

# Study types of sports injuries: diagnosis and treatment

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**ABSTRACT:** Today, sport is one of the things that are being discussed in different titles in the world, and a large group is involved in various forms. Some people are professional athletes and a group of amateur athletes. A group is proud and interested in sports and seeing programs, competitions and sports shows, and some also spend their life doing sports. Sports injuries are caused by intense strokes or excessive stretches during exercise. Sports injuries can cause bones or soft tissues (ligaments, muscles and tendons), or both. Contrary to the notion of people, children and adolescents are much more likely to be injured in sports with quick reactions, inability to detect and avoid risk, and lack of ability to coordinate movements. Based on the annual statistical calculations of every 1000 people, 26 people suffer from sports injuries, half of which are treated with home treatment or without special care, and the other half need medical treatment. The highest rate of these injuries is seen in children ages 5 to 14 and the highest number of injuries in boys aged 12 to 17 years. These injuries are higher in terms of the number of collective exercises, and in terms of severity and severity, in individual exercises. Therefore, before exercising, practicing and quiz, and after exercise, it is necessary to consider the management system in order to lessen the damage. This can depend on the physical, physiological, and mental fitness of individuals. Everyone is responsible for completing his knowledge of the sport in order not only to harm him, but also to use that sport activity for his or her health. In this regard, he should have all the aspects of the aristocracy.

**Keywords:** Injury, Exercise, Muscle, Treatment.

## INTRODUCTION

Any physical activity is associated with injury, but the athlete can reduce the chance of injury by shortening the course of the treatment by increasing his knowledge and information about a variety of injuries. Each sport has more than 5 injuries per hour, as part of high-risk sports. Rugby and Lacrosse are the highest with 30 injuries in a thousand hours, while basketball and squash are also considered to be at least 14 times a day. Two and aerobics with 11 injuries are not much of a backdrop of high-end sports. Sports injuries are different, but specific parts of the body that are more harmful than the other members (1). In this article, we will introduce the most common injuries and injuries to sports, and we will also discuss ways to prevent and treat them.

Achilles tendon (Heel tendon) is a strong, important ankle pad behind the ankle. When used with Achilles tendon, it will cause pain and swelling in that area. If not treated, the damage becomes harder to the extent that it makes it difficult and impossible to run. This damage is more likely to occur in runners and athletes who run on or jump. Providing tensile and strength exercises to the muscles and leg muscles can prevent this problem, and anti-inflammatory therapies and strengthening of the leg muscles are the best treatment for this condition. Do not start exercising until the problem is completely resolved because it will exacerbate the condition (3). The second is a traumatic brain injury that is caused by a head injury. Symptoms include dizziness, visual disturbances, headaches, memory weakness, loss of balance, difficulty concentrating, and nausea. This injury is not necessarily associated with anesthesia. In sports, such as football, boxing and hockey, this is happening more often. Of course, in sports

like skis and gymnastics too much happens (7). Although most people return to normal after a few weeks, a lot of people suffer a severe stroke. The best way to prevent a stroke is to avoid collision sports. But for most people, this does not seem to be the right solution. It is best to treat this discomfort. If you have a headache, you can use acetaminophen tablets. Due to the severity of the impact, you should avoid re-encountering exercises from several hours to several months.

The elongation of the thigh muscles occurs when you run in sports like football and volleyball once (2). Symptoms include deep pain, swelling and sometimes bruising in the thigh. The best way to prevent this complication is to perform pre-exercise tensile training. Stop intense activity, one or two weeks after a complication. After the incident, place the damaged ice in order to heal, then you can pull and strengthen the muscles.

The pain and swelling of the leg are more likely to happen to people who do not have the habit of mobility and exercise. Suddenly raising the pressure and intensity of exercises, wearing old shoes and running and jumping on very hard ground may also cause this complication. Wearing the right shoe, doing stretching exercises before exercising, and suddenly dropping out exercise intensity are the best ways to prevent this condition. Freezing, doing stretching and anti-inflammatory treatments are the best ways to cure (6). Lower back pain occurs more often in obese and milder people, but it may also occur for runners, cyclists, golfers, and tennis players. The most important cause of this complication is the false and erroneous stretching. Although most of the types are not preventable, the correct tensile strength before exercise and proper body heating can reduce the likelihood of it occurring. The proposed remedies for RICE are anti-inflammatory drugs and muscle tension.

