federation for several months.

The 31-year old Dartmouth graduate joined the Federation in January 1973. He has been responsible for the organization's public, legislative and judicial affairs. He edits the National Federation Press Service, Interscholastic Athletic Administration magazine, the National Federation Handbook and the National High School Sports Record Book. Recently, Roberts was successful in arranging a nationwide distribution network for the Record Book and a soft goods merchandising plan to promote National High School Activities Week.

Roberts coordinates the Mutual Legal Aid Pact which acts as a clearinghouse and advisory service for legal problems affecting school sports. He also administers the Federation's licensing program and serves as sanctioning officer. Roberts is staff liaison to the Competition Committee and has worked closely with special study committees on several subjects, including eligibility.

In the area of monitoring federal legislation, Roberts prepared and/or delivered testimony for five different legislative committees or presidential commissions. He was invited often to speak to school groups on the subject of federal legislation.

In earlier years, Roberts started and developed the Federation's playing rules projects in volleyball, swimming and diving, and ice hockey; and he was involved in the recodification of the soccer playing rules. He participated in five motion picture projects and also assisted in planning and conducting Federation-sponsored meetings, including the national conference program for high school athletic directors.

"I have been fortunate to have worked for two fine gentlemen," said Roberts. "Mr. Cliff Fagan, who hired me, helped me develop a sound philosophy in the decision-making process. Mr. Ernie Durbin, who brought innovative programs to the Federation, gave me opportunities for learning and growth.

A third man, Robert Targ, who has been executive director of the Wisconsin Interscholastic Athletic Association since 1956 also contributed to his preparation for National Federation business. The younger Roberts attended his first National Federation meeting when he was only eight years old, and he gained a deep, personal appreciation for the work of state high school associations. The elder Roberts currently serves on the National Federation Executive Committee.

"I'm grateful for the support of the Federation staff and membership," said Roberts; "and I'm pleased that my new position will allow me to maintain frequent contact with these people."

Mr. Durbin will be in the process during the next several months of selecting a successor to Roberts.

XXI. NATIONAL HEAD AND NECK INJURY REGISTRY.

The Board noted the report as submitted by Dr. Joseph Torg. It was moved by District 8, seconded by District 7 and carried that the report be accepted for informational purposes.

May 29, 1980

Mr. Otho Davis, Executive Director
National Athletic Trainers Association
C/o Philadelphia Eagles
Broad & Pattison
Philadelphia, Pennsylvania 19148

Dear Otho:

Enclosed you will find the recently compiled data of the National Athletic Head & Neck Injury Registry for the academic years of 1976 and 1979. As evident, there is a consistent decline in basically all injury categories since the 1976 football rule changes. Continued monitoring, however, of these catastrophic injuries is appropriate.

I would like to take this opportunity to thank the directorship and membership of the National Athletic Trainers Association for their continued support and assistance to the Registry.

Sincerely yours,

Joseph S. Torg, MD
Professor of Orthopaedic Surgery
JSTJb

End.
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- Ultrasonic frequency 1 mHz.
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- Case Size: 16¾” x 13¾” x 7¾”.
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- FCC U-378.

All RICH-MAR ultrasound and stimulation models are safety engineered to surpass present and proposed hospital electrical safety standards of 50 micro amperes line leakage.

RICH-MAR products are available upon request with appropriate modifications for foreign use.
XXII. NATIONAL OPERATING COMMITTEE ON STANDARDS FOR ATHLETIC EQUIPMENT (NOCSAE)

The Board noted the report concerning the January 9, 1980 meeting of this organization. It was moved by District 3, seconded by District 8 and carried that the report be accepted for informational purposes.

A motion was likewise presented to the Board by Mr. Malacrea that the NATA increase its contribution to this group from $100 to $500. Following a brief discussion concerning the advisability of this at this time, the motion was voted upon and declared to be lost.

Those voting in favor of the motion were Districts 1, 2, 4, 7 and 8. Opposed to the motion were Districts 3, 5, 6, 9 and 10 with President/Chamber breaking the tie and voting in opposition.

Minutes - National Operating Committee on Standards For Athletic Equipment (NOCSAE) Board of Directors Meeting

New Orleans Hilton, New Orleans, Louisiana

January 8, 1980

Members Present
John M. Miller, American College Health Association
Charles M. Morris, NAIA (Secretary-Treasures)
Harry Tree, NAIA
Tom Garland, NAERA
Don Gleisner, NAERA
Carl Blyth, NCAA
Dennis Poppe, NCCA (President)
Robert White, NATA
Ray Ball, NFPSHA (Vice President)
Richard Schindler, NFPSHA
Kermit Smith, NJCAA
Frank Gordon, SGMA
Ken Baldwin, The Sports Foundation, Inc.
Dwight Haufl, The Sports Foundation, Inc.

Guests attending:
John Mark, NFI, Players Association
Richard Black, Attorney, Phoenix, Arizona
Tom Pellet, SOMA
Jay Moyer, NFL Commissioner's Office
Dick Lester, Legal Counsel, Riddell, Inc.

1. Meeting was called to order at 9:00 a.m. by Dennis Poppe, President NOCSAE.

2. Minutes for the NOCSAE Board of Directors meeting held on November 2, 1979 were reviewed by Charles Morris, Secretary-Treasurer, NOCSAE, and were approved as mailed with the following exception:
   Add this statement to the last paragraph under "d"):
   "The warning statement is to be reviewed and approved by the NCAA, NAIA, and NJCAA and final action will be taken at the January 8, 1980 NOCSAE Board of Directors meeting."

3. The NOCSAE financial summary for the period of August 7, 1979 - January 8, 1980 (attached as appendix A) was approved as submitted by the Secretary-Treasurer.

4. The Finance Committee report was presented by Charles Morris (members: Morris, Dwight Haufl, Frank Gordon):
   a. The committee recommended that the position of Secretary-Treasurer be changed into two positions. The growing needs and demands of the NOCSAE program necessitate this change.
   b. The secretary would assume the normal responsibilities usually assigned to that position.
   c. The Treasurer would:
      (1) Prepare an annual budget.
      (2) Disburse and receive funds.

NOCSAE Question and Answer Sheet

1. What is NOCSAE?
   NOCSAE (pronounced noxey) is the acronym for the National Operating Committee on Standards for Athletic Equipment. The group was formed in 1969 in response to a need for a safety standard for football helmets. In 1975, the NOCSAE football helmet standard was developed; and the 1974 helmet models were the first to undergo the NOCSAE tests. In addition to testing football helmets, NOCSAE conducts tests on other athletic equipment in an attempt to establish safety standards.

