

Sports Injuries, Types, Prevention and Methods of Treatment

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Abstract— The importance of sports can be easily understood by the fact that various sports events are organized on national and international platforms and sports persons symbolize their countries in these events for the ride of their nation. Sports also play a dynamic role in developing values mutual trust. Hence sports help us to take on the spot decision and also enhance our thought process. The sportsmanship or the sportsman spirit which develops during sports, teaches us to others. Sports also prepare us to face the challenges of life in a very positive and calm way. Sports like Shuttle badminton, Cricket, Ball badminton, Kho-Kho, Kabbadi, Football, Hockey, etc., helps to develop the physical fitness in an individual by strengthening their muscles and bones. The most important aspect of sports in personality building is that it teaches sportsmanship which makes a person face ups and downs in his life more gracefully and makes him respectful to others. Sports injuries are injuries that occur when engaging in sports or exercise. Sports injuries can occur due to overtraining, lack of conditioning, and improper form or technique. Failing to warm up increases the risk of sports injuries. Bruises, strains, sprains, tears, and broken bones can result from sports injuries.

Index Terms: Strains, tears, Injuries, Heart veins

INTRODUCTION

Sports are a vital and integral part of human life and there is great importance of sports in all domains of our life. Furthermore, sports help builds the character and personality of a person. It certainly is an outstanding tool to keep the body physically fit. Most noteworthy, the benefits of sports are so many that books can written. Sports have a massive positive effect on both the mind and body. The significance of sports in one's life is irreplaceable and has many physical and mental health benefits. In schools and colleges, importance is given to sports to

make the overall development of students and prepare them to face all the challenges of life. It enriches their capability so that they can perform better in their academics and achieve the goal of their life. The importance of sports can be easily understood by the fact that various sports events are organized on national and international platforms and sports persons symbolize their countries in these events for the ride of their nation. Sports also play a dynamic role in developing values mutual trust. Hence sports help us to take on the spot decision and also enhance our thought process. The sportsmanship or the sportsman spirit which develops during sports, teaches us to others. Sports also prepare us to face the challenges of life in a very positive and calm way. Sports like Shuttle badminton, Cricket, Ball badminton, Kho-Kho, Kabbadi, Football, Hockey, etc., helps to develop the physical fitness in an individual by strengthening their muscles and bones. First of all, sports refer to an activity involving physical activity and skill. Here, two of more parties compete against each other.

IMPORTANCE OF SPORTS FOR HEALTH

Sport is one of the best exercise which helps to maintain the overall fitness of an individual. Engaging regularly in various sports prevents various chronic diseases and develops healthy bones, efficient heart and improve lung functions. It helps to manage weight, controls diabetes, improve lung functions, remove heart blocks, easy blood veins. It helps to manage weight, controls diabetics, improve blood circulation and controls stress level. Sports lead to a well-balanced mental and physical growth and tones up muscles and strengthen bones. For the growing children and students, sports play a very essential part in developing their body and mind. It

also helps to improve their academic level and makes them alert and observant. Sports can also make noteworthy contribution to the wellbeing of the people in leading a healthy lifestyle. Regular sports and physical exercise could also help to treat various communicable and non-communicable disease and it is also a cost effective method to improve the health of the general public in developing as well as developed countries.

SIGNIFICANCE OF SPORTS FOR PERSONALITY DEVELOPMENT

Sports not only develop our physical strength and keeps us fit but is also does more to our overall personality. It helps in character building developing leadership skills and improving goal setting capabilities. A person who engages more in sports activity regularity will spontaneously have improved self-esteem, increased social interaction and more resilient qualities which will make him to progress positivity in his life. Sports make children to imbibe values, ethics, discipline, responsibility and develop a sense of mutual trust and confidence. It also makes them more responsible and improves their thought process. The most important aspect of sports in personality building is that it teaches sportsmanship which makes a person face ups and downs in his life more gracefully and makes him respectful to others. A sportsperson will always lead his life with a positive attitude, moral values and staying away from all the evils of the society. Intact sportsmen are model to the society.

PROMINENCE OF SPORTS IN NATION BUILDING

The most important thing which majority contributes to a nation's development is peace and unity and sport plays an important role in nation building by creating a sense of oneness and togetherness among its citizens. It helps to build a sense of cooperation and team building among its people so that they can unite together and work for the development of the country. Sports build a strong character and elevate the confidence level in the youths of a country so that they can face the challenges of the competitive world and emerge successful to contribute in the national building. Sports also helps to elevate the health

standard of a country. The country which has a high health standard always has a good quality of life and stress free environment. The country with healthy living will definitely have fewer issues as compared to the country with an unhealthy lifestyle. The popularity of sports also gives rise to setting up of some various sports industries which adds value to the country's economy and increases the status of employment. The revenue generation potential from these industries is very high which could contribute to the economy in multiple ways.

