

ATHLETIC TRAINING

THE JOURNAL OF THE
NATIONAL
ATHLETIC TRAINERS
ASSOCIATION



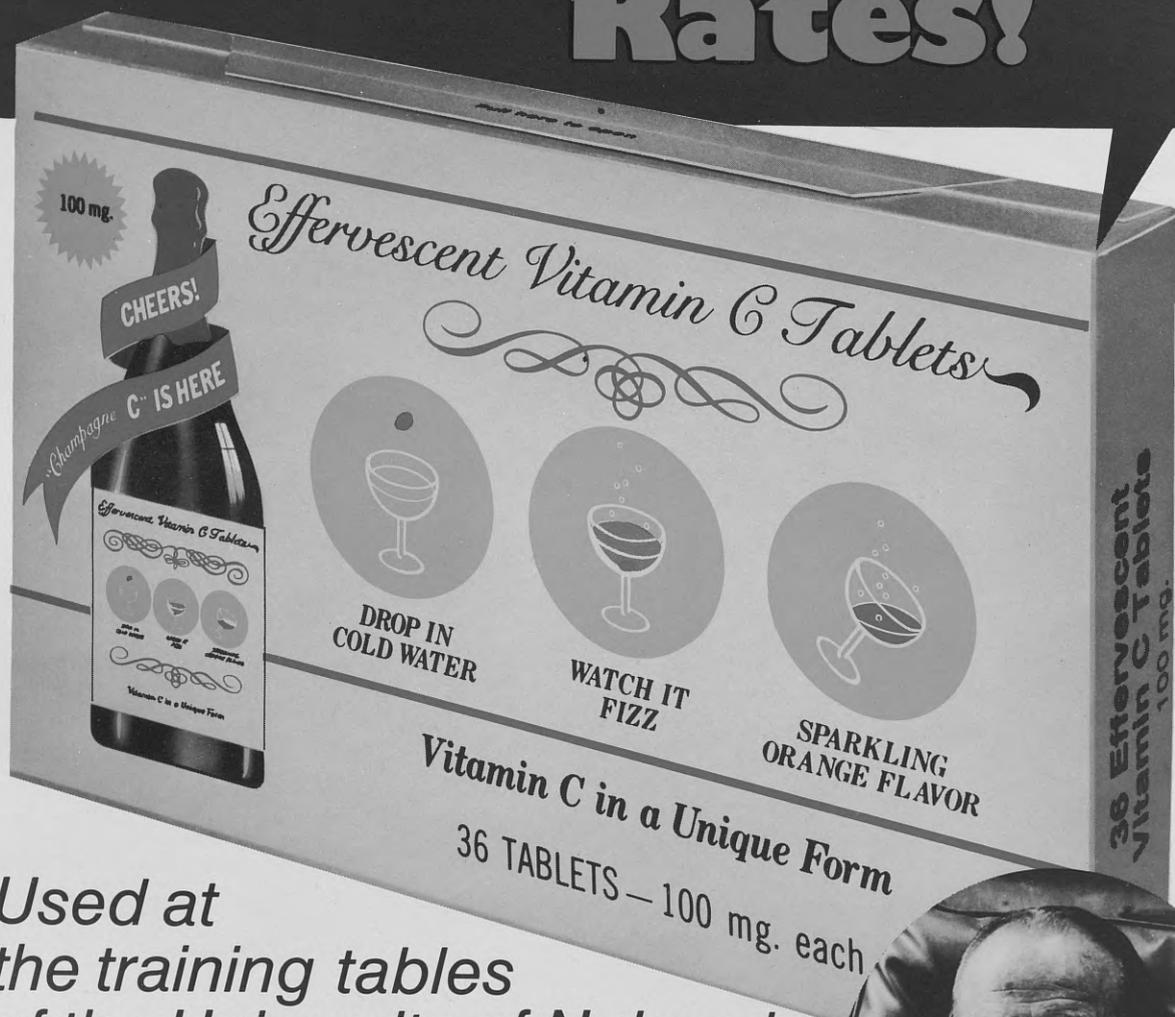
VOLUME 7
NUMBER 1
MARCH 1972

IN THIS ISSUE:

**ATHLETIC DERMATOLOGY
EFFECTS OF ANKLE TAPING
COMMON DENTAL CONDITIONS
ABSTRACTS**

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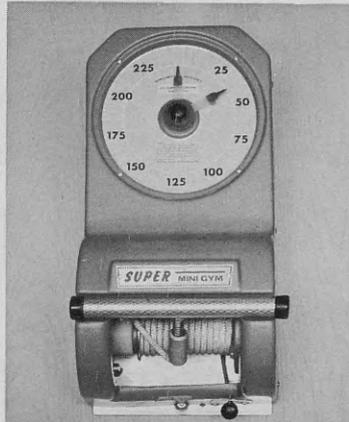
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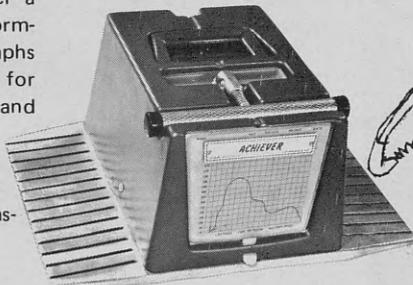
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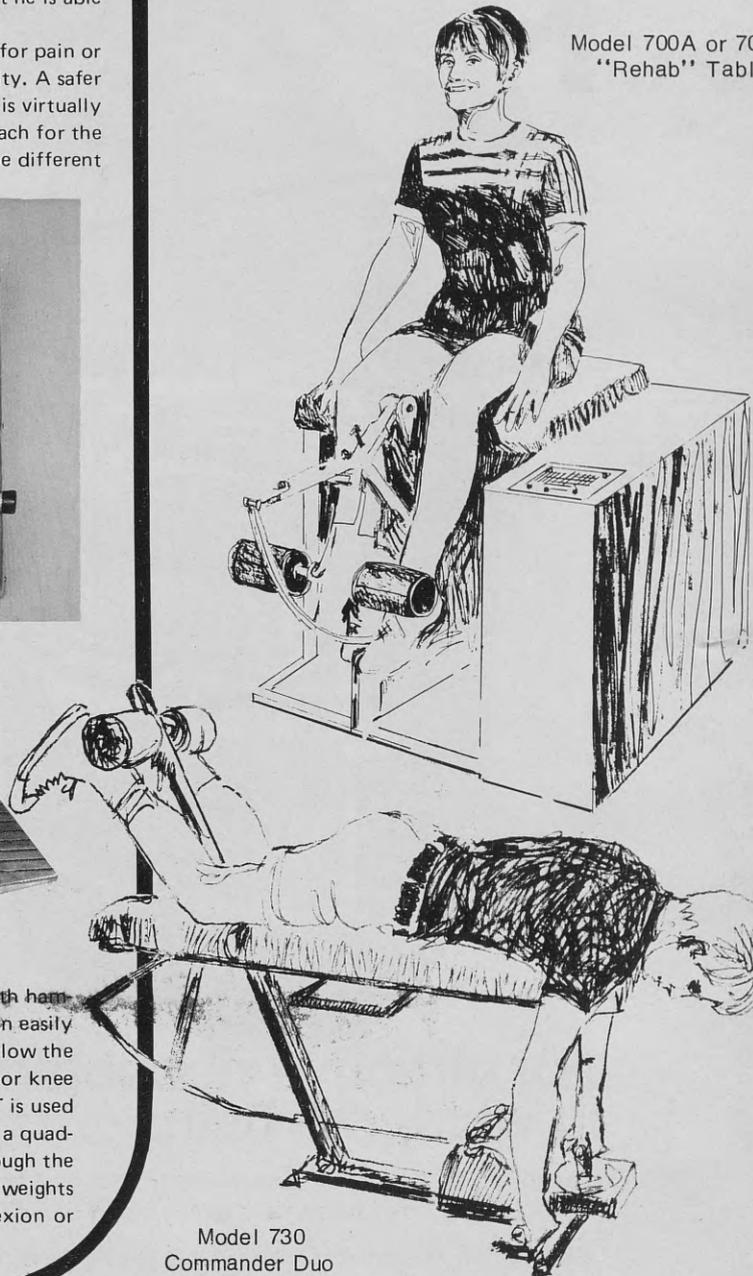
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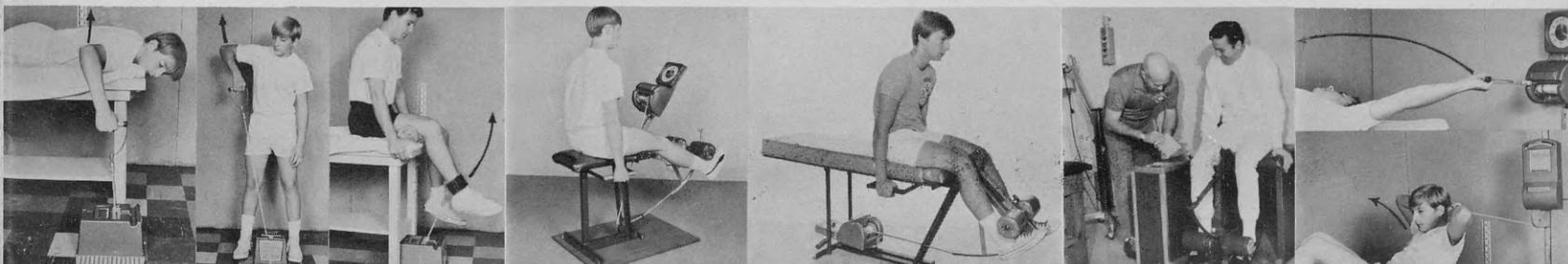
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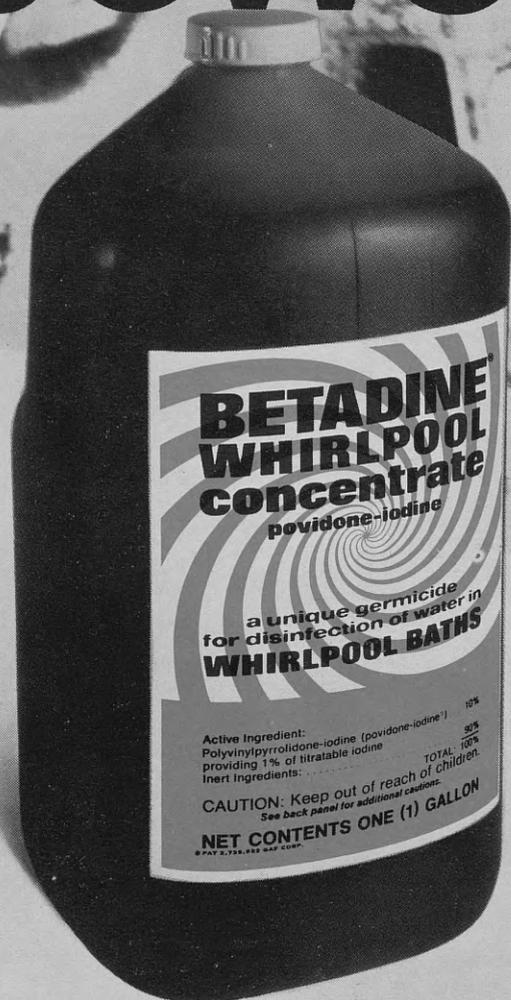