2. Who belongs to NOCSAE?
   The members of NOCSAE are the National Collegiate Athletic Association, National Association of Intercollegiate Athletics, National Federation of State High School Associations, the National Junior College Athletic Association, Sporting Goods Manufacturers Association, American College Health Association, National Athletic Trainers Association, National Sporting Goods Dealer Association, and National Athletic Equipment Recertification Association.

3. What is the NOCSAE Football Helmet Standard?
   It is a voluntary standard which has been developed to reduce head injuries by establishing minimum requirements of impact attenuation for football helmets.

4. How are helmets tested?
   The NOCSAE Standard involves mounting a football helmet on a synthetic head model and dropping it a total of 16 times onto a firm rubber pad including two each from a height of 60 inches onto six locations at ambient temperatures. Two 60-inch drops onto the front corner are also conducted immediately after expiration of the helmet to 120 degrees P for four hours. Shock measurements are taken to determine if the helmet meets an established Severity Index for concussion tolerance and thereby passes the NOCSAE Football Helmet Standard test. An equivalent to the 60-inch drop test would occur if a player running at 11.9 feet per second (12.2 mph) ran into a flat surface which stopped his head in less than one inch.

5. Are all helmet sizes tested?
   No. It would not be feasible to test all helmet sizes. Therefore, the most critical sizes (6", 7", 71/2") are tested in the three common shell sizes used by most equipment manufacturers. The helmet manufacturer would remit to the shell and if these shell sizes pass the NOCSAE Standard, it is assumed the other helmet sizes in that particular shell would also pass.

6. Does a football helmet model have to pass in all three test sizes?
   Yes, if offered for sale in those sizes. If a football helmet fails to pass the test in any of the models, it will not be listed on the NOCSAE Football Helmet Certification list.

7. Is a football player better protected when using a certified helmet?
   Yes, according to laboratory test results certified helmets should perform at Severity Indexes 50 to 100 percent lower on the average than predecessors, due to size adjustments, materials and design changes.

8. How long will helmets stay in certified condition? What happens when a helmet no longer meets the Standard?
   It cannot be determined since factors such as the type of helmet and the amount and intensity of usage will determine the condition of each helmet over a period of time. It should be noted the NOCSAE Football Helmet Standard is not a warranty but simply a statement that that particular helmet model passed the NOCSAE tests when it was purchased. NOCSAE does recommend that the institution adhere to a program of periodically having used helmets retested under the NOCSAE rerecertification program. Because of the amount and intensity of usage on each helmet, the institution should use its own discretion as to how often certain helmets are to be retested.

9. How can it be determined if a helmet has passed the NOCSAE football Helmet Test Standard?
   Those helmets which have passed the NOCSAE Standard must bear the seal, "Meets NOCSAE Standard" which is permanently branded or stamped on the outside rear portion of the helmet. In addition, a list of those helmet models which have passed the Standard is available upon request. A copy of the certification list can be obtained by contacting the secretary-treasurer of NOCSAE.

10. Can a helmet which bears the NOCSAE seal be altered or repaired without legal ramifications?
    A football helmet should not be altered. Any change or modification in the configuration of the shell or suspension system from its manufacturing specifications would expose the individual responsible to possible liability. The manufacturer would disclaim any liability of the energy attenuation system as designed would have been affected by the alteration. Individual helmet models are certified as manufactured; and any alteration, modification, or change from the manufacturing specifications would effect that model's performance on the NOCSAE Certification Test.
    Repair of a helmet, using authorized replacement parts and installation procedures, should not affect the integrity of the energy attenuation system. Even so, the individual performing the repair would subject himself to possible claims of negligence simply by virtue of his having handled the helmet. To that extent, a helmet cannot be altered or repaired without legal ramifications.

11. Are institutions and their personnel immune from prosecution if they purchase helmets which have passed the NOCSAE Standard?
    An institution which has purchased helmets that have met the NOCSAE Standard is not immune from litigation. However, it is an indication the institution has taken efforts to safeguard its student-athletes by purchasing helmets which have passed the only available football helmet safety standard.

12. Who enforces the NOCSAE Standard?
    NOCSAE does not possess a surveillance force to ensure compliance with the Standard. The Standard is voluntary and is available for adoption by any equipment manufacturer. However, if a firm affixes the NOCSAE seal to its helmets, it assumes the responsibility that all of the helmets it manufactures will pass the NOCSAE Standard. If a helmet with a NOCSAE seal attached in found deficient, notice should be given to the NOCSAE Board of Directors.

13. What penalty will be imposed if an athlete is not wearing a helmet which has passed the NOCSAE Football Helmet Standard tests?
    With the start of fall practice in 1980, it will be mandatory for all student-athletes playing under NCAA Football Rules to wear a NOCSAE-certified helmet. High Schools using NCAA rules (Massachusetts and Texas) may be authorized to delay the mandatory date until 1980. It will be mandatory that all athletes playing under the National Federation of State High School Associations’ Football Rules wear a NOCSAE-certified helmet comencing with the start of fall practice in 1978. During the 1978 playing season, if it is determined a student-athlete playing under NCAA football rules is not wearing a NOCSAE-certified helmet, he will be disqualified to leave the game. To return legally, he must wear a NOCSAE-certified helmet. If the player returns repeatedly not wearing a NOCSAE-certified helmet, he will be disqualified for unsportsmanlike conduct and his team penalized 10 yards.
    The responsibility for ensuring that proper equipment is being worn rests with the institution and its coaches, trainers and equipment managers.

14. When does a student-athlete have to wear a helmet which has been NOCSAE recertified?
    All student-athletes playing under NCAA football rules must wear a helmet which has been reconditioned according to NOCSAE recertification procedures if the helmet was reconditioned after May 1, 1978. Helmets which are reconditioned prior to the above-mentioned date need not be recertified according to NOCSAE procedures. This "grace period" has been provided to ensure all institutions have been made aware of the recertification requirement and to allow reconditioning companies to presently using NOCSAE reconditioning procedures.
MEMORANDUM

March 13, 1980

TO: Directors of Athletics, Head Football Coaches and Athletic Trainers of NCAA Member Institutions

SUBJECT: NCAA Football Helmet Warning Statement

The National Operating Committee on Standards for Athletic Equipment (NCAA), of which the NCAA is a member, has adopted a statement which warns the wearer of a football helmet of the possibility of severe head or neck injury if the helmet is used to block, ram or spear an opponent. A tacked please find a copy of the warning statement.

It is further recommended that said Warning Statement be affixed as a warning label inside all helmets that meet the NCAA standard.

MEMORANDUM

March 6, 1980

TO: Members of the NCAA Board of Directors

SUBJECT: Notes of February 26 meeting

4. It was noted it is the consensus of opinion among some members of the CPSC and baseball injury rates and the data must be real and fixed.

