

Varicose Veins, Hemorrhoids, Varicocele.

These and similar related conditions require little from the coach or trainer other than a reasonably well developed ability to identify such conditions, and to have the proper steps taken in treatment by the team or home physician.

Varicose veins occur as a rule in those parts of the blood stream which are farthest from the heart and which are relatively unsupported by surrounding tissues. Varicose veins of the legs develop, as a rule, in the superficial veins of the calf and thigh, usually on the inner side. Any condition which interferes with the return of blood from the veins is apt to cause their permanent dilatation.

The difficulty may be started, in athletics particularly, by direct injury to the veins. The resulting inflammation weakens the walls of the veins and they dilate under the pressure of the blood stream. The valves in the veins, which normally keep the blood advanced, become atrophied and useless. The varicose vein appears as a tortuous, bluish cord beneath the skin. The skin itself may appear lifeless, shiny and pigmented.

The common symptoms of varicose veins are a feeling of heaviness in the legs accompanied by dull, aching pain, both of which are much relieved by elevating the legs.

Advance cases of varicose veins are subject to hemorrhage as a result of a blow, since the vitality of the dilated vessel is markedly reduced. Inflammation within the vein may result in local blood clotting, which, as a result of a blow or sudden or violent movement, may cause the detachment of a piece of the clot into the blood stream, which, when carried to the brain or lung, may cause sudden death.

Palliative Measures

Avoid long standing and fatigue. Walk-

ing favors venous return, but violent exercise should be avoided. The wearing of elastic stockings or the use of an elastic bandage may give considerable relief. The legs should be elevated whenever possible.

In earlier pages of the Manual we have described the Analgesic Pack treatment for severe thigh and calf bruises. It is suggested that this pack, covered as it is with an elastic bandage, might reduce the number of varicosities occurring in athletics.

Hemorrhoids (Piles)

Hemorrhoids are masses of excess tissue caused by the dilatation of blood vessels, usually venules or veins, just inside the anal sphincter. They cause trouble either by reason of the fact that they become ulcerated and painful when scraped or crowded by passing feces, or as a result of bleeding, or because they pass down through the anal sphincter and require frequent manual replacement. Marked anal itching is usually associated with hemorrhoids. Stubborn constipation is usually an accompanying factor, and may, in athletics, at least, be a contributing factor. This is especially true early in the season when sweating and food consumption are extraordinarily excessive. Eliminating constipation at this time might at least assist in eliminating many cases of piles.

Varicocele, a varicose enlargement of the veins of the spermatic cord, occurs infrequently in athletics, but is an extremely severe condition for the athlete when it does occur. It results most frequently in athletics from a blow to the scrotal area, or from wearing supporters that are too tight. The condition is evidenced by marked puffy enlargement of the scrotal sack, accompanied by a heavy, dragging pain in the area. The attention of the team physician should be directed at once to such cases. He will probably suggest long periods of absolute rest with ice pack application, and a well fitting scrotal suspensory.

APPENDICITIS

While there is little if anything to be done by the coach or trainer by way of first aid in appendicitis, it is extremely important that the condition be recognized at the earliest possible moment, for the don'ts are, in this case, more important than the do's.

Appendicitis is one of the important causes of deaths in every age group, yet the majority of the 18,000 or more annual deaths from appendicitis can be accounted for by the single word—neglect. Experience of surgeons all over the world shows that there is practically no mortality from operations undertaken from 12 to 24 hours of the attack, whereas the death rate for operations delayed until the third or fourth day is about 10%.

Symptoms

Symptoms in acute appendicitis are generally speaking, rather confusing. The first symptom is always pain, but the pain doesn't appear first in the region of the appendix. It is, more generally, a typical mild to severe belly-ache, evidenced frequently by sharp pains in the region of the naval, or in the pit of the stomach. The symptoms are readily confused with those of acute indigestion. The pain, however, gradually migrates to the region of the appendix, as evidenced by marked tenderness to light pressure in that area.

