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Sports Injuries and Preventive Measures

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I. INTRODUCTION

Sports injuries are commonly caused by direct impact or the application of force that is greater than the body part can structurally with stand. Chronic injuries are caused by overusing the same muscle groups or joints, pain is an unpleasant sensory experience distinct from other sensory modalities such as touch, warmth and cold. Poor technique and structural abnormalities can also contribute to the development of chronic injuries. The human body is a highly complex physical and biological mechanism which is subject to a variety of injuries and each individual is more susceptible to certain types of injuries we knew that injuries usually occur at the weakest place of the body.

The anatomical, skeletal system is the basic frame that mechanically supports the entire internal precious vital organs. Apart from this mechanical role, the skeleton also acts as the reservoir of several essential minerals in connection with muscles and tendons attached to it. Muscles make the body shape slander with help of the skeletal activity through physical exercises. The psychological and physiological demands made by the body are much useful to the sports field injuries. Here the neuromuscular skills co-ordination of all the parts of the body by the actions involved in the game are co- related with muscles tendon.

Injuries are unavoidable hazards for sportsmen who are actively participating in vigorous sports activities during their training and competitions. Sports activities are the outcome of complicated movement with high magnitude resistances causing multiple type of injuries. The sports persons and coaches need to attend the sports injury prevention programs, explaining the benefits to participate in sports injury prevention programs to coaches, team trainers, sports teams, and individual athletes will give them a glimpse at the likelihood for success by having the athletes feeling they are healthy, strong, comfortable, and capable to compete. A brief outline of the sports injuries, their symptoms, causes, precautions and treatment are listed.

II. ACHILLES TENDINITIS

Achilles tendinitis is an overuse injury causing pain, inflammation and or degeneration of the achilles tendon at the back of the ankle. There are a number of factors which may pre-dispose the athlete to sustaining achilles tendon injuries such as poor footwear, soft training surfaces, tight muscles and foot biomechanics and running uphill.

The Achilles tendon is the largest tendon in the body. It connects your calf muscles to your heel bone and is used when you walk, run, and jump. When the tendon at the back of the ankle the Achilles tendon is overused, inflammation and pain can occur, which is known as acute Achilles tendinitis.

If this condition is left untreated, it can become chronic and the injury can worsen until it becomes impossible to run. Achilles tendinitis is most common among runners and athletes who participate in sports that involve running or jumping, and in gymnastics.

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Prevention and treatment: Stretching and strengthening exercises for the calf muscles can help prevent injury to the Achilles tendon. Rest, ice, compression, and elevation (RICE), an anti-inflammatory medication, and strengthening your calf muscles are your best treatment options. Do not resume sports until the injury is completely healed or it may become a chronic condition.

III. Concussion

A concussion is an injury to the brain that is usually the result of a blow to the head.
Symptoms include disorientation, vision disturbance, headache, dizziness, amnesia, loss of balance, difficulty concentrating, and nausea. A concussion does not necessarily involve a loss of consciousness. Concussions are most common in contact sports, such as football, boxing, hockey, and taekwondo. While most sports person return to normal a few weeks or months after a concussion, multiple concussions can cause permanent damage.
Prevention and treatment: Protective equipments and coaching techniques emphasize injury prevention also helpful in reducing traumatic brain injury.

IV. Groin Strain

A groin strain is a tear or rupture to any one of the adductor muscles resulting pain in the inner thigh. Groin injuries can range from very mild to very severe injuries that are completely debilitating. Initial treatment involves protection, rest, ice and compression during the early acute stage followed by a thorough rehabilitation and strengthening program. A strained groin or adductor muscles situated in the upper thigh that serve to pull the legs together usually this happens when the athlete suddenly change directions while running, such as in soccer, hockey, basketball, racket sports, football, and volleyball.
Symptoms include sharp pain, swelling and sometimes even bruising on the inside of the thigh. Prevention and treatment: As with most sports injuries, the best way to prevent a groin pull is to stretch properly before exercising. Also, gradually increasing the intensity of the activity rather than jumping into the activity too quickly may help prevent injury, and strengthening the groin muscles can be helpful too. The athlete do not do anything too strenuous for a week or two after the injury, and when he do resume exercising, apply ice to the affected area after your workout until healed. When he feel better, he can start a stretching and strengthening program.