5. It was noted that the ASTM standard appears to be very stringent and a violation of the football rules, and such use can result in severe head or neck injury.

6. It was noted that some manufacturers are producing new helmets which should be available after January 1, 1981, which would be far superior to helmets currently in use today, a large number of helmets which would not pass the NOCSAE Football Helmet Standard tests.

7. It was noted that the energy produced by an individual's body usually breaks the individuals neck and not the initial blow. It was pointed out that the center of gravity is always centered on the subject, which is a criticism of the NOCSAE program. It was suggested that a pamphlet or brochure be printed which would include all of these elements.

8. It was also suggested that educational institutions should include as part of their curriculum a course concerning equipment and its maintenance and care.

9. The following suggestions were developed from the meeting:

A. The NOCSAE Football Helmet Inspection List should be updated and refined so that it may be used by a coach and/or student-athlete to determine if the helmet is in need of repair. In addition, to the football helmet inspection list, all institutions should be provided with the question and answer sheet, the football warning statement and other materials which should educate them about the NOCSAE program. It was suggested that a pamphlet or brochure be printed which would include all of these elements.

B. The associations such as the American Football Coaches Association and Health and Recreation be contacted and encouraged to support curriculum in institutions which would educate future coaches about the proper fitting, care and use of equipment.

Dennis L. Poppe
DLP: m/b

XXI. CONSTITUTION AND BYLAWS:

There being no proposed amendments for consideration, no further action was taken by the Board.

Schering Symposium:

Podiatry and Biomechanics as it Relates to Sports

You are cordially invited to attend the 1980 Schering Symposium on "Podiatry and Biomechanics as it Relates to Sports" which will be held on Sunday, June 8, 1980, beginning at 1:00 p.m., in the Ballroom of the Philadelphia Sheraton Hotel, 1725 John F. Kennedy Boulevard, Philadelphia, Pennsylvania.

This program is sponsored by Schering Corporation, a pharmaceutical firm, as a professional contribution to continuing medical education of athletic trainers in conjunction with the National Athletic Trainers' Association Annual Meeting and Clinical Symposium.

The Schering Symposium will have four speakers plus a workshop setting to include the practical application to design and manufacture of corrective and orthotic devices. The purpose of this symposium is to educate the athletic trainer, the athlete and the public about the problems of foot and ankle injuries.

Subject: "Podiatry and Biomechanics as it Relates to Sports"

Moderator: Vincent J. DiStefano, MD
Associate Orthopedic Surgeon and Assistant Professor of Orthopedics at the hospital of the University of Pennsylvania and affiliated hospitals; Associate Director, Pasoli Sports Medicine Clinic; Team Physician for the Philadelphia Eagles Football Club.

Topic: "Anatomy of the Foot and a Askle"

Panelists:

Harold D. Schoenhaus, DPM
Chairman, Department of Orthopedics, Pennsylvania College of Podiatric Medicine; Chief, Podiatric Surgery, John F. Kennedy Memorial Hospital, Philadelphia, Pennsylvania.

Topic: "Biomechanics as it Relates to Lower Extremity Injuries"

Alan K. Whitney, DPM
Professor of Orthopedics and Biomechanics, Pennsylvania College of Podiatric Medicine.

Topic: "Biomechanical Footwear Balancing"

Raymond A. Rivell, DPM
Clinical Instructor, Pennsylvania College of Podiatric Medicine; Podiatric Consultant, Philadelphia Eagles Football Club.

Topic: "Common Paddling and introducing Used in Foot Injuries"

Workshop: Presentation by podiatry students of the Pennsylvania College of Podiatric Medicine of practical application and design of foot devices with audience participation.

XXV. RED CROSS:

A motion was made and seconded that the Board unanimously voted to again reappoint Mr. Davis as Executive Director for the ensuing year.

Mr. Chambers seconded that the motion of the Board and the Association to Mr. Davis for all of the work he does not only for the
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Association but for the Board in making its considerations more meaningful.

XVIII. AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS:
It was noted that no report had been received and therefore no Board action taken.

XIX. WILLIAM F. LINKSEY SCHOLARSHIP FUND:
It was moved by District 1, seconded by District 4 and carried that the NATA contribute $100 to the William F. Linksey Scholarship Fund.

XX. BENEVOLENT FUND FOR DECEASED MEMBERS:
Mr. Chambers called attention to the correspondence received from this organization and their request that the NATA join them as an affiliate member, this involving an expenditure for the NATA of $250 a year. It was moved by District 3 and duly seconded that the NATA join this group as an affiliate member and that Mr. Lew Crow be delegated to contact Mr. Glen Davis and other members of their Board, including Dr. Leslie Walker, and to explain to them the desire of the NATA to establish a relationship with them. The motion was voted upon and carried with Districts 1 and 3 abstaining from voting.

XXI. UNITED STATES COLLEGESPORTS COUNCIL:
A. As a matter of information Old Dominion's request for initial approval of their graduate athletic training education program at Illinois State University.

Moved by District 4, seconded by District 8 and carried that the Board of Directors approve the graduate athletic training education program at Illinois State University.

Moved by District 4 that the Chair be paid one-half current salary for the fiscal year.

Moved by District 3 that the Committee continue in her employment to provide secretarial services for the committee for next year.

Moved by District 10, seconded by District 2 that a full-time salaried Chairperson of the Professional Education Committee be appointed by June 1, 1981 with the person being identified by the conclusion of the mid-year (1981) Board meeting. Following a brief discussion concerning the feelings of the various districts concerning this issue, the motion was voted upon with the vote indicating Districts 2 and 10 being in favor and all other districts in opposition and with there being no abstentions.

Moved by District 7 that the Committee consider the recommendations of the various districts concerning this issue, the motion was voted upon and declared to be carried with District 9 abstaining from voting.

Moved by District 6, seconded by District 7 and carried that the letter of resignation offered by Phil Donley be accepted.

Moved by District 2, seconded by District 8 and carried that the athletic training education programs at the University of Delaware, East Stroudsburg State College, Lamar University and Pennsylvania State University be reapproved.

Moved by District 6, seconded by District 4, and carried that the athletic training education programs at Eastern Kentucky University, University of Bridgeport, North Dakota State University, Pennsylvania State University and the State University of New York at Cortland be placed on probationary status for one year and that at that time be reevaluated to see if these institutions have satisfied the requirements and corrected the violations as indicated. The motion was voted upon and declared to be carried with District 9 abstaining from voting.

Moved by District 3, seconded by District 10 and carried that the Board of Directors approve reapproval for the undergraduate athletic training education programs at Brigham Young University, Mars Hill College, Miami University (Ohio), Southern Illinois University and the University of Wisconsin (Crosse) be approved.