Nausea is a common symptom and there may be a desire to vomit, although the act is infrequently completed.

Fever develops slowly—may not be significant in the early hours of an acute attack. The temperature cannot be relied upon for definite diagnosis.

Do's And Don'ts In Appendicitis

When symptoms that are even mildly suggestive of appendicitis develop in an athlete, obtain the services of a physician at once. REQUIRE ABSOLUTE REST

DURING ANY DELAY IN DIAGNOSIS AND GIVE NOTHING BUT WATER UNTIL THE DIAGNOSIS IS COMPLETED by competent authority.

Neither purgatives or sedatives should be given. Purgatives greatly increase the danger of perforation and hasten the spread of the disease. Sedatives of any sort tend to mask the symptoms and often lead to fatal delay in treatment. It might be well to remember that it is always better to be safe than sorry.

Diet And Its Effect On The Athlete

Space will not permit a lengthy discussion of diet for the athlete, although it is obviously an important subject. Certainly every coach and trainer should exhibit an active interest in the diet of his athletes, and should exert every effort to see that it be maintained at an adequate level, remembering, of course, that there is no place in athletics for the food faddist.

Some of the larger athletic departments are able to maintain training tables, and the diet problems are taken care of by a competent dietician. Too frequently, however, the dietician in charge loses sight of the fact that she is supervising meals for a group with extremely high caloric requirements, with wide variations between individuals. Seconds are too frequently significant by their absence, which accounts for the fact that there is much piece mealing on improper foods between meals.

Almost every high school, regardless of size, boasts a Department of Home Economics, and it would seem logical that diet education for athletes be delegated to someone in that department. A few well organized lectures should acquaint the athlete with what he must know about the adequate diet and how to obtain it.

Athletes, of all persons, should know WHY they should obtain an adequate diet consisting of the proper proportions of proteins, carbohydrates and fats, sup-

plemented with the necessary amounts of minerals and vitamins. If the diet is truly adequate with respect to properly cooked meats, cooked and raw vegetables and milk, the minerals and vitamins are in the vast majority of cases, taken care of.

Carbohydrate foods (potatoes, bread, sugar, such as dextrose, etc.) and fats are the energy foods. They are the fuels which furnish the steam for all athletic activities.

Proteins, found so abundantly in egg white, meat, peas, beans, etc., furnish the material for building new tissue and replacing or rebuilding old.

The daily food intake of the growing athlete must be sufficient to maintain weight, not as determined at the beginning of the training season, but from two to three weeks thereafter, after a reasonable equilibrium has been reached. Well kept weight charts are, therefore, indispensable.

The adequacy of the diet with respect to proper amounts and proportions of proteins, carbohydrates, fats, minerals and vitamins is best determined by constant observation, by the coach, trainer, and team physician, of the general health and vitality of the individual, as evidenced by how well he stands the rigors of athletics, his tendency to fatigue, general disposition, etc.

Too much emphasis can not be given to the fact that the food requirement of the growing athlete is extremely large—equivalent to that of a mature adult at hard labor.

It is our opinion that many of the dietary difficulties experienced by athletes, at least, may be attributed to faulty breakfast habits—too little food eaten with too much haste. For the average person, the time elapsing since the previous evening meal is about fourteen hours. The digestive tract is empty and the metabolic processes of the body are at their lowest

ebb. The normal stimulus for stomach and intestinal activity is the taking of food. And it should be taken in sufficiently large amounts to replace the depleted body stores, and furnish ample energy to carry through to the noon meal.

Gastrointestinal Upsets—Nervous Indigestion

Much attention is given to the pre-game meal of the athlete, and rightly so. However, the reasons for pre-game meal consideration as compared to that given to other meals are frequently obscure. The laborer, for instance, doesn't worry about the effect of a large volume of food, readily digestible or otherwise, upon his efficiency for the afternoon's work. And the food requirement of the football or basketball player is fully as great as that of the man working for four hours at hard labor. The difference in ability to handle normal quantities of food is explained by the difference in emotional reaction. The laborer is completely relaxed—digestion proceeds in a normal, uninhibited manner. The athlete, regardless of past experience, is in a nervous digestion turmoil.

