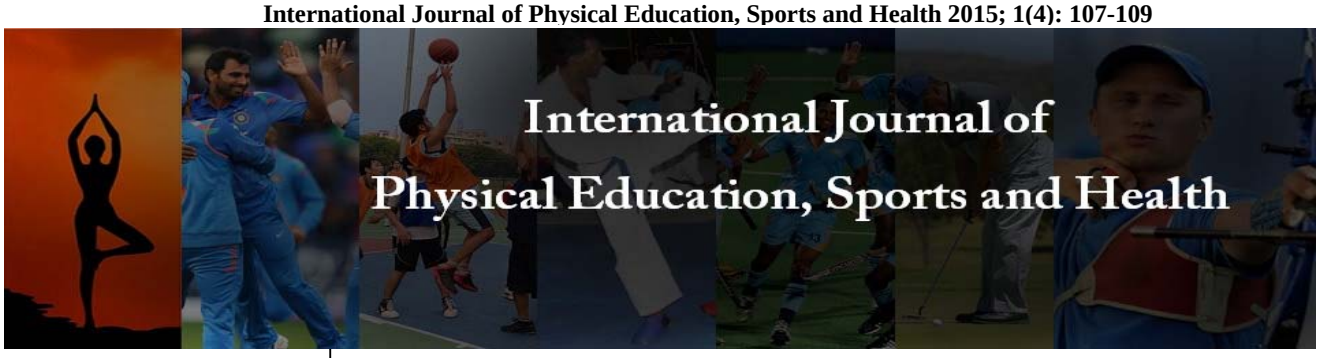

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Sports injuries: Causes, Symptoms, Treatment and Prevention

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Abstract
This review provides the information about sports injuries with possible Causes, Symptoms, Treatment and Prevention. Exercising is good for you, but sometimes you can injure yourself when you play sports or exercise. Accidents, poor training practices, or improper gear can cause them. Not warming up or stretching enough can also lead to injuries.

Keywords: Sports injuries, Causes, Symptoms, Treatment, Prevention

Introduction
Exercising is good for you, but sometimes you can injure yourself when you play sports or exercise. Accidents, poor training practices, or improper gear can cause them. Not warming up or stretching enough can also lead to injuries.

1. Shin Splints [1]
Causes: "Shin splints" is a generic term for shin pain (usually on the inside of the shin) but is correctly termed 'Medial Tibial Stress syndrome or MTTS. It is mostly caused by inflammation of the muscles 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. Normally has a biomechanical trigger.
Symptoms: Pain to touch the region, occasional swelling, and soreness to jog and walk, are most of the common symptoms of shin splints. If a patient is suffering from this pain, he can have a dull, aching pain in either side of the shinbone or in the muscles.
Prevention: Wearing good shoes, cross training, stretching, and not increasing workout intensity too quickly are the best preventive measures.
Treatment: As for treatment, ice, stretching and anti-inflammatory painkillers are the best. A good biomechanical assessment of the foot posture and strength of the gluteal muscles and core stability for increased lower limb control
Sportsmen affected by Shin Splints: Monica Seles, Grant Hill, James Kirtley

2. Lower Back Pain [2]
Causes: Usually lower-back-pain affects runners, cyclists, golfers, tennis, and baseball players. Bulging discs, back spasms, stress fractures sciatica are some types of lower-back pain. Improper training techniques, weakness (especially of the core muscles) and poor preparation is the most common reason for sports-related back pain. A slightest discrepancy in leg length can also cause back pain in runners as well as poor lower limb biomechanics or inadequate footwear.
Symptoms: Back pain which can be mild or severe, or periodic or chronic. Usually associated with some muscle spasm which restricts movements such as bending or straightening and is often painful to sit as well
Prevention: Some lower-back injuries cannot be prevented, but warming up properly before exercising will greatly reduce the risk. Having a good strong core (abdominals, gluteal muscles etc) can also reduce risk of injury
Treatment: A simple lower-back-pain or back spasm can be treated with rest from the aggravating activity, anti-inflammatory medications, and gentle pain free stretching. Also applying heat to the area can help reduce the muscle spasm and hence the pain. Runners with a

difference in leg length can get orthotic lifts from a podiatrist to correct the problem.
Sportsmen affected by Lower-Back-Pain: Andre Agassi, John Terry

3. Shoulder Impingement [3]
Causes: Any sport that involves a lot of overhead movement may result in shoulder impingement. Shoulder injuries are most common in tennis, swimming, weightlifting, baseball, and volleyball. They are mainly caused due to overuse of the shoulder, which can strain the rotator cuff. Usually comes about because of poor shoulder and scapular muscle control which therefore puts excessive pressure onto the shoulder joint and its associated supporting tendons (the rotator cuff).
Symptoms: Pain, weakness, stiffness in the shoulder are some of the common symptoms.
Prevention: An athlete who hasn't used his shoulder for a while is more likely to have a shoulder injury. It can be avoided by strengthening the muscles by specific weight training exercises before playing the sport.
Treatment: RICE treatment and anti-inflammatory medication are the best treatments available for this in the acute stages then a graded rehab strengthening program for the shoulder and scapular muscles.
Sportsmen affected by Shoulder Impingement: Roger Federer, Maria Sharapova, Andy Roddick.

