

SPORTS INJURIES - CAUSES, SYMPTOMS, TREATMENT AND PREVENTION

Mahipal

Abstract

Sports injuries are injuries that occur in athletic activities or exercising. They can result from accidents, poor training, and technique in practice, inadequate equipment and overuse of a particular body part. The highest incident is seen in adolescent playing pivoting sports such as football, basketball and team handball and the incidence is 3-5 times higher in women than man. However lower back injuries are also common (12%) especially in jumps, throw's and combined events several risk factors for developing running related injuries have been investigated and can be roughly divided into intrinsic (e.g. individual's abilities, anthropometric characteristics and cognitive properties) and extrinsic (e.g. ground surface, footwear and training load). It is very important for all coaches, trainers, physical educationist and player to know the causes symptoms treatment and prevention of sports injuries in order to avoid most of these types of injuries also to update the poor training methods. This paper will review the general sports injuries.

INTRODUCTION:-

Sports injuries are injuries that occur in athletic activities or exercising. They can result from accidents, poor training, and technique in practice, inadequate equipment and overuse of a particular body part. Regular physical activities reduce the risk of premature mortality in general and coronary heart disease, hypertension, colon cancer, obesity and diabetes mellitus in particular. However with increased participation also comes an increased risk of injury. The yearly incidence of running injuries is estimated to be between 37% and 56%. The most common injury types are knee and ankle injuries. The highest incident is seen in adolescent playing pivoting sports such as football, basketball and team handball and the incidence is 3-5 times higher in women than man. Injury is one of the factors in performance failures and may even end a

career; moreover injury can lead to long-term or even permanent damage of muscle skeletal system especially in youth athletes due to the differences in physical and technical constraints injury risk varies between athlete's disciplines. Because the lower limbs are critical to performance in every event. However lower back injuries are also common (12%) especially in jumps, throw's and combined events. Several risk factors for developing running related injuries have been investigated and can be roughly divided into intrinsic (e.g. individual's abilities, anthropometric characteristics and cognitive properties) and extrinsic (e.g. ground surface, footwear and training load) (Johnston, Taunton, Lloyd-Smith & Mc Kenzie 2003).

Various strategies for running injury prevention are applied by coaches and runners themselves e.g. stretching, warm up, technique training. This paper will review the most common sports injuries, causes symptoms and prevention.

KEYWORDS:- Sports injuries, Causes Symptoms, Treatment, Prevention.

ANKLE SPRAIN

- **CAUSE:-** When the foot accidentally turns inwards, it stretches and tears the ligaments on the outside of the ankle. Ankle sprain are almost inevitable in sports that involve specific foot movements such as jumping turning quickly and running.
- **SYMPTOMS:-** Sharp pain in the ankle region, usually the outside usually occurs from turning or twisting the ankle on an even surface or by stepping on another individual's foot swelling and discoloration to the ankle region is common.
- **TREATMENT:-** RICE immediately for 47-72 hours along with medication, wearing ankle braces during the healing process. Once has healed increase ankle control with balance exercise.
- **PREVENTION:-** Ankle braces such as canvas lace up braces, air casts or gel casts are beneficial in prevention of further injury. Proper warm up including ankle rotation and calf stretching is helpful and may prevent further injury.

SHIN PAIN/SHIN PLINTS

- **CAUSES:-** "Shin splints" is a genetic term for shin pain (usually on the inside of the shin) but is correctly termed "medial tibia" stress syndrome or MTTS. It is mostly caused by inflammation of the muscle and their attachments to the shin bone (Tibia). Shin splints may occur when the intensity of working out is increased from normal level wearing worn

out shoes or by jumping or running on hard ground.

- **SYMPTOMS:-** Pain that runs along the front of the lower leg, especially in the bottom half. Pain is usually worse while athlete activity. Swelling in lower legs may occur. The condition is common in people with flat feet or high arches.
- **TREATMENT:-** Ice or Cold whirl pool, compression wrap.
- **PREVENTION:-** Proper stretching before and after activity and wearing good shoes increase mileage gradually and avoid running hills or crowned surfaces cut back on mileage or weight bearing activities until symptoms subside.

TENNIS ELBOW

- **CAUSES:-** One develops a tennis elbow when the forearm is overused by repetitive movement in sports like Tennis's golf and badminton. There are the muscles that pull the wrist back. The tendons of the forearm that insert into the side of the elbow region tend to inflame that result in acute pain.
- **SYMPTOMS:-** Pain over the bone on the outside of the elbow. Pain may radiate down the forearm. Pain is worse when the wrist is bent back.
- **Treatment:-** Rest, ice, and a tennis elbow strap. Seek medical attention if treatment doesn't help.
- **Prevention:-** Make sure your athlete uses proper techniques. Proper warm up, cool-down and strengthening exercises will help prevent this injury.

RUNNER'S KNEE

- **Causes:-** Knee injuries comprise about 55 per cent of all sports injuries. Not only runners, but it can strike any athlete like a cyclist, footballer, volleyball players, and others. It is often caused by weak quadriceps, tightness of some other related muscle groups, imbalances around the knee, poor pelvic control incorrect or worn shoes, and overtraining.
- **Symptoms:-** Knee pain below the kneecap and on the sides of the kneecap, particularly with deep knee bend or prolonged sitting, and swelling in the knee are some of the symptoms. Often noticed on climbing stairs.
- **Treatment:-** Depend on the severity of the pain. Rest, pain medication, and strength training exercises are some of the common treatment options. After workout apply ice for 20 minutes minimum.
- **Prevention:-** Wear good shoes, replace them regularly, grade your running or exercise program; choose a softer running surface such as an indoor track rather than hard pavement;

strengthen your quadriceps and gluteal muscles through appropriate weight training. Stretch before and after the activity.