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THE JOURNAL OF THE NATIONAL ATHLETIC TRAINERS ASSOCIATION

VOLUME 7

NUMBER 1

MARCH 1972

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Cover by Robert Brent

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The Journal of the National Athletic Trainers Association is published in the months of March, April, June, September, October, December by the National Athletic Trainers Association, a non-profit organization.

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Second class postage paid at Lafayette, Indiana 47904, and additional mailing offices. Address correction requested: Send Form 3579 to 3315 South Street, Lafayette, Indiana 47904.

The views and opinions expressed in *The Journal of the National Athletic Trainers Association* are those of the author and not necessarily those of the National Athletic Trainers Association.

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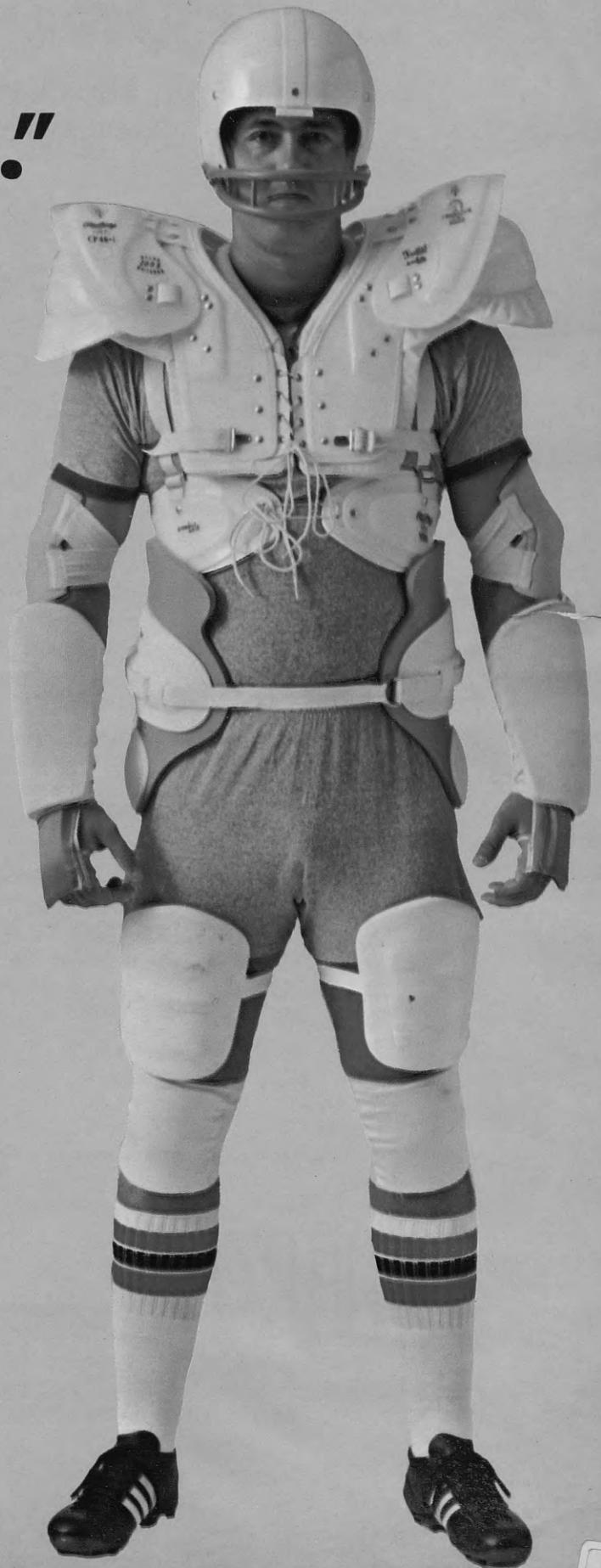
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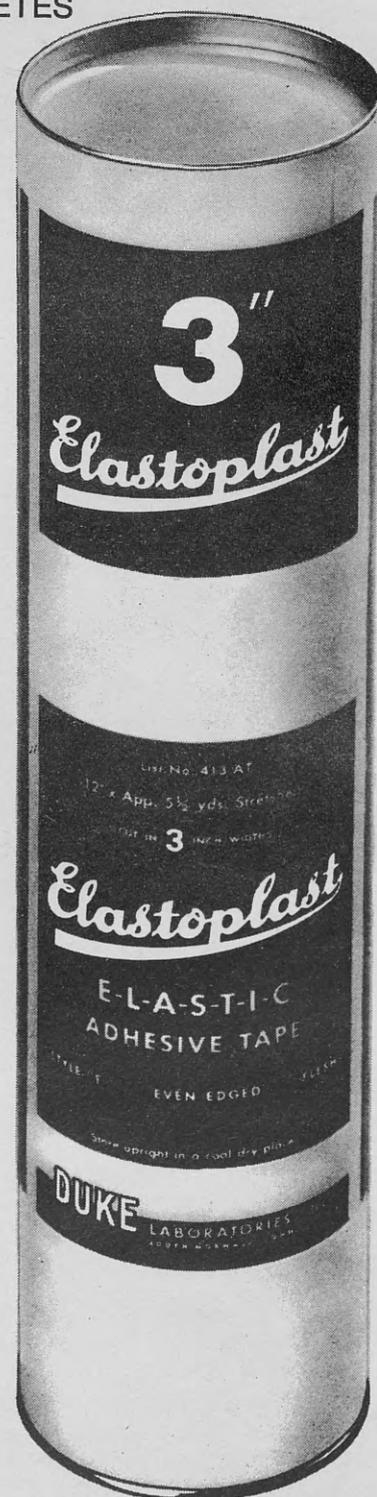
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COMMENT:

On occasion, minor difficulties in production occur which result in some additional hurdles and headaches for the production staff of this publication. These problems usually have very little influence upon the result of the final product. At the end of 1971, however, minor difficulties began to pile up rapidly enough that what were normally minor hurdles suddenly became major ones, and the final product in terms of delay in publication resulted in a two and one-half month disaster. The lessons learned from this disaster should prevent most of the difficulties from becoming disproportionately large in the future. The staff wishes to express their sincerest apologies for the delay and wish to assure each reader that every effort will be made to prevent such a delay in the future.

• • •

In June, 1971 the Board of Directors of the National Athletic Trainers Association approved a title change for this publication from *The Journal of the National Athletic Trainers Association* to *ATHLETIC TRAINING, The Journal of the National Athletic Trainers Association*. This issue, along with the new title and the new cover format, introduces several new features to improve the service of this publication to athletic training. A department entitled "Potpourri" has been added to review current ideas related to the field of athletic training. The "Article Abstracts" department will attempt to present highlights of articles

pertinent to athletic training. "N.A.T.A. Reports" will be the vehicle for presenting material directly related to the National Athletic Trainers Association.

• • •

A portion of the "N.A.T.A. Reports" department of the April, 1972 issue of *ATHLETIC TRAINING* will present the candidates for the upcoming presidential election for the National Athletic Trainers Association. The election itself is scheduled for approximately six weeks prior to the national meeting of the association scheduled for June in St. Louis. The ballots will be sent to certified members of the association at that time. Now, is the time, however, to bear in mind that the election is forthcoming and to make plans to vote as soon as possible after the ballot arrives.