PHYSICAL BENEFITS OF SPORTS

Sports strengthen the heart. Regular sports certainly make the heart stronger. Henceforth, sports are an excellent preventive measure against heart diseases. This certainly increases the life expectancy of individuals. We might have seen many number of sportsman has lived more than 90 years. Those who are lazy and inactive have left this world as early as possible. Furthermore, a healthy heart means a healthy, blood pressure. Sports involve physical activity of the body. Due to this physical activity, blood vessels remain clean. Sports reduces the amount of cholesterol and fat content in the body. This happens because of the increase of flexibility of the wall of the blood vessels. The flexibility increases due to physical action, which is the result of sports. Furthermore, the sugar level in blood also gets lower thanks to sports activity. The sugar certainly does not accumulate in the blood due to physical activity, it is astonishing to note that just brisk walk gradually reduces the accumulation of cholesterol in the body. Accidents happen, especially during sports. While it is possible to limit the number and severity of injuries with prevention strategies, one wrong step or a collision on the field can result in a sudden and painful injury. When this happens, be prepared to act quickly. Ideally you will have access to a well-stocked first aid kit or have medical help nearby. A person experiences a good quality of breathing because of sports. Sports strengthen the lungs of the body. Sports undoubtedly intensify the lung capability and efficacy of the body. Hence, more oxygen enters the blood which is exceptionally beneficial. Furthermore, there are fewer chances of developing lung diseases due to sports appropriate body weight is easy to maintain

because of sports. A sports playing person probably does not suffer from obesity or underweight problems. Sports certainly help the body remain fit and slim. Furthermore, sports also improve the quality of bones. A person who plays sports will have strong bones even in old age. Several scientific research reports that sports prevent many diseases. For example, many researchers conclude that sports prevent the development of cancer.

OTHER BENEFITS OF SPORTS

Sports is undoubtedly an excellent tool to build self-confidence. Playing sports increases self-assurance to talk properly. A sports person unquestionably improves the skills of interconnecting with others. Furthermore, the person experiences confidence in sitting, standing, and walking properly. Hence sports enrich the social life of an individual. Sports brings discipline in life. It certainly teaches the values of dedication and patience. Sports also teach people how to handle failure. Furthermore, the importance of following a time schedule is also present in sports. Above all, sports improves the thinking ability of individuals. Sports certainly sharpen the mind. Children who play sports probably perform better at exams than those who don't. Finally sports reduce the stress of mind. A sports playing person would certainly experience less depression. Sports ensure the peace of mind of those playing it. Most noteworthy, sports brings happiness and joy in the life of individuals. A sport is an aspect of human life that is the paramount importance. It certainly increases the quality of human life. Sports must be made mandatory in schools. This is because it is as important as education. Everyone must perform at least one sport activity on a regular basis.

SPORTS INJURIES

Sports injuries are injuries that occur when engaging in sports or exercise. Sports injuries can occur due to overtraining, lack of conditioning, and improper form or technique. Failing to warm up increases the risk of sports injuries. Bruises, strains, sprains, tears, and broken bones can result from sports injuries. Soft tissues like muscles, ligaments, tendons, fascia, and bursae may be affected. Traumatic brain injury is

another potential type of sports injury. Injuries may range from mild to severe.

DEFINITION OF SPORTS INJURIES

Sports injuries result from acute trauma or repetitive trauma, strain, tear, stress associated with athletic activities. Sports injuries can affect bones or soft tissue (ligaments, muscles, tendons).

LITERATURE REVIEW ON SPORTS INJURIES

Overuse tendon injuries account for about 30–50% of all sports injuries (Kannus 1997).

A commonly proposed name for tendon pain problems in general is “tendinopathy” (Peterson et al. 2001).

The most typical symptoms are a combination of local pain, swelling, and impaired performance (Paavola et al. 2002).

The symptoms are more visible on superficial tendons. The pain is commonly sensed before and after physical activity. Morning stiffness in the area and crepitation's are common occurrences. Symptoms present from 0–6 weeks can be described as acute, symptoms present from 6–12 weeks as subacute, and symptoms present for more than 3 months can be categorized as chronic (Fredberg et al. 2008).

Alfredson et al. (1998) showed very good results with eccentric exercises as a treatment for chronic Achilles tendinosis.

When comparing the efficacy of eccentric vs. concentric exercises, it was shown that superior results were obtained by using eccentric contractions in rehabilitation of tendinopathies (Mafi et al. 2001; Jonsson et al. 2005).

DIFFERENT TYPES OF SPORTS INJURIES

There are many possible types of injuries that can occur while playing sports. It's a good idea for anyone involved in sports to be familiar with treatment for some of the more common sports injuries. These injuries may be classified as acute or chronic.