V. Shin Splints

Shin splint pain concentrates in the lower leg between the knee and ankle. Shin splints frequently affect sports person who engage in moderate to heavy physical activity. The athlete may be more likely to develop shin splints if he participates in strenuous physical activities or stop-start sports such as tennis, cross country race, soccer, or basketball.
Sometimes the pain of shin splints can be so intense that you must stop the activity. Shin splints is a cumulative stress disorder. Repeated pounding and stress on the bones, muscles, and joints of the lower legs prevent the athlete body from being able to naturally repair and restore itself. Shin splints refer to pain on the inner side of the shinbone caused by inflammation of the muscles that surround it.
Prevention and treatment: Wearing good shoes, cross training, stretching, and not increasing workout intensity too quickly are the best preventive measures.

VI. Pulled Muscle

A muscle strain, or pulled muscle, occurs when muscle is overstretched or torn. This usually occurs as a result of fatigue, overuse, or improper use of a muscle. Strains can happen in any muscle, but they're most common in lower back, neck, shoulder, and hamstring, which is the muscle behind the thigh. These strains can cause pain and may limit movement within the affected muscle group. Mild-to-moderate strains can be successfully treated at home with ice, heat, and anti-inflammatory medications. Severe strains or tears may require medical treatment.
Prevention and treatment: The best way to prevent pulling a muscle is to stretch properly before and after exercising, and avoid working out when you are fatigued and weak. As with most injuries require gentle

stretches. When the injury has begun to heal, the athlete can begin exercising again, but stop every so often during his workout to stretch until the athlete completely healed.

VII. Tennis or Golf Elbow

Tennis elbow consists of tendon degeneration in the elbow due to repeated backhand strokes in tennis. It causes pain on the outside of the elbow. Golf elbow, on the other hand, usually affects the inside of the elbow, although it can sometimes attack the outside. Tennis elbow and golfer's elbow are considered to be overload tendon injuries, which occur after minor and often unrecognized trauma to the proximal insertion of the extensor (tennis elbow) or flexor (golfer's elbow) muscles of the forearm Tennis elbow reactive tendon pathology of extensor forearm muscle origins, causing lateral elbow and upper forearm pain and tenderness.
Prevention and treatment: The best way to prevent these ailments is to perform forearm-strengthening exercises, such as wrist curls, reverse wrist curls and squeezing a soft rubber ball. Also, improving your swing technique and wearing an elbow brace can be very helpful. Treatment can be as simple as RICE and anti-inflammatory medications, but in some cases physiotherapy and a prolonged break from the sport may be necessary.

VIII. Ankle Sprain

Ankle sprains are very common among soccer, hockey, basketball, volleyball and gymnastics players. They are almost inevitable in sports that involve jumping, running, dismount on apparatus and turning quickly; these movements can lead to twisting the ankle and even possibly tearing a tendon or ligament.
Prevention and treatment:
Strengthening ankles by doing exercises such as ankle lifts on stairs, as well as taping the ankle or wearing a lace-up brace can help, but these measures in no way guarantee that the athlete will not be injured, if the athlete falls hard or make a false movement then there is possibility of severe Ankle sprain. To help the ankle heal faster, athlete should try to move his ankle gently to get the circulation going and reduce swelling.