• • •

Preparations for the June convention in St. Louis have now reached the level of the total association membership. Planning for this meeting has been going on now for the past four years and all indications point to an outstanding meeting this June. Judging from the attendance figures from the past two national meetings of the N.A.T.A., there is an excellent chance that the St. Louis meeting will be another record breaker. The trip to St. Louis will be well worth it, but plans should be well underway for all who plan to attend.

Athletic Dermatology

Introduction

So—what is athletic dermatology? Usually just ordinary dermatology in a roaring hurry. I have never seen an athlete with a skin rash who didn't want to be cured yesterday—with his coach pushing for the day before. The beauty of it is, we have the horses to get the job done in most cases—if we follow the rules.

The rules? Get it early, get it right, and treat it right.

This sounds simple. It is. But how many of you make routine skin inspection trips through the locker room looking for groin or foot problems? How about your index of suspicion for contagious diseases such as molluscum contagiosum, scabies or pubic lice? Many problems could be avoided or handled quickly but somebody has to look. Don't wait for the athlete to complain.

After a rash has been spotted, proper identification is essential—get it right. Accurate diagnosis is becoming more and more important as specific medications become more and more effective. In many cases, what rapidly cures one disease will severely irritate another that is almost

identical in appearance. Try treating an allergic eruption of the feet for athlete's foot—you'll put your athlete on the disabled list.

O.K. We've seen and identified the problem—treat it right. Overtreatment can be more damaging than undertreatment. Local medication of the feet and groin, in particular, must not be over-applied. Do not make intertriginous skin greasy. Prolonged high doses, or sometimes even low doses of cortisone over a period of time, can produce easy bruising. Antihistamines slow reaction time. Antibiotics can cause overreaction to sunlight. Use these tools, but use them properly and intelligently.

Your *Journal* is starting, with this issue, a series of articles on athletic dermatology. The authors are members of the American Academy of Dermatology who have a great deal of interest and experience in skin problems of athletes. We hope to help you see it, recognize it, and get it treated rapidly and properly.

L. W. Stauffer, M.D.
Eugene, Oregon

Structure and Functions of the Skin

The skin is the largest and one of the most important organs of the body. One often thinks of the skin, especially in the female, as something beautiful to look at and lovely to touch! Dermatology is the science which deals with the structure, functions, and care of the normal skin; the diagnosis and treatment of the diseased skin. The skin may be defined as a soft, flexible membranous covering which completely invests the body and is continuous with the mucous membranes of the natural orifices, such as the mouth, genitalia, and rectal area. It is a firm, fibro-elastic structure, complex in its organization, and it is definitely an organ because it has definite functions to perform. One must keep in mind that it is not just a covering, but the largest organ of the body, making up 1/16% of the body weight. It is three times the size of the liver, five times the size of the

lungs, and twelve times the size of the heart (see Fig. 1). The skin measures a total of 20 square feet, varying in thickness from 1/25 of an inch on the eyelids to 1/4 an inch on the palms.

The anatomical structure of the skin is most interesting, in that it consists of three main layers: (1) The Epidermis, which is the thin surface layer, forms the cap of a blister. (2) Dermis, which is the true skin. (3) Subcutaneous tissue or hypodermis, the fatty layer, which acts as a resilient cushion (see Fig. 2). It is hard for one to realize that a cubic inch of skin, the top surface of which is the size of a postage stamp contains 3 million cells, one yard of blood vessels and four yards of nerves. Also, within the skin structure is the pigment melanin, present in the cells of the basal cell layer of the skin. This absorbs light and protects the skin from sunburn. Lymph vessels are

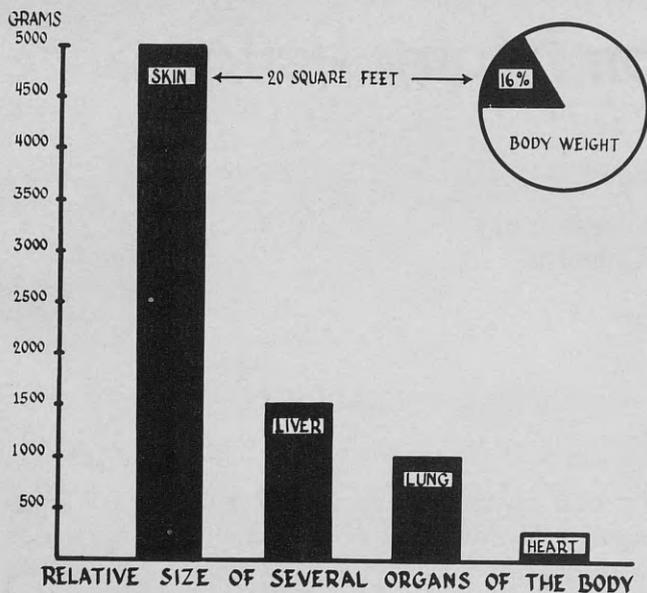


Fig. 1

present as a superficial plexis in the dermis and the subcutaneous tissues. Blood vessels are present in great numbers, forming capillary networks. There are various types of nerves present that usually follow the general course of the vessels with the main trunk of the nerves running parallel to the vessels in the subcutaneous tissue layer. Their fine branches extend up to the dermis. There are many different types of nerve endings, some of which let the individual know whether he is touching a pencil or a pen, others, whether the object is dull or sharp, and still others the difference between hot or cold. The skin also houses sweat and oil glands as well as muscles, which are present around the hair shaft. Nailbeds and hair are other appendages of the skin.

The skin, as mentioned before, is an organ, rather than just a mere covering, because it has functions to carry out. We know that it divides the individual from his environment and in that sense is a covering, but it is also a mirror, reflecting the general internal systemic state of the individual. Because of its functions, one realizes that nutritional dietary deficiency may show up in the skin. We consider the skin as a battlefield

TABLE 1 Functions of the Skin

1. Protection
2. Regulation of Temperature
3. Secretion
4. Absorption
5. Sensation
6. Respiration



Fig. 2

or battleground for bacteria, fungi, and viruses and a defense screen from various chemical agents with which one comes in contact. The functions of the skin can be divided into six main groups (see Table 1).

Protection: The skin protects us from trauma or injury, against light, electricity, chemicals, bacteria, fungi, and viruses.

Regulation of Temperature: Few people realize the second main function of the skin is that of temperature regulation. The temperature-regulating mechanism that keeps our temperature around 98.6 is in the skin. For example if we are overheated, there is an increase in the blood flow in the vessels of the skin, with heat loss through conduction, radiation and evaporation of sweat. If the temperature is low there is a decreased blood flow with constriction of the blood vessels.

Secretion: The sweat glands secrete sodium chloride, some urea and some uric acid. The sebaceous glands, of course, secrete oil that keeps the skin soft and which also helps to protect it against bacteria and the like.

Absorption: The skin manufactures Vitamin A and D by absorbing the sun's rays. It also absorbs oil, fats, and various ointments that are applied.

Sensation: This is an important factor that takes place in the numerous nerve endings in the skin which alerts an individual to heat, cold, pain, pressure, and object differentiation.

Respiration: This is the least important of all the functions of the skin. Oxygen in small amounts is absorbed and carbon dioxide and some nitrogen is dispelled.

I trust you will always have respect for the skin as an organ and treat it gently and avoid the use of harsh chemicals. Always seek medical advice if a skin blemish or lesion does not heal properly.

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Effects of Ankle Taping on Motor Performance

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Boone, North Carolina

Adhesive tape strapping has become almost universally accepted among coaches and athletes as a means of minimizing injuries. Adhesive tape may be applied to any joint to reduce the range of motion thereby preventing extreme deviation that might predispose injury.

The ankle is a highly mobile joint and because of its distal position is exposed to great stress in athletics (5).² This fact is especially true in sports that rely on sudden changes of direction (10). Therefore, nonelastic adhesive tape is usually applied to the ankle with the objective of both supporting the ankle and reducing the lateral mobility of the joint (9).

The purpose of this study was to determine the effects of adhesive ankle taping on the motor performance of male physical education majors.

REVIEW OF LITERATURE

Since the introduction of the closed Gibney or basketweave ankle strapping technique (6), it has become widely accepted as the most secure method for reducing ankle sprains (1). However, very little actual research has been done to determine the effects of ankle taping on athletic performance.

Trainers such as Bevan (2) and Bilik (3) strongly advocate adhesive taping for the ankle joint for both practice and games. However, their reasoning is empirical and they make no mention of possible effects on athletic performance.

Hinshaw (7) used 27 male freshmen non-physical education majors in two motor performance tests with and without tape. The tests used were the Wear Motor Ability test and the vertical jump. The group was tested three times without tape

followed by three times with a basketweave ankle taping. The averages of the three trials were used in comparing the effects of the tape. According to the author there was a slight benefit attributed to the taping on motor performance; however, the statistical analysis employed was questionable (correlation coefficients).

Simon (11) compared the Gibney taping with the Louisiana heel lock ankle wrapping (cotton wrap, 96 in. long) for prevention of ankle injuries. Using football players (N = 75) divided randomly into two groups for spring practice, he found no difference between the taped and the wrapped groups in injury prevention. No speculation was made concerning the relative benefits of either method versus no tape on performance.