LOWER BACK PAIN:-

Lower back pain can be caused by a variety of problem with any part of the complex, interconnected network of spinal muscles nerve, bones, disc or tendons in the lumbar spine pain in the low back, internal organ of the pelvic and abdomen and the skin covering the lumber area.

- **Symptoms:-** Back injuries that occur during practice or game competition should be evaluated for numbness and tingling that radiates in to a legs or feet or loss of consciousness. Muscle strains or spasm can also occur but are usually not serious.
- **Treatment:-** For example strain's spasms or business treat with ice avoid sitting if possible. Ask the athlete to lie down in the position most comfortable.
- **Prevention:-** For acute lumber strain use of a home remedy initially can be beneficial. Exercise appears to be useful for preventing low back pain. Proper warm up by doing low back stretching and hamstring stretching. Wear protective clothing in contact sport use a weight lifting belt, maintain proper lifting techniques. Maintaining good posture & doing low back strengthening exercise are helpful.

JUMPER'S KNEE

Also known as patellar tendonitis or patellar tendinopathy is an inflammation or injury of the patellar tendon, the cord-like tissue that joins the patella (kneecap) to the tibia (shin bone). Jumper's knee is an overuse injury, regularly happened to the one who plays sports that involve a lot of repetitive jumping – like track and field (Particularly high jumping). Basketball, volleyball, gymnastics, running and soccer can put a lot of strain on their knees.

- **Symptoms:-** Occurs in athletic activities that involving repetitive jumping. Pain is usually at the bottom of the knee. There may be a feeling of catching or giving away. There could be some swelling over the site of pain. This injury can occur in stages. Stage I:- Symptoms only after activity. Stage II :- Symptoms during and after activity. Stage III:- symptoms present all the time.
- **Treatment:-** Apply ice after activity as well as through the day. Ice or heat before activity depending on athlete performance. Neoprene knee support may be beneficial. If symptoms are present all the time, seek medical attention.

- **Prevention:-** Advocate proper warm-up and cool down. Stretching exercise is must required before and after activity. Good hip knee ankle flexibility goes a long way work on hamstring thigh and calf stretching.

STITCH AT SIDE

- **Cause:-** The pain may be caused by an increase in blood flow to the liver or spleen. Increase in the heart rate during exercise will force extra red blood cells in to the liver which can cause temporary hepatomegaly and portal hypertension.
- Side stitches are muscle spasms of the diaphragm and they occur occasionally during strenuous exercise. Most people experience stitch on their right side, immediately below the ribs. A sudden sharp pain during exercise that occurs below the bottom of the ribcage and disappears once exercise stops. There are different theories some expert think stitches are the result of a cramp in the diaphragm perhaps due to, as you run you increase pressure on your abdominal muscles and breathe rapidly expanding your lungs. This pain gradually subside as the activity continues.

HAMSTRING MUSCLE INJURY OR MUSCLE PULL

- **Cause:-** Muscle overload is the main cause of hamstring muscle strain. This can happen when the muscle is stretched beyond its capacity or challenged with a sudden load. Hamstring muscle strains often occur when the muscle lengthens as it contracts, or shortens. Although it sounds contradictory, this happens when you extend a muscle while it is weighted, or loaded. This is called an "eccentric contraction."
- **Symptoms:-** Pain in the back of the thigh ranging from mild to severe in severe hamstring strain athlete may unable to bend or extend knee and within a couple days of injury bruising may become apparent on the back of the leg.
- **Treatment:-** Immediately following injury, ice with compression using a cold, wet elastic wrap. Encourage gentle stretching to help prevent loss of flexibility.
- **Prevention:-** Proper stretching before and after activities don't make abrupt stops when running or sprinting, avoid over striding. Maintaining flexibility is important.

TURF TOE (GREAT TOE SPRAIN)

“Turf Toe” is the common term used to describe a sprain of the ligaments around the big toe joint. Although it's commonly associated

with football players who play on artificial turf it affects athletes in other sports including soccer, basketball, wrestling, gymnastic and dance. It is a condition that's caused by jamming the big toe or repeatedly pushing off the big toe forcefully as in running and jumping.

- **Symptoms:-** Pain at the base of the great toe. This may be accompanied by swelling and bruising. Walking will be very pain full.
- **First Aid:-** Ice, using crutches will also help relieve pain.
- **Prevention:-** Wear shoes with a firm sole and good fit.

GROIN STRAIN

- **Cause:-**Due to excessive running or jumping in sports like soccer, hockey, basketball, volleyball and event racket sports, the muscle situated in the upper thigh area that serve to pull the legs together tend to get strained. Often as a result of overuse or a sudden slip and strain by over stretching the muscle.
- **Symptoms:-** Sharp pain is experienced which is sometimes accompanied with swelling and bruising of the inner thigh.
- **Treatment:-** Rice immediately along with anti-inflammatory medications after 24 hrs. Before returning to play the sport undergo a stretching & Strengthening programmed.
- **Prevention:-** Before playing the sport adequate warm up & stretching exercise must required. The idea is to increase the intensity of activity to ensure the muscles are strengthened rather than jumping in too quickly.

CONCLUSION:-

The Physical educationist, coaches, trainers must knowledge about causes symptoms of sports injuries. Careful management by the coach can be effective in injury prevention.

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