Moved by District 6, seconded by District 5 and carried that the Board of Directors approve the reapproval for the undergraduate athletic training education program at the University of Maine and the State University of Maine and the North Carolina State University.

Moved by District 5, seconded by District 8 and carried that the Board of Directors approve the graduate athletic training education program at the University of Maine and the State University of Maine and the North Carolina State University.

Moved by District 13, seconded by District 3 and carried that the following items of the Professional Education Committee report be accepted for informational purposes:

A. As a matter of information Old Dominic's request for initial approval of their graduate athletic training program was tabled at the request of the institution.

B. The Committee reviewed the pertinent correspondence of schools granted a one-year extension.

a. Arizona State University
b. New Mexico State University
c. University of North Carolina
d. Stephen F. Austin State University

C. The Committee reviewed Paul Zeek's correspondence with Brigham Young University.

D. The Committee noted that the accreditation process continues to be a contentious issue and that the Board of Directors has been advised that the National Commission on Health Certifying Agencies continues to receive a large number of inquiries concerning the status of their accreditation.

The Board noted but took no action on the statement that Mr. Jerry Bell had given a report to the American Academy of Orthopaedic Surgery meeting held on April 12-15, 1980 to the committee.

Moved by District 8, seconded by District 4 and carried that the Board approve the continuing resolution, as amended, namely that the Professional Education Committee supports seeking COPA and/or National Commission on Health Certifying Agencies recognition with time and the appointment of an individual to undertake the following tasks:

2. Write up application using existing NATA data.
3. Request audience with COPA and/or National Commission on Health Certifying Agencies for lengthy discussion of concepts.
4. Review all existing data in form it would be acceptable to COPA and/or National Commission on Health Certifying Agencies. If more than one option to satisfy COPA and/or National Commission on Health Certifying Agencies include options.
5. Present to Professional Education Committee for consideration (revision).
6. Pass to Board for reaction and direction.
7. Survey of existing programs and meeting with the Department and Deans heads to access the value or distractions of our present system.

Moved by District 2, seconded by District 1 and carried that the Board of Directors approve the resolution concerning the training of the Athletic Trainer.

The resolution is as follows:

RESOLUTION
EDUCATION OF THE ATHLETIC TRAINER
WHEREAS, The National Athletic Trainers Association (NATA) is committed to its objective of meeting the needs of athletes through the prevention and management of their injuries by the development and improvement of athletic training education, services provided by professionals in the field, and research;
WHEREAS, The NATA is committed to previous actions to fundamental and far-reaching policies on priorities and quality assurance in the health care of the athlete;
WHEREAS, The NATA has the responsibility as the accrediting agency in athletic training education to assure that the commitments of the profession are fulfilled through the appropriate education of the athletic trainer;
WHEREAS, The NATA has demanded adaptations in the practice of athletic training to meet the contemporary and future needs of the field of sports medicine and the athletic trainer, it must now make comparable adaptations in athletic training education to continue to meet these needs;
WHEREAS, The rapidly increasing demands on the practice of athletic training within the field of sports medicine and the exponential expansion of relevant knowledge evoke demands to expand the content of athletic training education and to broaden the general or liberal education of the athletic trainer;
WHEREAS, The minor fields of study (options, minors, areas of concentration, etc.) offered by the baccalaureate entry level education of the athletic trainer imposes constraints on the further development of the professional education and on broadening the general or liberal education of the athletic trainer, and thereby inhibits the ability of the profession to determine its own destiny and to adapt to the forces of change;
WHEREAS, The level of educational preparation and the credentials acquired from that preparation affect the role, status, general welfare, and influence of the athletic training profession as a professional among other professionals, public policy makers, and the lay public;
WHEREAS, Professional entry level education for a baccalaureate degree with a major field of study in athletic training provides the practitioner with a stronger foundation for understanding and using the methods of discovering knowledge, and for evaluating new knowledge and translating it into useful technology and practice;
WHEREAS, A major field of study and education for a baccalaureate degree is universally accepted as the minimal entry level of education for a profession, and must now be recognized as the appropriate entry level of education for the athletic trainer; be it
RESOLVED, That the National Athletic Trainers Association (NATA) adopt the policy that the entry level education for the athletic trainer imposes a major field of study in athletic training and results in the award of a baccalaureate degree or postgraduate degree or its equivalent; be it further
RESOLVED, That all educational programs for the athletic trainer approved by the NATA, and all developing educational programs for the athletic trainer which file applications to the NATA and which subsequently become accredited by NATA, shall comply with the policy on education in this resolution by July 1, 1986; be it finally
RESOLVED, That the Professional Education Committee be charged to study the implications and develop a plan to enhance implementation and to make annual reports to the Board of Directors until the date of completion of implementation of this policy.

Moved by District 7, seconded by District 6 and carried that the report of Ron Sorenson concerning submission of Annual Reports be accepted as information.

Moved by District 3, seconded by District 7 that the report concerning Joanne Donley be accepted for informational purposes.

Moved by District 2, seconded by District 8 and carried, with District 6 voting in the negative that Dr. Proctor's introduced guidelines for experimental programs be reviewed by the committee at its next meeting.

Concerning the presentation of Donald Boucher of the United States Sports Academy, in reference to the USSA educational program requesting approval as an experimental program, it was moved by District 5, seconded by District 6 and carried, with Districts 5, 6 and 9 voting in the negative to accept this matter for informational purposes.

Moved by District 8, seconded by District 5 and carried that the meeting of the Western Regional Professional Preparation Conference be accepted for informational purposes.

Moved by District 4, seconded by District 2 and carried that the Board approve the Human Kinetics proposal for publishing the Professional Education Committee's proceedings.

Moved by District 5, seconded by District 7 and carried that the Board of Directors approve amending the Professional Preparation Conferences the "NATA Sayers J. Budweiser Professional Preparation Conferences."

Moved by District 2, seconded by District 5 and carried that Jack Reddren's report concerning CEU information be accepted for informational purposes.

Moved by District 2, seconded by District 8 and carried that the official application for initial approval as of the June meeting of Boise State University and Western Montana University be accepted for informational purposes.

Moved by District 1 and carried that the Board approve the recommendation that Phil Donley be maintained as an ex-officio member of the Professional Education Committee for three years.
Moved by District 2, seconded by District 1 and carried that Mr. Phil Donley be recognized for his years of outstanding service to the Professional Education Committee and the NATA membership and that this be included in the Official Board Minutes.

Moved by District 8, seconded by District 5 and carried that the Board approve the 1980-81 proposed budget of the Professional Education Committee.

Moved by District 8, seconded by District 9 and carried that all courses sponsored by the Professional Education Committee be handled in a standardized format in conformance with NATA policies and procedures.