PROCEDURE

Sixty-six male physical education majors served as subjects for this study. They were randomly divided into two groups each with 33 subjects. Within each group they were randomly assigned to one of five different sequences of motor performance tests. The motor performances included the (a) 50-yard dash, (b) vertical jump, (c) standing broad jump, and (d) Illinois Agility Run. The two groups were tested on successive days to eliminate any learning effect. At no time did any subject perform the motor tests in the same sequence on the two successive days.

Group 1 was taped the first day and untaped the second. Group 2 was untaped the first day and taped the second.

The ankle taping used was the standard closed Gibney or basketweave as indicated by Cerney (4) and Klafs and Arnheim (8). Figure 1 illustrates the technique of ankle taping used.

A paired *t* test was used to determine if any significant differences existed between the taped and the untaped performances on any of the motor tests. Differences were considered at the 0.05 level.

¹Present address is Physical Fitness Lab, University of Illinois, Champaign, Illinois.

²Numbers in parentheses designate References at the end of the paper.

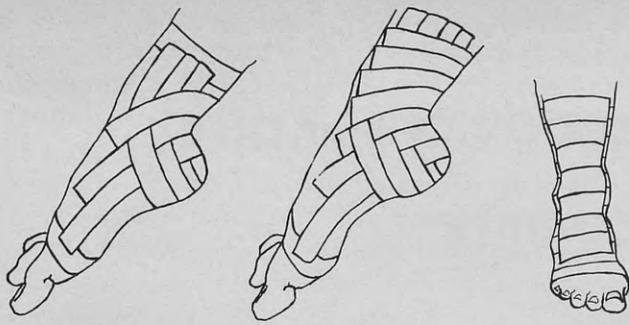


Fig. 1

RESULTS

Means, standard deviations, mean changes, and *t* ratios for each motor performance test under the taped and untaped conditions are presented in Table 1.

Statistical analysis indicated that while the differences between the taped and untaped performances were small, the vertical jump and standing broad jump were significantly impaired by a closed Gibney adhesive tape strapping. The taped performance in the 50-yard dash showed a trend toward impaired performance. The Illinois Agility Run was unaffected by adhesive ankle taping.

DISCUSSION

Within the limits of this study, it was concluded that the closed Gibney ankle taping significantly reduced (impaired) performance in those activities that depend largely on plantar flexion of the foot. Although the taping is not designed to directly reduce the anterior-posterior motion, it somehow does. The trend toward impaired straight-ahead sprinting did not show up in the change-of-direction running of an agility run. This may be due to the greater demand for plantar flexion in the straight-ahead sprinting than in change-of-direction activities.

There were no injuries encountered during the study. This may have been due to the simplicity (safety) of the tests or to the type of subjects.

Athletes may exert greater effort and hence place more stress on joints, thus requiring protective taping.

The differences in motor performance with the ankles taped were small and may not be great enough to impair actual sports participation. The question arose as to the protective value of adhesive tape strapping to prevent joint injury in the healthy joint. Simon's (11) indication of no difference in the protective ability of taping and wrapping is inconclusive as far as the protective value of such training aids was concerned. However, it is quite unlikely that coaches, trainers, and especially indoctrinated athletes will endeavor to study the effects of tape versus no tape for injury prevention.

REFERENCES

1. Allen, H. E., "The Gibney Dressing for Sprained Ankles," *Northwest Medicine*, 39:166-167, 1940.
2. Bevan, Roland, *The Athletic Trainer's Handbook*. Englewood Cliffs: Prentice-Hall, 1956, p. 74.
3. Bilik, S. E., *The Trainer's Bible*, New York: T. J. Reed, 1948, p. 150.
4. Cerney, J. V., *Athletic Injuries*. Springfield: C. C. Thomas, 1963, p. 46.
5. Dayton, O. W., *Athletic Training and Conditioning*. New York: Ronald Press, 1965, p. 341.
6. Gibney, V. P., "Sprained Ankle: A Treatment That Involves No Loss of Time, Requires no Crutches, and Is Not Attended with Any Ultimate Impairment of Function," *New York Medical Journal*, 61: 193-197, 1895.
7. Hinshaw, Paul, "The Effect of Adhesive Ankle Strapping Upon the Motor Performance of Selected Male College Freshmen by Use of Selected Motor Ability Tests," Unpublished master's thesis, Appalachian State University, Boone, North Carolina, 1959.
8. Klafs, C. E., and Arnheim, D. D., *Modern Principles of Athletic Training*, St. Louis: C. V. Mosby, 1963, p. 279.
9. Nellen, J. W., *Medicine and the Green Bay Packers*, Kalamazoo: Upjohn Co., 1968, p. 18.
10. Novich, M. M., and Taylor, B., *Training and Conditioning of Athletes*, Philadelphia: Lea and Febiger, 1970, pp. 141-150.
11. Simon, J. E., "Study of the Comparative Effectiveness of Ankle Taping and Ankle Wrapping on the Prevention of Ankle Injuries," *Journal of the National Athletic Trainers Association*, 4: 6-7, 1969.

Table 1 Effective of Ankle Taping on Motor Performance Tests

Test	Units	Taped		Untaped		Mean Change	<i>t</i> Ratio*
		Mean	S.D.	Mean	S.D.		
50-yd. Dash	Seconds	6.48	0.35	6.41	0.34	-0.07	-1.76
Vertical Jump	Inches	22.72	2.47	23.37	2.44	0.65	4.05
Standing Broad Jump	Inches	90.27	6.18	91.48	6.94	1.21	2.76
Illinois Agility Run	Seconds	15.71	0.92	15.65	0.82	-0.06	-0.87

*A *t* ratio of 1.99 was significant at the 0.05 level.

Common Dental Conditions You Should Recognize

I. Norton Brotman, D.D.S., F.A.C.D.
Howard L. Rothschild, D.D.S.

(A Report of a Presentation to the National Athletic Trainer's Association,
Baltimore, Maryland, June 5, 1971)

The Athletic Trainer is frequently called upon to evaluate conditions within the oral cavity. The following material is presented to help familiarize him with some of the normal and abnormal conditions he may encounter.

Normal, healthy *gingival tissue* (gum) surrounds the teeth and forms itself in between them into an *interdental papilla*. It is usually light pink in color, is quite firm and is relatively thin (knife edged) as it meets the tooth. When dried, it can be seen to have a stippled surface comparable to the skin of an orange. In the black athlete there may be considerable pigmentation in this tissue.

Normal *mucosal tissue* is smooth, shiny, loosely connected and can be seen to be highly vascular. It provides the lining for the oral cavity. It is continuous with the gingival tissue and begins somewhere near the root third of the tooth. There is usually a sharp line of demarcation at that point and a very definite deepening of the color of the mucosa compared to that of the gingivae.

The normal *palate* presents a series of elevated ridges in its anterior portion which are called *rugae*. Just behind the upper central teeth is a small elevated area of tissue which covers the anterior *palatine foramen*. Occasionally an area of bony elevation may be observed near the palatal mid-line about half or two thirds of the way back. This is usually a non-pathologic enlargement of bone and requires no treatment. It is known as *Torus Palatinus*.

The *tongue* may present a wide variation in its size, texture and color.

Abnormal gingival conditions will range from a simple inflammation of the gingivae (*gingivitis*) through various forms of *periodontal disease*. A change in the form or the texture of interdental

papillae is usually exhibited. Either hypertrophy or recession may be observed. There is frequent edema and loss of stippling. Bleeding may often be induced by touching the gingival tissue with a probe or even finger pressure. These conditions require treatment at a time of convenience but generally speaking are chronic and non-painful.

Necrotizing ulcerative gingivitis (N.U.G.-Vincent's Infection-Trench Mouth) is a disease of the gingiva that can create a severe problem. (It is characterized by spontaneous bleeding and a blunting of the interdental papillae. The tip of the papillae may be observed to be covered with a gray, necrotic membrane.) It is typically seen in college students around examination time and is believed to be a condition closely associated with emotional stress. It can be painful to varying degrees and create a bad taste in the mouth. In severe cases, the athlete may exhibit an elevated temperature and general malaise. This condition is not, as was formerly thought to be, contagious and there is no danger of its direct spread. Rapid professional overall management is imperative.

Ulcers may be seen anywhere in the mouth including the tongue. They may be traumatically induced or of undetermined origin. They usually appear as small, cratered areas anywhere from one to five millimeters in size, and are frequently quite painful. There is no known specific treatment but the application of unmedicated Orabase (Squibb) several times a day may provide a coating which will reduce the discomfort. An ulcer can be expected to heal itself within a week to ten days with or without treatment. It cannot be emphasized too strongly, that *any lesion of soft tissue that persists longer than this period of time must be professionally investigated*.

Fistula opening (gum boil) may appear as a small area of change on the gingiva or mucosal membrane. It is frequently "bubble like" in its formation or may be slightly raised with a small opening near the center. It is indicative of a chronic infection around the root of the tooth which has established a tract and has created the fistulous opening for drainage. It will heal spontaneously when the underlying causative factor is eliminated.

Pericoronitis (Third Molar Flap) is a frequent and recurring problem in the athlete from sixteen years of age on. Erupting, partially erupted or impacted wisdom teeth are the usual site for this infection. The tissue around or behind the tooth may be red, swollen and very painful. There may be accompanying enlargement of nearby lymph glands. *Pericoronitis* may be chronic or acute. Hot saline mouth washes every few hours may afford some relief until professional intervention is possible.