The human stomach, after an ordinary mixed meal, empties in from 3 to 4½ hours. This emptying time may be lengthened by pre-game emotional strain to 6 hours, during most of which time the food lies dormant—of no benefit whatsoever to the athlete. It obviously isn't sufficient just to eat food. It must be digested and absorbed into the blood stream before steam can be produced.

Carbohydrate foods leave the stomach much more rapidly than proteins, and fats retard digestion most of all foods. Fluids and semi-fluids start to leave the stomach almost immediately after being swallowed.

Careful mastication of food and slow eating will probably do more to eliminate nervous indigestion in athletes than will the choice of food. It is perhaps better not to eat at all than to eat under ex-

cessive emotional strain. No coach would strap a pound or two of lead to the back of an athlete during an athletic contest. Why should he be permitted to carry the equivalent of a pound or two of lead around in his stomach during the same contest?

We thoroughly believe that the pre-game or pre-contest nervous upset experienced by so many athletes could be partially eliminated by duplicating as far as possible, actual game or track meet conditions, after the warm-up, at the beginning of each practice session. Five minutes of scrimmage in football, ten minutes in basketball, or short races in track, set to actual contest conditions and repeated daily, should help to reduce the shock of the weekly competition experience.

Dextrose And The Athlete

We have, for a number of years, advocated the use of Dextrose by the athlete for the simple reason that its use seems logical, and perhaps even necessary in certain instances. Dextrose is, according to all authorities with which we are familiar, identical to the sugar of the blood, commonly referred to as d-glucose. The latest revision of the United States Pharmacopoeia, gives d-glucose as an official synonym for Dextrose.

Dextrose requires no digestion. It moves rather rapidly from the stomach into the small intestine, where absorption begins immediately. The normal adult can utilize in the neighborhood of two ounces of Dextrose per hour, equivalent to about one-tenth of the total daily caloric requirement.

Dextrose is one of the few carbohydrate foods that may be absorbed as eaten, without previous digestion, and it is probably the only carbohydrate food that may be utilized by the body tissues without some form of modification. Dextrose is, in fact, injected, in solution, directly into the blood stream. It may be ad-

ministered by rectum or injected, in solution, intramuscularly.

There can be no question concerning the depletion of the d-glucose or dextrose reserve in the body of an athlete during muscular activity. The store exists in the form of glycogen, frequently referred to as animal starch, and occurs principally in the liver and to a lesser extent in muscle. Dextrose is the energy food for muscular activity, and is carried to the muscles by the blood. The amount of sugar, i.e., dextrose, in the blood (referred to as the blood - sugar level) is held fairly constant during muscular activity at the expense of the stored glycogen. The glycogen is converted, as need arises, to dextrose and thrown back into the blood stream.

It is quite readily conceivable that practically the entire carbohydrate reserve of an athlete could be expended during the first half of a football game or basketball game, or by the more exacting track events. This is particularly true when the diet of the athlete is restricted during the preceding twelve hours, by lack of appetite caused by nervous reaction, or for other reasons.

The following interesting statements are quoted from "The Living Body", by Best & Taylor, Henry Holt & Company, New York, 1938.

"In the intact animal carbohydrate is also the fuel for short bouts of muscular exercise. After a sprint, for example, a fall in blood sugar may occur, and the ingestion of glucose prior to a race is now recognized as a valuable means of postponing fatigue and enhancing muscular performance. In prolonged and exhausting work the carbohydrate stores become depleted; fat is then burned to furnish the required energy. Protein apparently is not utilized in muscular exercise, or, if so, to a very small extent."

Glucose, as referred to in the above statements means dextrose. It also seems logical to assume that the feeding of dextrose, in reasonable amounts, following excessive muscular activity, should restore depleted carbohydrate reserves not only rapidly, but with the least possible derangement of digestive processes.