Following a report by Mr. Redgren concerning advice received from various individuals knowledgeable in the establishment of education credits concerning the reading of articles in various Journals, it was moved by District 9, seconded by District 5 and carried that the CEs that are to be offered for The Physician And Sports Medicine and Athletic Training, the journal of the National Athletic Trainers Association, be implemented on January 1, 1981, with a value to be established of 1.0 per article and with a maximum of one unit (0.1) per year.

XXXIII. CONVENTION COMMITTEE:

Mr. Herber commented on the present status of future convention city arrangements and the necessity of changing from hotel meetings to convention center meetings due to the growth of NATA. The Board then, in relation to the recommendations presented by the Committee, took the following actions: It was moved by District 5, seconded by District 3 and carried that the following items presented as recommendations in the report be approved:

A. National Annual Symposium and Workshop Committee
   Fred Hoover, Clemson University - Chairman
   John Pickering, University of Illinois
   Doug Webster, University of Arkansas
   Glen Johnson, West Virginia University
   Al Green, University of Kentucky
   Tim Kerin, University of Tennessee
   Mayfield Armstrong, Tulane University

B. Convention Meeting Sites
   1981 - Fort Worth, Texas - June 6-10, 1981
   Fort Worth Texas Convention Center
   Seattle Convention Center
   Denver Convention Center
   Hilton Hotel
   1984 - Nashville, Tennessee - June 9-13, 1984
   Opryland Hotel and Convention Center
   1985 - San Antonio, Texas - June 8-12, 1985
   Convention Center

1986 - To be determined at this meeting

C. Pre-Registration for Philadelphia Meeting: as of June 2, 1980
   Certified Members 749
   Associate Members 49
   Advisory Members 7
   Affiliate Members 7
   Retired Members 7
   Honorary Members 192
   Student Members 7
   Non-members 7

D. Annual Convention - Total Registration
   1,340

It was moved by District 9, seconded by District 5 and carried to have Convention Business in future cities establish a housing bureau to handle all housing accommodations.

It was moved by District 9, seconded by District 4 and carried that Tim Kerin be appointed as a National Program Chairman to be responsible for complete programs. District 2 opposed.

Recommendations concerning no change in payment of convention speakers, revision of registration fees for the National Symposium to cover cost of Convention Centers and to cover costs of regular convention functions and the investigation of the possibility of going separate from the NATA forming its own travel agency for use by its members were all tabled for further Board consideration at its post-convention meeting.

It was moved by District 4, seconded by District 6 and carried that Columbus, Ohio be awarded the 1987 Convention with District 8 voting in opposition to the motion. Motion failed.

The Board, at a subsequent session, again considered the items it had previously tabled or postponed action on. It then additionally acted as follows:

It was moved by District 8 that all convention speakers be paid at the rate of $100 per hour, with expenses not to exceed $500, including lodging and travel. There being no second, the President declared the motion lost for lack of a second.

The Board, at a subsequent session, again considered the items it had previously tabled or postponed action on. It then additionally acted as follows:

It was moved by District 2 that convention speakers be provided expenses (coach airline fare or equivalent), one night's accommodations and a banquet ticket, with no expenses not to exceed $500.

It was moved by District 3, seconded by District 1 that the President appoint an Ad Hoc Committee to investigate the formation of a centrally located NATA office facility. The motion was unanimously carried with Mr. Chambers indicating that this would be called in essence a Long Range Planning Committee and its duties expanded to include investigation of possible consolidation of committee administrative functions and other administrative functions.

It was moved by District 2, seconded by District 6 and carried that the report of the Treasurer be approved.

XXXIV. REPORT OF TREASURER:

Mr. Newell presented a brief report calling attention to the appointment of new committee members, requesting Board approval thereof and likewise the preparation of new stationery. He likewise reviewed the list of various scholarship winners and called attention to the committee's requested budget.

Moved by District 9, seconded by District 8 and carried that the Board approve the list of committee members as submitted.

Moved by District 4, seconded by District 6 and carried, that the Board likewise approve the committee's budget as submitted and also the scholarship winners.

The 1980 scholarship award recipients are:

- Sponsor - National Football League Charities
- Sponsor - Mueller Chemical Company
- Sponsor - National Football League Charities
- Sponsor - National Football League Charities

Robert H. Gunn Scholarship Award

Robert J. Hamm, Lamar University

Robert F. Tennant, Lamar University

Robert F. Tennant, Lamar University

Robert H. Gunn Scholarship Award

Robert H. Gunn Scholarship Award

Robert H. Gunn Scholarship Award

Robert H. Gunn Scholarship Award

Robert H. Gunn Scholarship Award

PROPOSAL

Program Chairman - National

Duties and Responsibilities

1. Set format for clinical sessions at annual meeting.
2. Select topics to be presented at annual meeting.
3. Present topics to local Program Chairman and let local Program Chairman select speakers.
4. Conduct correspondence with speakers. This will include:
   a. Invitation to speak.
   b. Audio-visual needs of speakers.
   c. Speakers release for recording of presentation.
5. Choose rooms where clinical sessions will be conducted at convention site.
6. Coordinate the time and meeting place of committee meetings of NATA committees. These are to include:
   a. Registration
   b. Board of Directors
   c. Convention Committee
   d. Professional Education Committee & Sub-committee
   e. Ethics Committee
   f. State Licensure
   g. Press Room
   h. NATA Office
   i. Joint Commission on Safeguards in Sports
   j. District Meetings
   k. Certification Committee Meeting & Exam
   l. Placement Certification
   m. Other NATA Committees if requested
7. Notify allied groups of time and place of national meeting and who they may contact to set up their own meetings.
8. Contract with cassette tape corporation to record all presentations at convention.
9. Print program for clinical sessions to include:
   a. Committee meetings
   b. Schering Symposium
   c. Continuing Education Program & Clinical Sessions
   d. Exhibitors
10. To be sent out in mailing for registration.
11. Coordinate with Exhibit Company - Schedule exhibit times.
12. Visit convention site 4 times prior to convention:
   a. Visit 1 - 6 months prior to meeting
   b. Visit 2 - 8 months prior to meeting
   c. Visit 3 - 8 months prior to meeting
   d. Visit 4 - 3 months prior to meeting

Work closely with National Convention Chairman on overall schedule of events for entire annual meeting.

Approve final program speakers & topical.

PROPOSAL

Program Chairman - Local

1. Select speakers for clinical sessions for topics chosen by National Program Chair.
2. Select audio-visual aids company to provide A.V. aids for meeting.
3. Select gifts for speakers, convention committees, and Board of Directors.