1. Severe Injuries are those injuries that occur suddenly.

2. Prolonged injuries happen over time and are also commonly called overuse injuries.

Because chronic injuries happen over time it is more likely that you or those around you, will be able to seek appropriate medical care to manage them. For example, if you begin to experience knee pain while running, you might make an appointment with your healthcare provider or physical therapist.

But acute injuries generally require first aid-immediate treatment that is provided until medical help arrive. If you participate in sports especially those with a high rate of acute injuries, such as football or wrestling or Kabbadiit is important to have knowledge of first aid procedures. You should also keep supplies on hand such as ice packs, bandages, a finger splint, hand sanitizer or alcohol wipes and a breathing barrier to provide first aid.

FIRST AID FOR ACUTE SPORTS INJURIES

The most common acute sports-related injuries vary by age. For example, younger athletes are at higher risk for fractures and dislocations. Concussions are also more commonly reported in younger athletes, especially those who participate in contact sports such as football, rugby, ice hockey, and wrestling for males and football, rugby and basket ball for female sports persons.

According to Medical Council of India sources the most common acute sports injuries include

1. Dislocations
2. Fractures
3. Knee injuries
4. Rotator cuff injuries
5. Sprains and Strains.

The primary goal of sports injury first aid is to stop the activity and prevent further injury or damage. You may also need to manage certain symptoms until medical help arrives. Common symptoms of acute injuries include

- a. Bone or joint that is visible out of place.
- b. Cuts and Abrasions.
- c. Extreme legs or arm weakness
- d. Joint weakness or inability to move a joint
- e. Not being able to place weight on a leg, knee, ankle, or foot
- f. Sudden pain and swelling

If you or someone near you gets injured while playing sports or participating in any fitness activity,

the first course of action is always to stop the activity. If you are helping another person in an emergency, be sure that the scene is safe for you, than call 101. From there one can provide different measures based on the type of injury.

The following are the types of sports injuries and measures to cure the same

1. Dislocation:

One of the most common areas where an athlete may experience an acute dislocation is in the shoulder. The shoulder is the most mobile joint in the body. When the head of the humerus the upper arm bone is forced out of the shoulder socket, dislocation occurs. You may notice that the joint looks out of place, is bruised, swollen, or difficult to move.

2. Fractures

A fracture is a break in a bone that is often the result of acute trauma. If the bone breaks through the skin, it is called an open fracture. Fractures that occur over time are called stress fractures, but these are not acute injuries. A bone fracture may cause intense pain, deformity, bruising or swelling, and difficulty moving. If you suspect a fracture, always seek immediate medical care. Limit movement and mobilize the area with a splint if one is available. Elevate the limb and apply ice to reduce bruising or swelling. If the skin has broken, try to cover the wound to avoid infection. Apply sterile bandages if available.

A medical examination will determine if the bone is broken or if another acute injury such as dislocation has occurred.

3. Knee Injuries

There are many different types of knee injuries that can occur as a result of participation in sports, but acute knee injuries often include meniscus, tendon, or ligament injuries. Symptoms can include a popping or clicking noise, pain, weakness or a buckling sensation. Cold and compression are often applied for acute sports injuries.

PRICE METHOD

The price method is a simple way to remember how to apply the treatment. PRICE STANDS FOR

P - Protection

R - Rest

I - Ice

C – Compression

E – Elevation

Protection: In this method, protection means stopping the activity immediately and protecting the injured part from additional damage.

Rest: Rest the area to allow the tissues to heal

Ice: Applying cold therapy that is ice or an ice pack wrapped in thin towel to an acute injury reduces swelling and pain. Ice is a vaso-constrictor. It causes the blood vessels to narrow and limits inflammation at the injury site. Apply cold to the affected area every two hours for no more than 20 minutes at a time. Allow the skin temperature to return to normal before icing it again. You can ice an acute injury several times a day.

Compression: Compression of an acute injury is perhaps the next most important immediate treatment. By quickly wrapping the injured body part with an elastic bandage or wrap, you help keep swelling to a minimum. If possible its helpful to apply ice to the injured area over the compression wrap to limit swelling.

Elevation: Elevating the injured area is another way to reduce the blood flow and swelling in the area.

4. Sprains and Strains

Sprains and strains are soft tissues injuries that may occur to different areas of the body, including the knee, the ankle, or the elbow. But the tissues involved are slightly different.

- a. What is Sprain: A Sprain is an injury such as a stretch or tear to a ligament, which is tissue that connects two or more bones at a joint.
- b. What is Strain: A strain involves a stretched or torn muscle or tendon tissue that connects muscle to bone.