4. Runner's Knee [4]
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
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 weight appropriate training. Take rest, stop before you are tired. Also remember to remain hydrated before, during and after your run. Stretch before and after the activity
Treatment: Treatment options depend on the severity of the pain. Rest, pain medication, and strength training exercises are some of the common treatment options. When you resume your workout, ensure that you warm up properly and apply ice to your knee for about 20 minutes afterwards.
Sportsmen affected by Runner's knee: Serena Williams, Danielle Slaton, Pavel Bure

5. Tennis Elbow [5]
Causes: One develops a tennis elbow when the forearm is overused by repetitive movements in sports like Tennis, Golf and Badminton. These are the muscles that pull the wrist back. The tendons of the foreman that insert into the side of the elbow region tend to inflame that result in acute pain.
Symptoms: Pain on the outermost part of the elbow when it is touched or wrist or fingers are moved backwards. The pain may worsen and radiate down the arm by activities such as turning a door knob, and grasping or lifting heavy objects.
Treatment: RICE, Anti-Inflammatory medication, physiotherapy exercises and appropriate rest.
Prevention: Maintaining body position during the swing, specific prehab exercises that strengthen the forearm, wear tennis elbow strap.
Sportsmen affected by Tennis Elbow: Sachin Tendulkar

6. Achilles Tendinopathy [6]
Causes: Achilles Tendinopathy is a very common injury among runners and people involved in sports that require a lot of jumping. This is an inflammation of the Achilles tendon which is the attachment of the calf muscle to the heel bone The Achilles tendon, is a very strong tendon one but not very flexible and hence prone to micro-tearing which results in inflammation. Poor foot biomechanics also a major contributor and incorrect footwear.
Symptoms: Acute symptoms include pain at the back of the ankle, just above the heel especially whilst trying to raise up onto toes, occasional swelling
Treatment: PRICE, NSAIDS, gentle calf stretching, wall stretching toe raises and balancing.
Prevention: Warm up before stretching and exercises that strengthen calf muscles.
Sportsmen affected by Achilles Tendonitis: Shaquille O'Neal

7. Ankle Sprain [7]
Causes: When the foot accidentally turns inwards, it stretches and tears the ligaments on the outside of the ankle. Ankle sprains are almost inevitable in sports that involve specific foot movements such jumping, turning quickly and running.
Symptoms: Immediate pain at the site with swelling over outside of ankle. The injured area becomes tender and feels unstable.
Treatment: RICE immediately for 48 - 72 hours along with medication (NSAIDS after 24 hrs), wearing ankle braces during the healing process. Once has healed increase ankle control with balance exercises
Prevention: Regular exercises to strengthen muscles around the ankles.
Sportsmen affected by Ankle Sprain: Tillakaratne Dilshan, Serena Williams

8. Concussion [8]
Causes: A concussion essentially means an injury (swelling) to the brain as a result of a blow to the head. It is most common in sports that involve sudden contact such as football, boxing, hockey and soccer. Multiple concussions may cause permanent damage to the brain. When a player has taken a blow to the head, ALWAYS err on the side of caution.
Symptoms: Disorientation and disturbance in vision, headache, dizziness, amnesia, loss of balance, difficulty in concentration accompanied with nausea. It doesn't necessarily involve unconsciousness.
Treatment: Immediate rest, mild pain relievers depending on the severity of the concussion but never administer medication without Doctors advice, application of ice over site of the blow, do full concussion assessment (assess eye pupil reactions etc and verbal communication with player) and always consult a Doctor immediately as often symptoms are delayed in onset and often missed.
Prevention: You cannot possible avoid playing a sport simply because there are such risks involved therefore the best way to prevent concussions is by wearing protective headgear while playing contact sports.
Sportsmen affected by Concussion: Steve Young

9. Groin Strain [9]

Causes: Due to excessive running or jumping in sports like soccer, hockey, basketball, volleyball and even racket sports, the muscles 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 overstretching 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 and strengthening programme. Commence pain-free activity for the muscle as soon as possible

Prevention: Adequate stretching and warm up exercises before playing the sport. The idea is to increase the intensity of activity to ensure the muscles are strengthened rather than jumping in too quickly.

10. Muscle pull [10]

Causes: Muscle pulls are very common and can happen to any athlete. Small tears occur within that lead to a strain when muscle is stretched too far or exceeds its tensile load. Inadequate warm up exercises, muscle fatigue, lack of flexibility, and muscle weakness can cause all kinds of athletes to pull a muscle.

Symptoms: Pain in the muscle area on applying pressure, stretch or load, swelling or inflammation, weakness, soreness, head and redness in severe cases.

Prevention: The best way to prevent pulling a muscle is to stretch properly before and after exercising, ensure have conditioned it adequately prior to exercising and avoid working out when the muscle is fatigued or weakened.

Sportsmen affected by Muscle pull: Alexandra Stevenson, Rafael Nadal

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