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XXXVI. COLLEGE FOOTBALL HALL OF FAME:
Mr. William Walker, University of Cincinnati, presented an audiovisual review of the College Football Hall of Fame facilities and reiterated the request of the Foundation that it be permitted to install a film exhibit, at no cost to the NATA, concerning athletic trainers. Mr. Walker further commented on the organization’s present activity regarding the Anderson Scholarship and the proposed changes to the exhibit. It was moved by District 8, seconded by District 3 and carried that in the future when committee recommendations for certification are made, they be presented by the committee chairmen wish Board approval for committee members a biographical sketch be included to the NATA for the ensuing fiscal year.

XL. PLACEMENT COMMITTEE:
Mr. Diehm called attention to the revisions of Article I, Section 7 and Article II, Section 4 as proposed by the Ethics Committee and the recommendation of adoption thereof. It was moved by District 8, seconded by District 5 and carried that these proposed changes be adopted. Following a brief discussion and amplification of the exact circumstances under which these articles could actually be applied, it was moved by District 8, seconded by District 7 and carried that these proposed changes be adopted. Upon the request of Mr. Diehm, it was moved by District 10, seconded by District 7 and carried to approve the total new revisions of June 1980 Code of Ethics.

XXXVIII. JOURNAL:
Mr. Ken Knight reported on the recent meeting of this organization held at Las Vegas, a detailed copy of which had been furnished the Board members, he indicating further streamlining its functions during the coming year, with the Board, in the form of various suggestions, likewise indicating to him further streamlining possibilities. There being no recommendations, the Board took no definite action on this report.

XLV. AMERICAN COLLEGE OF SPORTS MEDICINE:
Mr. Diehm brought up this organization for informational purposes. The Board listened to a detailed report from Mr. Moore concerning the functions applying to certification since the committee’s last report. Individual Board members then questioned in detail matters concerning various individual applications and their handling as well as the financial aspects governing the functions of the committee. The Board, after discussion of the streamlining of administrative procedures governing the Association, temporarily postponed action on the recommendations as presented by the committee to its post-convention meeting and authorized Mr. Chambers and Mr. Davis to have a discussion with the committee concerning the broad concerns of the Board and subsequently report the results of their deliberations at the post-convention Board meeting.

This proposal with a report to be made regarding the status of this matter at the Board’s February meeting.
ding the establishment of its headquarters in Kansas City and the leasing of some of this space to the NATA. Mr. Knight further indicated that this organization had inducted twenty new fellows into the organization, of which he was one, thus, in turn, enabling him to sponsor other individuals from the NATA who were eligible under their requirements. Mr. Knight concluded his remarks by stating that there were a number of Athletic trainers present at this meeting, thus, in turn, he believing, being good for the image of the NATA.

Moved by District 9, seconded by District 5 and carried that this report be accepted for informational purposes.

XLVI. OTHO DAVIS SCHOLARSHIP:
Moved by District 4 that one of the as yet unnamed postgraduate scholarships sponsored by the NATA be renamed the Otho Davis Scholarship. The motion was seconded by District 9, was voted upon and declared to be unanimously carried.

XLVII. NATIONAL ASSOCIATION FOR COLLEGIATE DIRECTORS OF ATHLETICS:
Moved by District 7, seconded by District 10 and carried that the NATA establish a liaison representative for the National Association for Collegiate Directors of Athletics with a view to that representative attending the meetings of this organization.

XLVIII. DISCUSSION OF NAME CHANGE:
Moved by District 6, seconded by District 10 that a name change for the organization be discussed by the Districts and that a report of District feedback be made at the February 1981 Board meeting. A vote on the motion indicated Districts 8 and 10 in favor, District 2, 7 and 9 being in opposition and Districts 1, 3, 4, 5 and 6 abstaining. Motion failed.

L. PUBLIC RELATIONS:
The Chair listened to several comments from Mr. Ken Mjugler, a public relations expert from the Philadelphia area concerning his public relations experience and also noted his proposal, copies of which had been submitted to the Board members, regarding his proposal to handle public relations with the media and newspapers for the NATA. Following further eliciting of comments by various Board members concerning Mr. Mjugler's feelings concerning what could be done to promote the image of the NATA and his offer to work on a consultant basis at a fee of $400.00 per month, it was moved by District 5 and seconded by District 3 that the Executive Director meet with Mr. Mjugler and representative of his firm and that if Mr. Davis was satisfied that the NATA would be receiving good value for the consultant fee as indicated, that he be given the authority to engage this firm.

L. LONG RANGE PLANNING COMMITTEE APPOINTMENTS:
Mr. Chambers presented for the Ad Hoc Long Range Planning Committee the names of Mr. Chu, as Chairman, Mr. Brooks McIntyre, Mr. Bruce Melin, Mr. Frank Randall and Mr. Peter Borunda and that the committee take action on the above as indicated, among other things, would consider the feasibility of establishing a National NATA central office, the employment of a full-time Executive Director and the possibility of concentrating various committee administrative activities in one central location, with the committee to make its report and any subsequent recommendations in the form of a plan to the Board at a later time.

LII. JOINT COMMISSION ON COMPETITIVE SAFEGUARDS AND MEDICAL ASPECTS OF SPORTS:
The report presented for informational purposes is as follows:

MORNING SESSION
9:00 A.M.
JANUARY 6, 1980

Members present included:
Roy Don Wilson, National Athletic Trainers Association
Kermit Smith, National Junior College Association
Carl Blyth, National Collegiate Athletic Association
William E. Newell, National Athletic Trainers Association
Donald Cooper, American College Health Association
Dennis Poppe, National Collegiate Athletic Association
Otho Davis, National Athletic Trainers Association
Harry Fritz, National Association Intercollegiate Athletics
John M. Miller, American College Health Association
Merv Mollon, National Association of Sports Physicians
Mertis Molinelli, National Association Intercollegiate Athletics

Associate Members present:
William D. Heinta, American Dental Association

Guests of the Joint Commission:
Patty Potter, Association of Intercollegiate Athletics for Women
Paul Trickett, University of Texas
John Adams, NCAA Football Rules Committee

1. The meeting was called to order at the Fairmont Hotel, New Orleans, Louisiana, by Chairman Roy Don Wilson with an introduction by members and guests.

2. The minutes of the previous meeting held in St. Louis were reviewed. The Chair distributed copies of an edition of the ADA newsletter to each member. John Miller asked if any corrections were made. Mr. Wilson noted that two more than were present, i.e., Dave Cooper and Bill Bretz.

3. It was announced that a letter concerning an association was mailed to the Association membership department and that a regular assessment of $100.00 had been requested as authorized by motion made January 8, 1979 replacing previous motion of $250.00 withdrawn.

4. A letter from the American Orthopaedic Society was read by the Chair. Major guidelines will represent as associate member at meeting in June at Big Sky, Montana, and Philadelphia at the NATA annual meeting, June 1980. There followed a discussion of areas of interest by others to be present at group of seminars. It was suggested that the American College of Sports Medicine might be interested in participation.