If you experience a sprain or strain, you may not be able to determine which injury has occurred because symptoms are similar. Symptoms of a sprain include pain, swelling, and limited use of the joint. Symptoms of a strain include muscle spasms, cramping and the symptoms of a sprain. If you suspect a strain or sprain, stop the activity that caused the injury. Then use the PRICE method to reduce pain and swelling and seek medical care. Depending on your particular injury, a healthcare provider may advise that you use crutches or another form of assistance while the area is healing. You may also be advised to work with a physical therapist.

Soft Tissue Injury Step-by-Step

- a. Stop the sports activity immediately.
- b. Wrap the injured part in a compression bandage.
- c. Apply ice to the injured part for 10 to 15 minutes. Let the area warm completely before applying ice again to prevent frostbite.
- d. Elevate the injured part to reduce swelling
- e. See a physician for a proper diagnosis of any serious injury.

5. Rotator Cuff Injuries:

The rotator cuff is a group of muscles and tendons in the shoulder that wrap around the head of the humerus the upper end of the arm bone. While wear in the rotator cuff can often occur with age, when a large rotator cuff tear occurs, the tendon attachment to the head of the humerus is not as strong. This can be the result of an acute injury or may be caused by chronic use. When caused by an acute injury such as a fall, rotator cuff injuries cause intense pain. You might also experience a snapping sensation and immediate weakness in your arm. If you suspect a rotator cuff injury, one should stop what you are doing and rest the arm. Continuing to use the shoulder joint could cause additional injury. If you experience symptoms that last for more than one week, contact healthcare experts for evaluation and diagnosis.

6. Cuts and Abrasions: Cuts and abrasions can easily occur as the result of a fall while running, biking, rollerblading or participating in any fitness activity. Bleeding or open wounds can vary from minor scrapes, blisters and small punctures to more serious lacerations and arterial wounds that can be life-threatening.

7. Other small wounds and injuries:

Abrasion-type wounds can be washed with soap and water. Contaminated abrasions scrapes that have particles of debris embedded in them may need to be treated in a hospital and irrigation under pressure in order to remove foreign particles. Once the wound is washed and bandaged, you can also apply ice and pressure to manage any related bruising or swelling. Deep cuts may need medical attention, Immediate first aid can include applying direct pressure, followed by elevation and application of a pressure bandage. If you are unable to control the bleeding, seek immediate medical care.

If someone near you is injured, its important to take proper protective measures to avoid disease transmission. Personal protective equipment, such as

later or rubber gloves afford protection when controlling bleeding, performing bandaging, and when handling soiled or bloody bandages or instruments.

8. Concussion:

Sports related concussion is becoming one of the most common type of mild traumatic brain injury among youth who participate in organized sports. According to the American Academy of Orthopedic Surgeons, symptoms are not always obvious and may not present immediately after the injury. Symptoms of Concussion are :

1. Balance Problems and Dizziness
2. Changes in sleep patterns
3. Confusion
4. Depression
5. Difficulty speaking and communicating
6. Drowsiness
7. Headache
8. Irritability
9. Loss of consciousness
10. Memory loss
11. Nausea and vomiting

Treatment: If you suspect that you, your child, or close relative of your family or someone close by has experienced a concussion, there are basic steps you can take to stay safe. Expert doctor has to be contacted immediately. At the same time if you are with someone who has experienced a head injury, stay nearby if they are unconscious then stabilize the head and neck and stop any bleeding with a clean cloth. Do not apply pressure with the cloth if you suspect a skull fracture. If the person beings vomiting roll them onto their side.

RETURNING AFTER INJURY

After one treated your injury, there is a question arise what comes next. Most athletes want to know how soon they can return to their sport. This answer tends to be different for everyone because each athlete and each injury is unique. Returning to sports immediately can increases your risk of re-injury or developing a chronic problem that will lead to a longer recovery. Waiting too long, however can lead to unnecessary fitness declines. It is smart to work together with the advice of medical expert or doctors to make a plan for returning to play.

CONCLUSION

Treating any injury right away is significant, so it is good to review common first aid methods to guarantee you are prepared and know what to do in case of an emergency. If you are uncertain about the severity of a sports injury, play it safe and seek medical care with doctors who are specialized in treating sports injuries. An ounce of carefulness may prevent a manageable condition from getting out of control. As we can see that sports are not only a medium of performing or an activity of leisure time but it also plays important roles in all the perspective of life. It is because of the importance of sports that there are various national and international sports events organized across the country as well as in the world. These events help to bride gap and reduce tension between countries and make the global audience witness the diverse traditions and culture of the world. It teaches the importance of discipline, punctuality, accountability and being respectful to others. Sports lays the underpinning of healthy individuals and develops their capabilities and personalities in building a well-developed and resilient nation.

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