The teeth. A tooth is normally comprised of a *crown* which is covered with *enamel*, a *root* which is covered with *cementum*, underlying hard tooth structure, the *dentine*, and the internal dental *pulp* (nerve). Examination of the teeth will reveal a multiplicity of conditions. There may be broken or chipped teeth, teeth covered with various stains or deposits, fillings (of gold, silver or tooth colored materials). *Dental caries* or *decay* may be evident upon visual examination or may be present but not observable without x-ray examination. Typically in a mouth which has many large silver fillings there will be a "bluish" discoloration of the tooth. Many silver "fillings" will appear black due to tarnish even though they are completely serviceable. A porcelain or "plastic" "filling" may have darkened extensively in color or have a "brownish" ring around it. It may or may not be in need of attention. No removable dental bridges, crowns or "jackets" may be observed. These restorations which have acrylic "plastic" components may be badly discolored but again are frequently quite serviceable. *Erosion* or *abrasion* usually occurs near the gum line. These are not necessarily areas of decay but may be quite sensitive to heat, cold or sweet.

The use of a dental mirror and a simple pen light may assist in evaluating what condition exists. If in addition, the light is used behind the teeth

to shine light through them in the form of *transillumination*, additional findings may be evident. This technique is particularly useful in observing cracks or breaks in the crown of a tooth.

Most of the above conditions require treatment by the dentist. However, if a Trainer is confronted by a sudden severe toothache and he can visually observe an open cavity in the tooth, he might initiate some temporary relief by inserting a small pledget of cotton saturated in Oil of Cloves or Eugenol within the cavity.

Dental injuries are quite common. The most frequent are chipped or broken teeth. Any tooth that has received a blow sufficient to loosen it or fracture a portion of it off is best evaluated professionally. If a tooth is fractured off extensively, it may be observed that there is a small, red spot which is the exposed dental pulp. If teeth are loosened to a point of being out of their sockets following an injury, it is best, if possible, to try to reposition them until professional help is available.

Occasional disturbances of the *Temporo-Mandibular Joint* and associated musculature may be seen. They are characterized by a limited amount of opening of the mouth, and incoordination or deviation of the mandible as it opens. The usual muscles involved are the masseter, external pterygoid, internal pterygoid and temporal. Upon palpation, the temporo-mandibular joint may be tender or the muscles may be tender, or both. Muscle spasm as in any other anatomical system is usually present in varying degrees.

Prevention. The protective dental mouth guard properly fitted has been shown to eliminate or reduce the severity of nearly all dental injuries. This includes simple fracture of teeth, knocking out of teeth, fractures of the mandible or maxilla, etc. The wearing of a mouth guard also has been clearly shown to reduce the number and severity of concussion injuries, and to some extent reduce neck injuries.

Dentistry has been and will continue to be, above and beyond all else, interested in the prevention of dental problems. The Athletic Trainer can contribute to this effort by encouraging the use of a protective dental mouth guard wherever its use is not mandatory.

Uses and Reasons of Disposable Plastic Bags in the Training Room

Chris Patrick
Athletic Trainer
University of Florida

The uses of disposable plastic bags may be few but the reasons for using the plastic bags are many.

It seems as though there are two sizes of bags that are most adaptable and benefit our needs more than any other. Meat and poultry bags (15" × 6" × 3") are purchased for use as ice bags while we purchase buff can liners (33" × 15" × 9") to serve as extra large ice bags, drapes over moist heat packs, and as liners for our waste receptacles. Also, these bags serve well as shower covers for cast or tape supports that we want kept dry. Of course, which size bag to use depends upon the size of the object we are keeping dry.

The bags are very easy to fill due to the large opening. Fill the bag about one-half full of ice, twist the top so that all the trapped air is forced out (making the bag more flexible for use) and close.

There are several options as how to close and what to use in closing the bag. If the bag is to be discarded after the first use, a small piece of tape wrapped around the top will do the job. If you plan to re-use the bag, close the bag either with a twist top or a rubber band. A knot tied in the top is sometimes best when you are in a rush.

The reasons for using disposable plastic bags are various, but valid, such as being *more economical* than the rubber type ice bag. The aforementioned small size bag comes 1000 bags/case at \$9.31 per case or less than one cent each with the twist top. The larger bag is packed 500 bags/case for \$11.46 per case or about two and one-third (2 $\frac{1}{3}$) cents each with the twist top.

Time is saved filling because there are no limits as to the size of the ice cubes since the bag opening is so large.

Bookkeeping is eliminated as players no longer must sign in and out for the bag.

The plastic bag is compact. An athlete can fold one and put it in his pocket for use at home or in the dorm at night. Neither do they require

much space in travel trunk or medical bag.

These bags are flexible and will conform to the body contour with ease thus allowing better treatment. Rarely do you ever need to wrap the bag in place with tape and/or elastic wraps.

If an athlete has trouble adjusting to the heat during the early fall practice, a small plastic bag or surgical glove (with fingers pointed toward the neck) filled with flake or finely crushed ice can be placed in top of headgear between the outer crown and the webbing. A couple of small needle holes will enable the cold water to run down on his head and neck, thus serving as a *built-in air conditioner*. Also, the bags can be placed on the abdomen with the supporter holding it in place or on the neck for added cooling effect.

In cold weather, the smaller bags can be used on the feet (pull bag on foot as though it were a sock) to keep feet both warm and dry. The larger bags can have head and arm slots cut to allow bag to be worn as T-shirt, thus allowing more freedom of movement and warmth for upper body.

If more than enough ice bags were made in advance of one practice session, there is no need to throw them away—place them in the ice bin of your ice maker and re-use them the next day. (Cannot be kept in refrigerator with same advantages as in ice bin.) The ice will not adhere to the plastic bag as it will to a rubber bag or to towel type material. Otherwise, cut the tops off, pour out water and throw bag away.

The large plastic bags can be used to *drape* over your towel wrapped heat packs. The bags as drapes will allow the packs to remain warm for a longer period of time.

The plastic bag is just the item you need to carry that extra ice home for the big party, and finally, you can now carry out last night's party trash in the same bag you brought the ice in.

Bags can be purchased from local discount stores, drug stores, grocery stores, wholesale houses, janitorial supply outlets, or perhaps some alumnus will donate them.

Potpourri

INJURY RATES ON ARTIFICIAL TURF

Dr. Harry H. Kretzler, a Seattle orthopedist, told the 13th National Conference of the Medical Aspects of Sports that artificial turf seemed to have little or no effect on the number of knee and ankle injuries in local high school football games. His remarks in this area were based on his four-year study of football injuries conducted in Seattle.

Dr. Kretzler felt that injuries suffered on artificial turf tended to be more serious than those on grass. He further felt that artificial turf afforded better traction which allowed athletes to hit harder resulting in more injuries. Abrasions were listed as being more numerous on the artificial turf.

TAPE VERSUS NO TAPE

The verdict is still out on the all-too-familiar question concerning taping habits. Should all athletes in sports tape their ankles? Should taping be done only for pre-injured ankles? Is taping entirely a waste of time and money?

Drs. Albert B. Ferguson and Allen J. Ryan led a discussion on this subject with no agreement being reached. Surely, somewhere between the realm of total tape and no tape, there is a workable medium.

DRUGS IN ATHLETICS

Dr. Cooper, team physician for Oklahoma State University, also speaking at the 13th National Conference of the Medical Aspects of Sports, related that no one knows for sure how involved drugs have become in athletics. He is convinced, however, that little evidence exists to indicate that drugs are actually beneficial to physiological performance. He felt that from a health and ethical standpoint, there is nothing to recommend it. Dr. Cooper asserted, "You can't create super people through the use of so-called super drugs."

WRINKLED SMOKERS

Most trainers know and understand the problems of smoking for the athlete and the physiological disadvantages for health in all human beings. However, a new threat from smoking must now be considered by those who have a little vanity.

Dr. Harry Daniell, a physician from Redding, California, says that the more you smoke, the more you wrinkle if you are over 30. The internist reported on a study of 1104 smokers and non-smokers in the December issue of "The Annals of Internal Medicine."

"I think that what must happen is something dissolved into the body from the inhaled smoke goes into the bloodstream and the blood goes into the skin and the skin is apt to become more wrinkled," Daniell added.

Trainers, look out for those wrinkled athletes!

PHYSICIAN — TRAINER RAPPORT

Dr. L. W. Combs, Purdue team physician, remarks that physicians need to become more aware of the capabilities of athletic trainers. He said "An immense improvement in the trainer-physician relationship can be accomplished when the physician readily avails himself of the professional abilities of such a dedicated colleague."

Athletic trainers must feel a warm feeling inside when words of that nature are spoken; however, all trainers must remember that a relationship is a two-sided affair. A continued effort must be given to demonstrate dedication and professionalism, as well as competence.