5. The Agenda was discussed by the Chair.

New Business: Karen Kruick is the chairperson of the AIAW, but could not be present. Dr. Patty Potter attended as the representative. Dr. John Miller moved that we accept the AIAW as a member of the Joint Commission. This motion was seconded.
by Dr. Carl Rhyd, and voted unanimously. Dr. Potter feels the AIAW is concerned about the injuries in lacrosse. The severity of this is a clinical observation and not based on facts. Their main concern seems to be in officiating and coaching.

The AIAW will study the situation on lacrosse and report back to the Joint Commission in June.

The meeting was adjourned at 4:45.

8:30 A.M., MONDAY, JANUARY 7, 1980

Chairman Roy Don Wilson called our attention to the rehabilitation act of 1973. Also, Dr. Don Cooper and statements of the AMA is reference to this law (ATTACHMENT) and a paper from the ACA (ATTACHMENT). This committee feels we do not need to make a statement on this. Chairman Wilson inquired about a possible statement from the Joint Commission for the Trainers to use as an avenue to use in approaching the various state legislators. It was decided that each member's organization write a letter of support and send to Otha Davis. The statement is as follows. The Joint Commission on Competitive Safeguards and Medical Aspects of Sports at its meeting in New Orleans received the move of the athletic trainers to achieve state licensing for certification and to send to its member institutions to discuss the need for licensing or the possibility of forming a supporting statement. Such statement be directed to Otha Davis, Executive Secretary of the NATA for distribution to state organizations.

This was voted unanimously.

A written request was read from Mr. Jim Dilly in reference to a policy procedure to disseminate medical information for each athletic organization. Otha Davis recommended that organizations have a recruiting brochure that includes their physical examination medical policy statement. This was passed unanimously.

The group asked Chairman Wilson to contact the Canadian representatives about their future plans to be a part of the Joint Commission. Also, a similar letter should be sent to the Pediatric Association.

A motion was made that if any organization misses three consecutive sessions without reason, he/they be dropped. This was voted unanimously.

Chairman Wilson requested that Jim Dilly send a dues statement to the High School Federation and the AIAW.

The next meeting will be all day on June 7, and one-half day on Sunday, June 8, at the Sheraton Hotel on J.F.K. Boulevard, Philadelphia.

Dick Schinder of the High School Federation was introduced.

A motion was made, seconded, and voted unanimously that the Joint Commission do not make a policy statement to H.E.W. on the Rehabilitation Act of 1973.

Chairman Wilson asked for a review of the purposes and goals of the Joint Commission. Should we wait until valid data is given, or should we foresee possible danger areas and make supportive statements?

The committee feels we should have key speakers in areas of high injury sports before we act. Dr. Harry Fritz suggested we study the medical examination problem. The meeting was adjourned at 1:30 so the Joint Commission could meet with NOSAE.

Respectfully submitted,
Kermi Smith
Secretary
ATTACHMENT ADOPTED BY THE AMERICAN MEDICAL ASSOCIATION

HOUSE OF DELEGATES July 1979

AMERICAN MEDICAL ASSOCIATION

HOUSE OF DELEGATES

Introducer: Oregon Delegation
Subject: Excluding Handicapped from Contact Sports
Referred to: Reference Committee E
(Leon B. Martin, MD, Chairman)

Whereas, Policy Interpretation No. 5 of PL 93-112, Rehabilitation Act of 1973, applies to strip educational institutions offering sports programs and their designated medical consultants of control over whether a student who has lost an organ, limb or appendage may participate in contact sports under the aegis of such institutions; and

Whereas, Educational institutions and their medical consultants have traditionally attempted to objectively evaluate such instances on an individual basis with the best interests of the affected student in mind; and

Whereas, Current practices with regard to such students have evolved over many years with the guidance of the AMA, the Joint Commission on Competitive Safeguards and Medical Aspects of Sports, and other medical organizations, and are designed primarily to provide objective criteria for the rational evaluation of young athletes who, because of unique medical circumstances, are at extraordinary risks; and

Whereas, The subject interpretation provides that parental consent and the approval of a "doctor" most familiar with the student's condition may supersede the institutional policies of high schools and colleges and the objective evaluations of their medical consultants; and

Whereas, The interpretation is disturbingly vague in its definition of such terms as "patient consent", "doctor", and "most familiar"; and

Whereas, The subject interpretation is intended to achieve the worthy goal of mainstreaming certain handicapped citizens, but is clearly not in the best interests of student athletes who are medically compromised to a degree that participation in contact sports may endanger their lives, sight or other vital physical functions; therefore be it

RESOLVED, That the American Medical Association strongly disapprove of Policy Interpretation No. 5 of Section 504 of the Rehabilitation Act of 1973 (PL 93-112), which provides that high school or college students who have lost an organ, limb or appendage, but who are otherwise qualified, may not be excluded by their respective institutions from participation in contact sports; and be it further

RESOLVED, That the AMA register its objections to Policy Interpretation No. 5 of Section 504 of PL 93-112 to appropriate federal officials in the legislative and executive branches.

ATTACHMENT

AMERICAN COLLEGE HEALTH ASSOCIATION

Statement of Concern Regarding Policy Interpretation No. 6, Section 504 of the Rehabilitation Act of 1973

The American College Health Association notes with concern the publication of Policy Interpretation No. 6 (Federal Register, Volume 43, #197, August 14, 1978) which implements the application of Section 504 of the Rehabilitation Act of 1973 to the question of participation by handicapped students in contact sports. It is noted that "students who have lost an organ, limb, or appendage but who are otherwise qualified may not be excluded by recipients from contact sports. However, such students may be required to obtain parental consent and approval for participation from the doctor most familiar with their condition.”

It is noted that some institutions of higher education have maintained rules for participation which would exclude persons with a paired organ absent from participation in contact sports. For a number of years such exclusion was recommended by national sports medicine committees and organizations. However, in most instances the rule is applied only after exercise of the best medical judgment on the part of physicians responsible for the medical supervision of sports programs. Such medical judgments, prior to participation, is recognized in the interpretation.

There is concern, however, that the medical judgment of the physician "most familiar with the condition" may preclude the medical judgment of the physician responsible for medical supervision of the institution's athletic program. It is urged that judgment regarding participation be made in light of full medical knowledge of the condition of the individual as well as the physical requirements of participation in the athletic program. Such considered judgment would include the physician most familiar with the individual condition as well as the physician most familiar with the physical requirements, conditions, and other aspects of participation.

