Sports Medicine Essay, Research Paper

Participation in athletics is both an enjoyable pastime and a part of keeping physically

and mentally fit. Some individuals may only be interested in general conditioning and

weight loss, while others may want specific exercises for certain events. Regardless of

the activity, risks are always involved, and today?s physician must be able to not only

treat the various injuries that arise , but also offer counsel on a wide range of other

interrelated subjects.(Berger 294) Sports medicine is the prevention and treatment of

injuries suffered by athletes in sporting activities. An athlete is anyone who engages in

any kind of sport, from those who walk for exercise to those who play competitive

sports.(Darden XI) Athletes not only need treatment for sports injuries but as well help or

advice related to sports activities. In the past such people would go to their doctor or

coach and get standard medical or athletic attention. Now, more and more athletes are

turning to experts in the field of sports medicine.(Berger 2) Sports medicine

encompasses a wide variety of specialties. In the following report, adherence to a

balanced diet, prevention of injuries and first aid, will be looked at. As well, the history

and importance of sports medicine and why there is a need for this field of medicine.

HISTORY

Sports Medicine has long been available to the injured athlete. An Egyptian

surgical manual written during the era of the Old Kingdom – more than 4000 years ago -

explained treatments for sprains and dislocations. Hippocrates(460-377 BC), the

ancient Greek honored as the father of medicine, described surgery to repair a dislocated

shoulder noting that, ? Many persons owing to this accident have been obliged to

abandon gymnastic exercises.? (Edelson 18) The idea that athletes need special care goes

all the way back to ancient Greece. In those days the sports medicine doctors were

called gymnasts, a Greek word that originally referred to those who trained and treated

athletes.(Berger 9)

Over the following centuries sports medicine dropped in importance. Populations

were diminishing due to disease, plagues and starvation. Doctors were extremely limited

by the drugs and treatments that were available. They were mostly concerned with the

patients survival. Since sports was such a small part of daily life, they saw little need to

develop this branch of medicine.(Berger 9-10) These unfortunate circumstances remained

the same until the end of the 1800?s, around the time of re-interest in sports, particularly

in the Olympics. The first book in English on sports medicine was published in

1898.(Edelson 19)

Three pioneer sports scientists, Robert Osgood, P.D. Wilson, and Gus Thorndike,

established the first fitness laboratory at Harvard University in 1919.(Berger 10) The

International Congress of Sports Medicine was founded in 1928, and the American

College of Sports Medicine followed, in 1954. These organizations began the growth of

a branch of medicine whose practicing professionals treat millions of patients yearly, in

North America and abroad.( Edelson 19)

Nutrition

Nutrition is very important in sports medicine. For an athlete to stay in top shape,

the body must get a wide range of nutrients to assist its physiological development. The

right diet is the first step. Estimates of what constitutes a prudent diet vary somewhat,

but most experts agree on the basics. The only difference between what an athlete and a

nonathlete should eat is a slightly higher intake from the breads and cereal group for

those who do a lot of endurance training.

FOOD GROUP \*SERVINGS PRINCIPAL FOODS

Milk 3-4 Cheese, milk, yogurt, cottage cheese

Meat 2 Meat, poultry, fish, eggs (also beans)

Vegetables and Fruit 1 Vitamin C: citrus fruits and juices

1 Vitamin A: carrots, broccoli, greens

2 White potatoes, other vegetables

Breads and Cereals 4 Whole-grain and enriched breads

cereals; rice; pasta; noodles

Extras 2-4 Butter, vegetable oils, honey, candies

desserts, carbonated beverages

( \* minimum number of daily servings for young adults)

(Edelson 45)

Eating for Maximum Performance

The following important points for maximizing athletic performance and level of

health were born from the large body of research that has been done on proper diet and

good nutrition.

– Most athletes need a higher than average energy, or calorie, intake. The best

sources for those calories are the grains, dried fruit, breads, and pastas.

- Complex carbohydrates are vital because they contain minerals and vitamins, as

well as the elements for the basic blood sugar, glucose. Simple carbohydrates, in the

form of fruit, juices, and honey, are also valuable, although the simple ones in candy bars

and other sweets are ?empty calories,? without other nutrients. Candy bars or other such

stimulants actually deplete glycogen levels.