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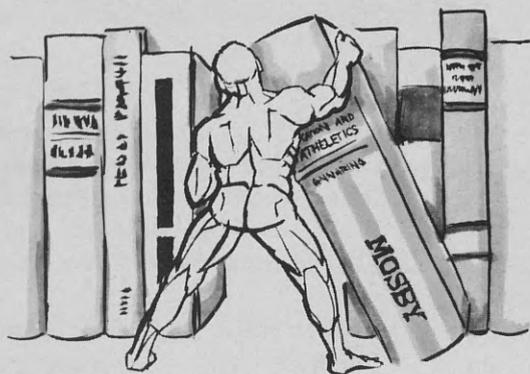
Dan Deibert, athletic trainer, submits a practical suggestion for the trainer in an area with no water to clean a wound of grass and other debris. He has used aerosol shave cream satisfactorily, and although it will not replace an aseptic scrub, it does seem to do an excellent job in emergency wound cleansing.

He also suggests that it would be available to shave some of the beards from your athletes.

SALARY SCHEDULE STUDIED

Mr. James Laughnane, athletic trainer at the University of Massachusetts, recently completed a survey of certified active members of the National Athletic Trainers Association concerning salary schedule and the period of employment. The

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By **ANTHONY A. ANNARINO, P.E.D.**, Purdue University, Lafayette, Ind. March, 1972. 212 pages plus FMI-X, 6½" x 9½", 283 illustrations. Price, \$5.90.

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By **JOHN M. COOPER, Ed.D.**, Professor of Physical Education, Indiana University, Bloomington, Ind.; and **RUTH B. GLASSOW, M.A.**, Professor Emeritus of Physical Education, University of Wisconsin, Madison, Wis. January, 1972. 3rd edition, 332 pages plus FMI-X, 6½" x 9½", 140 illustrations. Price, \$9.50.

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ories of salary schedule were under \$8000, between \$8000 and \$11,000, and over \$11,000. The series of employment periods were 9 months, 10 months, 12 months, and 12 months with the summer free.

The survey included data from 531 certified athletic trainers. Members were classified into categories: major independents, professional trainers, high schools, and junior colleges. Eighty-five trainers were listed with salaries of less than \$8000, while 221 trainers were between \$8000 and \$11,000, and 180 have salaries in excess of \$11,000. Mr. Laughnane reported that he felt the \$8000 category was not accurate because "most trainers were paid as full-time teachers; their salary as athletic trainers was a supplement to or included in the reported salary." There were also some grad assistants included in this area.

Trainers seemed to be fairly equally distributed in the four categories listed for employment periods. One hundred and sixteen were on a 9-month contract, 113 were on a 10-month contract, 122 were on a 12-month contract, and 135 were on a 12-month contract with summers free.

WORDS ON DISPLAY

The athletic trainer makes a vital contribution toward achieving the desired goals of athletics by being aware that he is dealing with young people and that what he says and does plays an important role in shaping their philosophies . . . he is confidant, teacher, and friend.

If he cannot subscribe to these beliefs and attitudes, he fails both himself and those whom he serves.

Author Unknown

The greatest insurance policy that the country can write for the safety of its youth is to provide a program that has the background, the ambition, and the leadership to return, to the parent and society, an improved person and not a maimed one.

Author Unknown

OUTSTANDING STUDENT TRAINER

A word of congratulations is in order to Larry Nottingham, a senior from Western Illinois University. Otho Davis, executive director of the National Athletic Trainers Association, recently announced that Larry was the winner of the William E. Newell Award as the most outstanding student trainer. The award carries a \$250 scholarship for advanced study.

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Photographs courtesy: Convention & Tourist Board of Greater St. Louis

Featured in this aerial view of downtown St. Louis is the beautiful Busch Memorial Stadium, home of the Baseball and Football Cardinals.

N.A.T.A. Reports

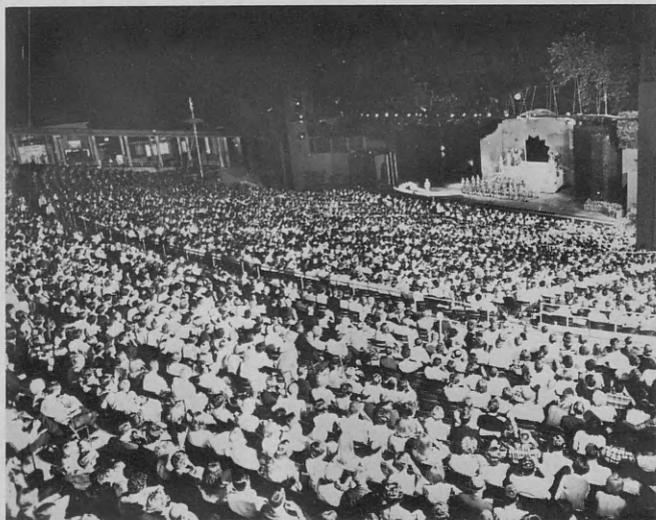
Convention Preview—June 11-14, 1972

"Keep Our Standards High" is the theme of the twenty-third annual meeting of the National Athletic Trainers Association. All meetings and clinical sessions will be held at Stouffer's Riverfront Inn in St. Louis.

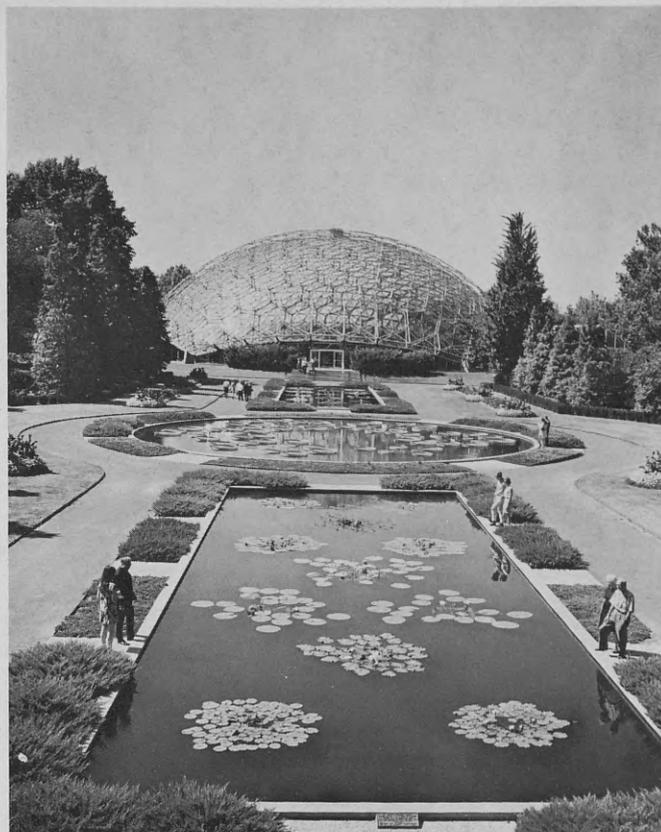
The convention committee has been busy arranging an array of excellent speakers on the pertinent topics of today's problems. There will be some excellent sessions on the trainer's perennial nemesis, the knee injury. Workshops on ice hockey and baseball injuries should develop great interest. A new feature is planned that could help bridge the "generation gap." Informal sessions are developed to give opportunities for more discussion between younger trainers and the more veteran members of our profession.

Entertainment planners have a large assortment of attractions to recommend for the trainer and his family. Initial considerations include the St. Louis Zoo, the riverfront and arch, tours of the stadium, and possibly a trip to Grants' Farm. The Convention and Tourist Board of Greater St. Louis boasts many more sights, sports, entertainment, and cultural interest. Among them are the Chatillon-DeMenil Mansion, Goldenrod Showboat, Municipal Opera, Falstaff Theatre, the Climatron, Melody Museum, and an unending variety of professional and amateur sports.

Remember to "Keep Our Standards High" at the annual meeting at Stouffer's Riverfront Inn in St. Louis, Mo., June 11-14, 1972.



The best of Broadway's hit musicals are seen on stage at the Muni Opera in St. Louis. Celebrating its Fiftieth Golden Anniversary this summer, the 12,000 seat outdoor theater has an especially great schedule of musicals. Curtain time is 8:15 p.m. seven nights of the week, through Sept. 1.



The Climatron (Missouri Botanical Garden) is the world's first geodesic dome to be enclosed in rigid plexiglas panels. Four distinct temperature and humidity variations allow a multitude of plants and vegetation to flourish under ideal conditions.



A historic landmark is General Grant's Cabin, located on the grounds of the Busch Estate in St. Louis. Visitors pass the cabin as part of the tour of "Grant's Farm," one of the finest animal and wildlife preserves in the area. The entire area is open to the public (with advance reservations), as guests of August Busch, Jr., and the Anheuser-Busch Brewery.

Abstracts

"Personality Traits of College Football Players Who Participated at Different Levels of Competition," Straub, William F., and Davis, Stanley W., *Medicine and Science In Sports*, Vol. 3: No. 1; 39-43. Spring 1971.

This study was conducted to assess the personality traits of college football players who were participating at different levels of competition to determine if there were significant differences in team personality profiles.

Form A of the Cattell Sixteen Personality Factor Test (16 P.F.) was administered to varsity football players (N = 246) who were attending a small private college (N = 50), an Ivy League University (n = 69), and a small state supported college (n = 44). Personality data were also secured on Big-Ten Football Players (n = 83) who were attending a large mid-western university.

The null hypothesis that no differences existed in personality profiles between the four teams was rejected.

There were no significant differences (0.05 level) in team personality profile comparisons between the Ivy League, State College, or Private College. However, the Big Ten University team's profile was found to be significantly different from each of the other three teams.