Unhealthy body heat, fatigue, lack of flexibility and disability and weakness are all factors of muscle contraction in athletes. The most commonly drawn muscles (the muscle behind the thigh) are in running exercises, such as dumbbells, basketball (leg muscles) in tennis players. Of course, other muscles tend to be elongate according to the exercise. The best way to prevent such a complication is to do the right stretching exercises before and after exercising and to avoid exercise during fatigue and weakness. RICE and anti-inflammatory drugs like other ailments are the best treatment for this condition. It's good to stretch the muscles slowly. When the complication begins to recover, you can start exercising again, but from time to time you pause in the exercise and pull your muscles to fully recover.

Elbow injuries in tennis and golf sport account for %7 of all sports injuries. In this sport injury, the elbow tendons are damaged by repeated bouts in the tennis and cause pain in the inner part of the elbow, but sometimes the outer part may also be damaged. The best way to prevent this injury is to perform forearm and arm exercises. Correcting the way to hit the racket and the use of the elbow can also help. Suitable for the treatment of this RICE complication and anti-inflammatory drugs, but in some cases physiotherapy and exercise are necessary for a long time.

The ankle sprain and torsion are very common among people who play football, hockey, basketball and volleyball. In sports that run and jump is inevitable. These movements may cause the ankles to screw and sometimes tear a tendon or ligament. By shooting, one can determine if a member has a fracture. Strengthening the ankle with soft movements, closing the wrists, or using a wristband can prevent the occurrence of this happen, but there is no guarantee that you will not be injured if you fall or do wrong moves. Ankle sprain can be treated with RICE and anti-inflammatory drugs. But do not rest for more than a day. You should try to shake your ankle and rotate it softly to reduce the swelling (5).

%20 of the injuries are related to the shoulder, which includes dislocation, vein and rupture. This injury occurs in sports such as tennis, swimming, weightlifting, baseball and volleyball. Symptoms include side effects, pain, muscle soreness, and weakness and weakness in the shoulder. To prevent the onset of this condition, most of the time you have not used your shoulder for a while. Like the retirement of the league, it is advisable to boost muscles before we start exercising. The best treatment for this condition is RICE and anti-inflammatory drugs. Knee injuries account for %55 of these problems by ¼ of sports injuries and almost orthopedic surgeons will be eliminated. Of course, runners are not the only victims of this sport injury. Bicyclists, swimmers, people who work in aerobic steppes, and those who play football, basketball and volleyball may also experience this discomfort. In this complication, excessive use of the knee causes discomfort and damage to the tendon under the bowel of the knee. Use your shoes or shoes to change your shoes regularly. Longer rest between exercises. If your knee is injured, do not re-exercise at least 2 days and use anti-inflammatory drugs. Before re-exercising, be sure to warm yourself well and use a frozen area. Approximately 95% of sports injuries are malformation and soft tissue damage. Bruises are the most commonly reported effects of these bruises, and the cause is skin lesions or damage to the capillaries and blood circulation under the skin (9). Grade injury (5):

- First Grade Damage: The lagament's tensile and ruptured rupture occurs in this case. Pain and inflammation are low. In this case, the performance of the athlete is not difficult and there is no joint instability. The treatment period is 10 days.

- Grade II damage: In this case, the ligament rupture is incomplete. A slight joint is leaky. Pain, inflammation and bleeding are negligible. Depending on the place of injury, treatment may take one to one to two months.
- Grade Third Damage: This complete rupture occurs, severe pain, inflammation, hemorrhage, and bloody and joint arthroplasty of grade three symptoms.