- A prudent diet requires neither protein supplements nor vitamin or mineral

supplements. Women athletes do need to watch their iron levels, though, and vegetarians

should consult a doctor about their special needs, such as taking B12 vitamins

- Supplements such as salt tablets, bee pollen, wheat germ, amino acids, and other

?magic-action? ingredients are generally considered unnecessary additions to a healthy

diet.

- It is important to replace sweat and other fluids by drinking large amounts of

water. (Edelson 42)

\* Carbohydrate consumption and rest before an event will best replenish muscle

glycogen.

Prevention of Injuries

The most effective means of minimizing the complications of sports injuries is

prevention, and the first step to prevention is a complete physical examination. This is

especially important for youth and should take place even before conditioning begins.

Special attention should be paid to those areas that will be most involved in the athletic

activity, and all musculotendinous disorders or abnormalities should be noted. The

frequency and severity of many injuries may then be lessened by proper conditioning and

preparation.(Mercier 294)

Conditioning

Proper conditioning means the development of strength, endurance, cardiovascular

fitness, power, and flexibility. It also includes the development of proper body

mechanics, forms, and agility. Lower extremity injuries can generally be lessened by

strengthening exercises. Stretching exercises can be used to avoid muscular strains.

Staying in shape during the off-season may involve running stairs and jogging in place at

home.(Mercier 294)

Warming Up

Beginning any activity gradually will reduce the incidence of injury, especially

injury to the muscle-tendon unit. Stretching is especially important to avoid strain.

Flexibility is often diminished after a long period of inactivity, and stretching is

particularly important when resuming a sport. Two types of stretching exercises may be

performed. Static stretching is a slow, gradual stretching through full movement, and

holding at the position for ten to twenty seconds before relaxing. A pulling sensation, not

pain, should be felt. Ballistic stretching, which involves rapid, repetitive movements, is

also occasionally used but is generally less effective and may even cause minor muscular

tears. It is usually not recommended.(Mercier 295)

Cooling Off

Proper habits after rigorous exercise permit muscles to cool off adequately and to

dissipate heat. After running, it is usually advised not to simply stand still or lie supine

but to walk for five to ten minutes and then rest in a sitting position. This may be

especially important for the cardiac status of the individual. If the exercise is stopped

abruptly, blood pooling can occur in the legs causing syncope, Hypertension, and

arrhythymias.(Mercier 295)

First Aid

The American Red Cross defines first aid as ?the immediate care given to a person

who has been injured or has suddenly been taken ill.? First aid is immediate aid. Every

effort should be made to get the injured athlete to advanced care. This first aid

administrator should stabilize the victim and then arrange for transportation.

A basic understanding of self-help and home care begins with the first aid kit.

There are many places that athletes need a first aid kit- in the car, office, backpack,

bicycle, and certainly on the athletic field and in the conditioning room. While it can be

expensive to buy complete supplies for each location, the individual can purchase the

supplies in bulk and assemble them himself, thereby saving money.(Darden 116)

A well-equipped first aid kit:

Adhesive strips(Band-Aids) 70 assorted

Adhesive tape 1 in. x 10 yds.

Cotton balls 250

Elastic bandage 3 in. x 126 yds.

Roller gauze bandage 2 in. x 5 yds.

Safety pins Assorted sizes

Scissors Small

Sterile gauze pads 15 med., 10 lge.

(Dardin 116)

In the world of sports today, the field of sports medicine has grown because world

class and amateur athletes compete on higher levels than ever before. By past standards,

the demands of such intense training regimens on their bodies are incredibly punishing.

(Edelson 22) The Red Cross stated, ?Most games, sports and play activities either create

or take place within a situation where forces destructive of tissue and bone are present.

Type and severity of injuries are equally varied, but wounds commonly result.

Unfortunately, the effort required to prevent accidents when people are at play often is

ignored in the quest for pleasure and personal satisfaction…?(Darden 117) Sports

physicians, trainers, coaches, nutritionists, and members of many other disciplines are

needed to help keep these athletes from exceeding their physical limits, prevent injuries,

require a balanced diet and to get them back into action soon after an injury.(Edelson 22)

As long as sports activities are a part of our daily routine, there will forever be a need for

sports medicine.

Works Cited

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326