Univariate F test comparisons showed that the teams were found to be significantly different (0.01 level) on factors: I, tough-minded versus tender-minded; N, forthright versus shrewd; and Q₁, conservative versus experimenting. The Big-Ten team was more tough-minded, shrewd, and conservative. The State College team was found to be more imaginative than the other three teams. The Ivy League team was found to be more self-sufficient and more self-assured than either of the other three squads.

It is interesting to note that the four teams were not found to be significantly different from each other on factors: B, Intelligence, and F, Surgency. It has been reported to the literature that superior athletes were found to be more surgent than non-athletes and that surgency increased as level of competition became better (Ogilvie, 1965; Kane, 1964).

A. G. Edwards

"Peak Head Acceleration of Athletes During Competition—Football," Moon, D., Beedle, C., and Kavacic, C., *Medicine and Science in Sports*, 3:1, Spring 1971.

The authors presented a telemetric method of recording linear head acceleration within a football helmet. Three accelerometers were attached directly to the head of the athlete for the transmission of G forces to the sideline receiver. Peak linear accelerations in excess of 1000 G's were repeatedly recorded during game conditions without evident injury to the athletes. This G force is apparently above what other researchers stated would cause head trauma, and upon which standards for rejecting or accepting helmets are based. The authors imply that the use of head forms does not accurately represent the response of the human head to trauma; thus present standards for accepting or rejecting helmets appear inept and arbitrary.

The article includes a thorough description of the telemetric apparatus and method used, along with the inclusion of a valuable bibliographical resource for research reference.

G. Graham

"The Shooting Up of Athletes," Kiester, Edwin, Jr., *Sport Magazine*, 53: 26-27, 81-82, Jan. 1972.

There is a great deal of current controversy regarding the administration of "painkiller" drugs to athletes so that they can play with an injury. The controversy centers around the immediate and long-range risks to the athlete. Novocaine, xylocaine, carbocaine, procaine, and other local anesthetics are commonly used in medicine and act only on the immediate area of injury for a limited time. Cortisone, a steroid, is also used in some cases, but its continued use is a questionable practice.

Painkillers interrupt the natural warning system of the body, pain, and adds an extra risk to the athlete's competition. Some players in professional sports complain that painkillers are used indiscriminately by team physicians. Dr. Kerlan of Los Angeles says that painkillers should be used only in cases where "pain alone causes the inability

to play adequately in a key situation...". Dr. Craig of the Institute of Sports Medicine states that "without exception the physician puts the athlete's long-range health ahead of any immediate victory."

One cannot say that painkillers should be banned, but their use should be more judicious with careful evaluation of the long-range costs to the athlete.

J. C. Parrott

"Body Build and Dietary Habits in College Athletes," Pargman, David, *Medicine and Science in Sports*, Vol. 3: 2; 140-142, 1971.

The daily protein, fat, and caloric intake of defensive football linemen (n=11) and cross-country runners (n=13) was taken. Dietary history was taken during the "off season," except for seven of the cross-country runners, who were interviewed during the fall competitive season. An attempt was made to compare nutritional intake of runners in training with those not in training. Defensive football linemen were assumed to be "high mesomorphy," and cross-country runners were assumed to be "high ectomorphy" types. Comparison of

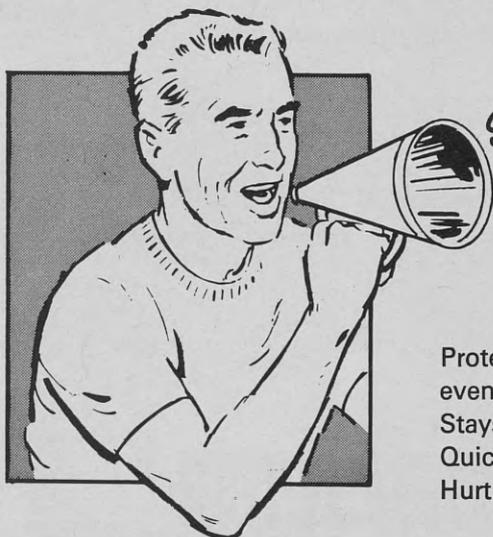
caloric, fat, and protein intake, relative to weight, per diem for the two groups indicated significantly greater intake by the cross-country runners over the defensive football linemen. The difference in daily fat, protein, and caloric intake of the two cross-country groups was not significant at the 0.05 level of confidence. It cannot be assumed that cross-country runners were inactive during "off season." Findings in this study strengthen the validity of the alleged body type-obesity relationship. Data presented tend to support the concept that obesity is not a single energy cost or thermodynamic problem.

Bill Flentje

"Vascular Insufficiency and Differential Distortion of Brain and Cord Caused by Cervicomedullary Football Injuries," Schneider, Gosch, Norrell, Jerva, Combs, and Smith, *Journal of Neurosurgery*, Vol. 33: 4; 363-375, Oct. 1970.

The problem of serious and fatal football injuries involving the cervicomedullary junction is presented. Seven such cases are discussed which relate injury, physical or radiological findings, and clinical course.

FOR SUPPORT

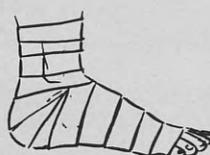


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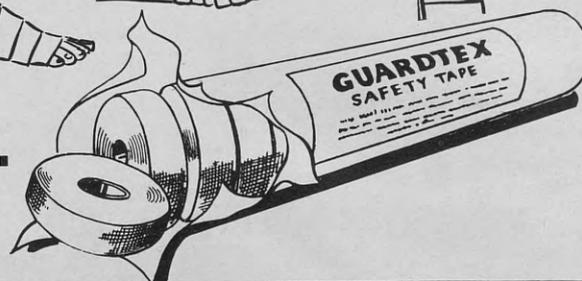
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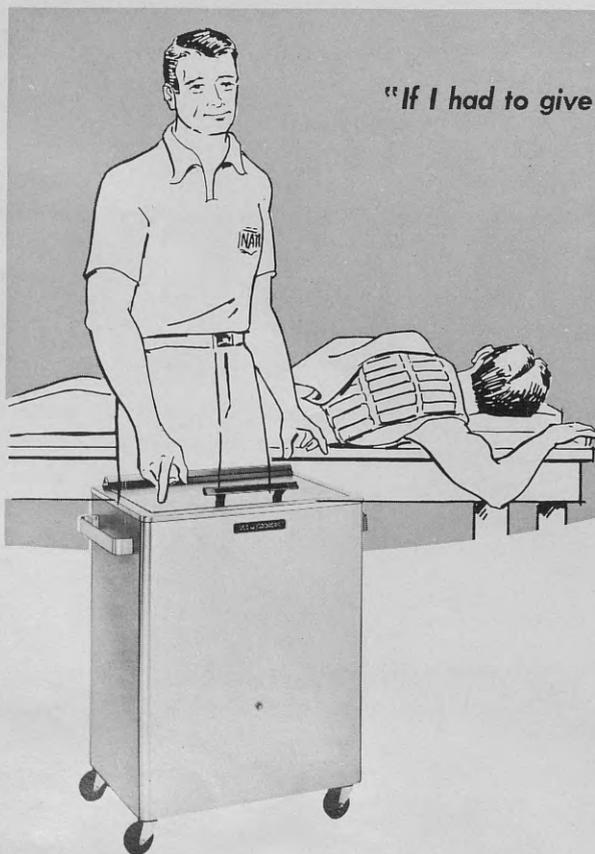
The second cervical segment of the spinal cord is the most common site of pathological changes as a result of two mechanisms: (1) increased verte-brobasilar artery insufficiency at an area of poor collateral blood supply, and (2) the unequal distortion between the freely moving brain and the relatively fixed upper spinal cord.

In five of the seven case studies reviewed, verte-bral or basilar artery embarrassment resulted. Compression of the vertebral artery between the oc-cipital condyles and atlas may occur on severe hyperextension of the neck. Secondly, spasm or an ascending thrombosis may result. Other ex-amples, which resulted in the same circulatory re-striction, were case studies which involved suba-cute or delayed hyperextension injuries, acute and

chronic hyperextension injuries with atlanto-axial dislocation.

Because the brain and cervical spinal cord are disparate in their attachments, three concurrent or isolated factors may occur: (1) head-on impact, such as received in "stick-blocking" or "spearing," causes the brain to move suddenly cephalically and then to forcibly rebound caudally which can compress arteries, impair venous drainage, etc.; (2) violent displacement of the cerebellum and lower brain stem may result in severe impairment of cardiac and respiratory centers in the medulla; and (3) the unequal fixation of the brain and spinal cord creates an interface of forces at the C1-C2 levels which can result in cord contusion and pe-techial hemorrhages.