IX. Shoulder Injury

Shoulder problems in the overhead and throwing athlete can result in rotator cuff tendinitis. Biomechanically, there is a delicate balance between mobility and stability of the shoulder complex. Repetitive overhead stressful motion can lead to overuse tendinitis, subtle instability, labral changes, and eventual fiber failure of the rotator cuff. Secondary impingement symptoms are commonly present. An accurate diagnosis along with an early and aggressive rehabilitation program is essential in the treatment of these athletes.
A dislocation occurs when extreme force is put on a ligament, allowing the ends of two connected bones to separate. Stress on the joint ligaments can lead to dislocation of the joint. Shoulder injuries are most common in tennis, swimming, weightlifting, baseball, volleyball and gymnastics - basically, any sport that involves a lot of overhead movement. These problems are generally due to overuse, which loosens the rotator cuff the group of tendons and muscles that surround the shoulder.

A. Prevention and treatment

To prevent shoulder injuries - which often occur when athlete have not been using his shoulder muscles for a while, such as during the off-season, the coaches be sure to strengthen athlete muscles through weight training before the season begins. Additionally, muscular endurance exercises should be gradually emphasized for the shoulder injured athlete.

X. Knee injury

Knee injuries comprise most of all sports injuries and approximately one-fourth of all problems treated by orthopedic surgeons. Although torn ligaments and cartilage are the most common injuries, many knee problems are grouped into the category of “runner’s knee,” which includes a variety of aches and pains related to the kneecap.
Runners are not the only victims of such injuries; they also strike cyclists, swimmers, gymnasts who practice step aerobics, and football, basketball, and volleyball players. Runner’s knee occurs when overuse leads to irritation of the tendon below the kneecap or when the region underneath the kneecap is worn or afflicted with arthritis.

Prevention and treatment: Choose a softer running surface such as an indoor track rather than hard pavement; strengthen athlete quadriceps through weight training; take more rest days between workouts; and cross train to prevent overuse.

XI. Blister

A blister is a small pocket of lymph within the upper layers of the skin, typically caused by forceful rubbing (friction), burning, freezing, chemical exposure or infection. Most blisters are filled with a clear fluid, either serum or plasma. A blister is a fluid- filled bump on the skin.
Causes: Friction or constant pressure, such as from wearing a tight fitting shoe or gripping a tool, second degree burns , including sunburn, viral infections, such as chickenpox or shingles fungal infections such as athlete's foot, contact dermatitis, such as poison, ivy or oak allergic reactions, drug reactions, certain cancers and inflammatory conditions, severe skin swellings especially of the legs. / Treatment: A blister will often heal without treatment.
Some general tips for treatment include Be gentle with the injured area. To prevent further injury, put a bandage over the affected area. The blister should begin to shrink in about seven days. Do not pop or lance the blister. Opening the blister increases the chance of infection and delays healing. In the case of poison ivy or a viral infection, do not scratch the blister.

XII. Fractures

Fractures are breaks in the bone that are often caused by a blow or a fall. A fracture can range from a simple hairline fracture to a compound fracture. Most fractures occur in the arms and legs. Bones form the skeleton of the body and allow the body to be supported against gravity and to move and function in the world.
When outside forces are applied to the bone it has the potential to fail. Fractures occur when bone cannot withstand those outside forces. Fracture breaks or cracks all mean the same thing, that the integrity of the bone has been lost and the bone structure has failed. If the fracture line goes across the bone it is transverse, if it is at an angle it may be spiral. The fracture may be simple, commuted and multiple.
Fractures should be treated by a medical expert but the first aid is to immobilize the joint. Most human bones are surprisingly strong and can generally stand up to fairly strong impacts or forces. However, if that force is too powerful, or there is something wrong with the bone, it can fracture.

XIII. Conclussion

Injuries are a common occurrence in professional sports. Chronic injuries are caused by overusing the same muscle groups or joints, Poor technique and structural abnormalities can also contribute to the development of chronic injuries. Pain is an unpleasant sensory experience distinct from other sensory modalities such as touch, warmth and cold.
Explaining the benefits to participate in sports injury prevention programs to coaches, team trainers, sports teams, and individual athletes will give them a glimpse at the possibility for success by having the athletes feeling they are healthy, strong, comfortable, and capable to compete.

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