Further concern must be expressed regarding the potential liability of the institution of higher education should it be forced to permit participation by individuals who should not undertake such participation in the opinion of competent judgment by the physician most familiar with the physical requirements and conditions of the athletic program. To expose institutions of higher education to this liability, in the absence of additional support from the federal government, is a cause for concern. It must be clear that physicians responsible for athletic medicine programs will require measures which will protect them from potential legal exposure should students participate contrary to their best medical judgment. Institutions of higher education may also seek such protection.

It is urged that Policy Interpretation No. 6 be reconsidered such that the decision regarding participation involve not only parents, students, and individual physicians, but the physician responsible for the medical aspects of the institutional athletic program.

Whereas Policy Interpretation No. 5 of the Section 504, Rehabilitation Act of 1973 has been duly published in the Federal Register, Vol. 43, No. 157, Monday, August 14, 1978; and

Whereas said Policy Interpretation specifically deals with the Participation of Handicapped Students in Contact Sports; and

Whereas stated therein "students who have lost an organ, limb or appendage but who are otherwise qualified, may not be excluded by recipients from contact sports" and

Whereas stated therein "such students may be required to obtain parental consent or approval for participation from the doctor most familiar with their condition" and

Whereas the above is in direct contradiction to the "single organ" policy long established by the Joint Commission on the Competitive Safeguards in the Medical Aspects of Sports and the AMA Committee on the Medical Aspects of Sports, as well as the participating sports medicine field; and

Whereas contact sports, hence uncontrollable injury to the remainder of any paired vital organs can result in:

1. one eye: blindness, legal, temporary or permanent;
2. one kidney: uremia, kidney failure, death or chronic uremia;
3. one testis: permanent sterility and the eunuchoid state;
4. one leg: permanent disability in a sole remaining weight-bearing extremity and;

Whereas accidental injury to any of the above are well recognized as unavoidably associated with contact sports—particularly football; and

Whereas certain sports present a special hazard to those with potential life threatening disabilities;

Whereas parental consent is no longer required of athletes above the age of eighteen years, i.e., college-age, and

Whereas, physicians "most familiar" with student and parent may not necessarily have any acquaintance whatever with the risks of a vigorous contact sport program.

We, the undersigned, unanimously resolve that the Policy Interpretation herewith under discussion should be thoroughly reviewed and modified. If all sponsoring institutions and team physicians are to be placed at risk for disabilities—in some instances even death—to a degree far out of proportion to the inevitable risks of contact sports between normal persons, such consequences must also be the direct responsibility of the Department of Health, Education and Welfare by way of said Policy Interpretation.

LIII. ADJOURNMENT:
There being no further business to be transacted, the meeting was, in accordance with motion made by District 5, severally seconded and carried, declared to be adjourned.

The purpose of this article is to review research findings regarding ultrasound as a therapeutic modality in treatment of plantar warts. At least four factors require consideration in ultrasound treatment of plantar warts. These factors are the coupling agent, intensity of ultrasound, duration of treatment, and number of treatments. One technique involved immersion of the foot in water and applying ultrasound. A second technique utilizes a heavy liquid such as mineral oil as a coupling agent. A comparative study of the direct immersion method found that the direct technique is more effective. Treatment intensities from 0.5 — 1.5 watts per centimeter squared have been reported. However, it seems that 0.6 watts per centimeter squared has been the most frequently used intensity. The duration of each treatment ranged from 7 — 15 minutes, the most frequently used duration was 15 minutes. The frequency of the treatment seems to be one time per week, but the rationale for this frequency remains obscure. It has been reported that four treatments can result in the cure of plantar warts. The average number of treatments resulting in a cure has been reported as eight. It has been suggested that a maximum of 15 treatments be given because the results may not become apparent until several weeks after the treatment program. The age of the wart appeared to be related to the effectiveness of treatment with ultrasound. Patients previously treated with any one or a combination of methods did not respond well to ultrasound treatments. Ultrasound treatment allows the athlete to continue with competition and practice while receiving treatment, something that may not be done with other methods of treatment.

Tim Garl


A retrospective review of all cases of posterior cruciate injury was conducted. Nineteen patients had significant documentation for inclusion in the study with 18 undergoing surgery. Stability of the knee was determined in standard fashion. The clinical diagnosis of posterior cruciate injury was made if a positive posterior drawer sign could be elicited. A posterior sag of the tibia with the patient supine and their hips and knees flexed to 90 degrees was used to confirm posterior drawer subluxation. Thirteen of the 18 patients with documented posterior cruciate tears demonstrated either a posterior drawer or varus or valgus instability in full extension. A variety of surgical techniques were performed depending on the extent of injury. Postoperatively, the patient is managed in a long leg cast with 30 to 40 degrees of knee flexion. Early initiation of isometric quadriceps contraction is encouraged. After cast removal, crutch ambulation was continued until the patient had regained enough strength to straight leg raise 20 pounds. Results of treatment were determined by rating patients on a functional scale, as well as to complaints, occupational restrictions, and athletic ability. The majority of patients had residual instability in one or more planes. However, many of these same patients also rated excellent or good functionally. Three patients had radiographic evidence of degenerative changes at follow up. The results of this study demonstrate that early surgical repair of the posterior cruciate ligament and associated damaged structures can lead to an acceptable functional outcome in 78 percent of the cases.

Marty Erb


Injuries associated with jogging and distance running have recently received a great deal of attention. A short first metatarsal has been implicated by some as the cause for metatarsal stress fracture. Evaluated were metatarsal lengths from roentgenograms in a group with metatarsal stress fractures and compared them with those of a control group having no foot symptoms. Roentgenograms of both groups were obtained. The absolute lengths of the first and second metatarsals were determined, as were the relative lengths of the first and second metatarsals. The ratio of the absolute lengths of the first and second metatarsals of the control group do not differ significantly between the control group and the fracture group. Hence, the data does not support the contention that a short first metatarsal is associated with metatarsal stress fractures.

Marty Erb


Over a three day span, the authors compared three different fluid replacement schedules (ad libitum, 120 ml/15 min. intervals, 240 ml/15 min. intervals) on 30 members of a high school football team, subdivided into four groups. Body weight and physical work performance were assessed immediately before and after each practice. Practices were performed for approximately two hours, between 2:00 and 6:00 P.M. in a temperature mean of 33.4 C (range = 2.8) and relative humidity mean of 61% (range = 2%). Fluid replacement was a commercially available brand containing sodium, potassium and glucose. All three groups showed significant weight loss and subsequent loss of physical performance as measured by maximum oxygen uptake. Though the "forced hydration"
groups performed better on an obstacle course, this is probably related to the psychological factors associated with consumption. Thus, it appears that mandatory fluid consumption of more than 240 ml every 15 minutes may be necessary for football players to maintain adequate hydration under such conditions. However, these amounts could have detrimental psychological effects, such as a "bloating feeling."

Greg Vergamini
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