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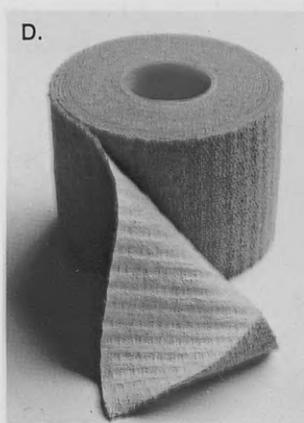
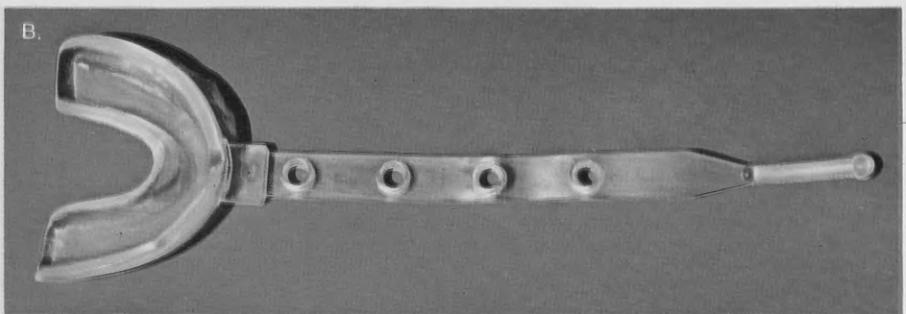
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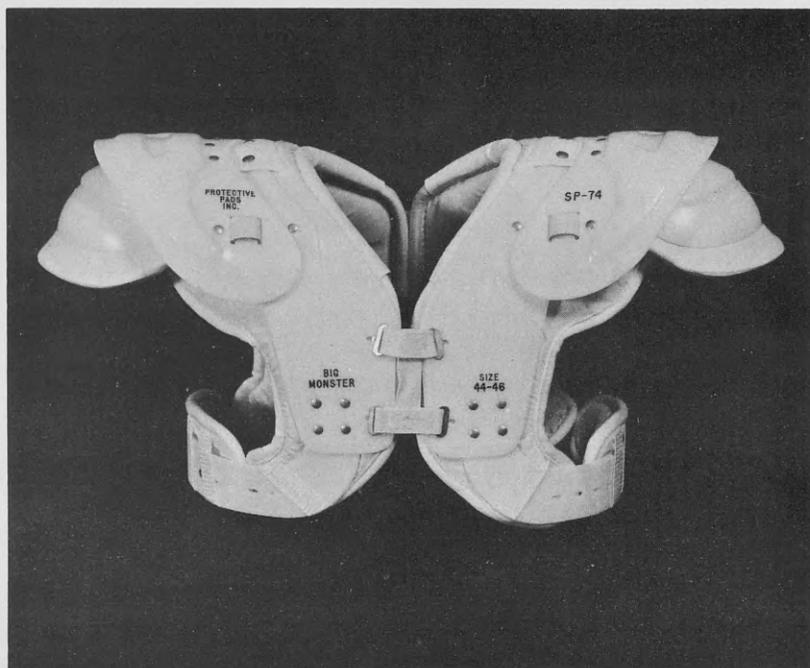
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Recent Athletic Training Literature

This list is generally restricted to subject matter considered to be areas of athletic training and athletic rehabilitation. Topics belonging to broader areas such as athletics, physical education and physical therapy will usually be omitted.

- "Active Resistive Stretch and Isometric Exercise in Strengthening Wrist Flexion in Normal Adults," Moore, J. C., *Archives of Physical Medicine and Rehabilitation*, 52:264-9, June, 1971.
- "A Team Approach to Sports Medicine," Fried, T., et al., *Journal of the American Medical Association*, 216:1777-8, June 14, 1971.
- "Athletic Injuries. Application of Epidemiologic Methods," Robey, J. M., et al., *Journal of the American Medical Association*, 217:184-9, July 12, 1971.
- "Diagnostic Pitfalls in the Sportsman's Knee," Williams, J. G., *Proceedings of the Royal Society of Medicine*, 64:640-1, June, 1971.
- "Electromyographic Investigation of Flexion and Hyperextension of the Knee in Normal Adults," Murphey, D. L., et al., *American Journal of Physical Medicine*, 50:80-90, April, 1971.
- "Effect of Shoe Type and Cleat Length on Incidence and Severity of Knee Injuries Among High School Football Players," Torg, J. S., et al., *Research Quarterly*, 42:230-11, May, 1971.
- "Functions of the Popliteus Muscle in Man. A Multifactorial Electromyographic Study," Basmajian, J. V., et al., *Journal of Bone and Joint Surgery*, 53A:749-58, April, 1971.
- "Ice Chewing," Schorer, C. E., *Journal of the American Medical Association*, 126:1352, May 24, 1971.
- "Injuries of the Ligaments of the Knee. A Study of Types of Injury and Treatment in 129 Patients," Pickett, J. C., et al., *Clinical Orthopaedics*, 76:27-32, May, 1971.
- "Interferential Therapy," Willie, C. D., *Physiotherapy*, 57:261-7, June 10, 1971.
- "Kinesiology of the Wrist," Radonjic, D., et al., *American Journal of Physical Medicine*, 50:57-71, April, 1971.
- "Lateral Compartment Syndrome of the Knee," Towne, L. C., et al., *Clinical Orthopaedics*, 76:160-8, May, 1971.
- "Manipulation of the Elbow Joint," Stoddard A., *Physiotherapy*, 57:259-60, June 10, 1971.
- "Manipulative Techniques Employed in the Treatment of Injury and Osteoarthritis of the Fingers and Hand," Tucker, W. E., *Physiotherapy*, 57:225-8, June 10, 1971.
- "Manual Treatment at the Knee," Mac Gregor, M., *Physiotherapy*, 57:207-11, May, 1971.
- "Maximum Isometric Strength and Relative Muscle Endurance Gains and Their Relationship," Shaver, L. G., *Research Quarterly*, 42:194-202, May, 1971.
- "Personality Characteristics Related to Injuries in Football," Brown, R. B., *Research Quarterly*, 42:133-8, May, 1971.
- "Quadriceps Function. An Electromyographic Study Under Isometric Conditions," Lieb, F. J., et al., *Journal of Bone and Joint Surgery*, 53A:749-58, June, 1971.
- "Rupture of the Rotator Cuff of the Shoulder. New Concepts in the Diagnosis and Operative Treatment of Chronic Ruptures," Neviasser, J. S., *Archives of Surgery*, 102:483-5, May, 1971.
- "Sutures and Wound Healing," Meyers, M. B., *American Journal of Nursing*, 71:1725-7, September, 1971.
- "Techniques for Determining, and Ultimately Modifying Areas of Restricted Motion in the Lumbar Spine and Pelvis," Rumney, I. C., *Journal of the American Osteopathic Association*, 70:1203-13, July, 1971.
- "The Knee," Cyriax, J., *Physiotherapy*, 57:207-11, May, 1971.
- "Tibial Collateral Ligament Strain," Casscells, S. W., *Clinical Orthopaedics*, 76:123-4, May, 1971.
- "Treatment of the Glenohumeral Joint By Passive Movement," Maitland, G. D., *Physiotherapy*, 57:261-7, June 10, 1971.

Calendar of Coming Events

1. APRIL 8. "The Third Annual Midlands Sports Injury Conference," sponsored by the Peoria County Medical Society, Peoria, Illinois. Additional information may be obtained from Bernard R. Cahill, M.D., 416 St. Mark Court, Peoria, Illinois 61603.

2. APRIL 24, 25, 26, 27, 28. The American Academy of Orthopaedic Surgeons will present a course entitled "Biomechanics." The course, located in Cleveland, Ohio will have details about it provided by the Academy: 430 North Michigan Avenue, Chicago, Illinois 60611.

3. MAY 1, 2, 3. The Nineteenth Annual Meeting of the American College of Sports Medicine will be held in Philadelphia, Pennsylvania. Times and locations of clinical meetings may be obtained from Donald E. Herrmann, Executive Secretary, American College of Sports Medicine, 1440 Monroe Street, Madison, Wisconsin 53706.

4. MAY 29, 30, 31. "The Knee in Sports," will be presented in Callaway Gardens, Pine Mountain, Georgia. Sponsored by the American Academy of Orthopaedic Surgeons, information may be obtained from the Academy: 430 North Michigan Avenue, Chicago, Illinois 60611.

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The editors of the *Journal of the National Athletic Trainers Association* welcome the submission of articles which may be of interest to persons engaged in or concerned with the progress of the athletic training profession. Submitted articles are considered as a contribution to the profession; no remuneration can be made. The following recommendations are offered to those submitting articles:

1. All manuscripts should be typewritten on one side of 8½ × 11 inch typing paper, double-spaced throughout.

2. Photographs should be black and white prints, preferably on glossy paper. Graphs, charts or figures should be clearly drawn on white paper, in a form which will be readable when reduced for publication.

3. When references are made to other published works, the list of references should be in the following order: a) books: author, title publisher with city and state of publication, year, page; b) articles; family names and initials of all authors, title of article, either the full journal title or the title as abbreviated in the latest edition of *List of Journals Indexed in Index Medicus*, volume, inclusive pages, date.

4. It is the understanding of *The Journal* editors that manuscripts submitted will not have been published previously; and that the author accepts responsibility for any major corrections or alterations of the manuscript.

5. It is requested that each submitting author include with the manuscript a brief biographical sketch of himself.

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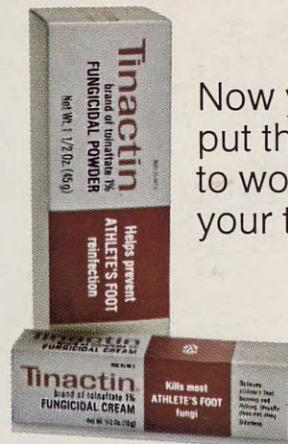
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