In general, surgery is often not necessary, but if the joint is broken, the joint should be surgically treated if all three ligaments are torn or the lymph dragged through the bone. After one, two weeks of immobility, we need to strengthen the muscles of the person and strengthen the athlete's good balance. Stinging the sense of agony will cause recurrence. Because in this situation, the athlete can not react to the damage that is supposed to happen. The moment when the athlete is injured, he must comply with the RICE law, that is, rest, ice therapy, bandage, and upkeep. Once the athlete can return to exercise, which does not have pain and has movement and natural strength. If the athlete does not pay attention to these things and returns to exercise, he may still get torn. People who are frequently torn need to wear broad-haired shoes, or to use a shoe that has a taller outer fringe to find the tip of the overshoot. On the other hand, it is necessary to strengthen the muscles of the outer part and use the wrist strap and bandages. In this situation, if he still does not respond, he must have surgery.

On the knee there are two Cluster Ligaments (ACLs). These ligaments may be damaged during physical activity. If this injury is accompanied by a laryngeal dislocation, we must have ACL surgery. The torn ACL is reconstructed with a transplant from its other ligaments. The knee has two lateral and medial meniscus. The lateral meniscus is free, but meniscus Medial is steady, it is more harmful. The wide rupture in the meniscus causes the knee to snap and lock. In this case, the degree of knee straightening is 5 degrees to normal. In the tissue of meniscus, we have no blood vessels and only one third of the peripheral blood vessels reaches the meniscus. If there is damage to areas where the meniscus is free of blood vessels, treatment will be very limited (9). Meniscus surgery is allowed when the age of the athlete is less than 45-50 years old. The tear is fresh, the knee is not leaky and it is formed in the part containing the vascular complications.

Other damage is related to muscle damage that ranges from %20 to %25 in sports, which causes discomfort to the athlete. Relaxing for two, three weeks, the pain decreases. However, if the treatment is not taken completely and the athlete returns to exercise, chronic pain will occur. There are two groups of muscle damage (1):

- 1) A direct blow that causes muscle contraction.
- 2) Sprain and muscle tension

If bleeding is in the muscle's podium, it spreads and is less troublesome, in these conditions, 24 to 72 hours after a complication of recovery. But, if bleeding is inside the skin, severe pain is caused. Hematoma is formed and absorption of intercostal water causes an increase in pain. In any situation, the athlete must be admitted. More muscular injuries occur in athletes over the age of 35. When an athlete is exercising in cold weather, or is not warm enough or has been damaged, muscle damage may increase. To reduce the likelihood of muscle injury, athletes must be warmed up. The importance of this issue increases in middle aged athletes.

Damage to bone damage. Bone fractures account for %5 to %6 of all sports injuries. The greatest number of fractures during exercise is related to the arm and leg bones and the least fractures are related to the spine or skull. Of course, due to high pressure, the bones of the foot from the hip to the floor are susceptible to fracture and occur when the muscles are complicated or excessive contraction causes bending and breaking of the bone. This type of fracture is particularly common among runners of endurance and those with narrow bones. The fracture of the leg is associated with pain and swelling of the front, back and thigh bones, which is very painful when moving, and the pain becomes constantly more severe. This damage is caused by high-pressure movements or continuous bumping of the foot on the ground in sports such as aerobics, dual-endurance, basketball and volleyball (3). Symptoms that constantly exacerbate or reduce athlete's ability to play, and sometimes not painful, and only with unusual fatigue, should be examined by an orthopedic surgeon. Timely detection prevents small problems from becoming seriously damaged and long-term problems. Sports injuries are inevitable in many cases; even if the person follows the correct technique and form of exercise, but fortunately, it is possible to minimize the risk of these injuries by observing a few key points. One of the reasons for sports injury is the non-observance of the technique during the movement (2). Each of the disciplines has the principles and techniques that are specially designed for that discipline. People must be familiar with these principles before exercising. For example, in Scott's movement, should open legs and knees as shoulder width and never lock your knees. When kneeling, bend should not allow the thumb to move forward or backward from the knee. In fact, the shoulder should be placed along the knee joint. It should also keep the spine flat and keep the chest open. Disregarding any of these principles can cause various injuries, such as back pain, knee pain, and so on.

### **Conclusion:**

People who have not had a sport or who spend a lot of time exercising should gradually start sports activities. In addition, sporting activities should be tailored to the individual's physical ability. If the body is not accustomed to exercise, it is possible to start the movement from the 6th set and gradually bring them to the 8th, 10th, 12th, and 15th sets of sessions. By reaching the 15th set, you can also increase the weight, but if the person can not start from the beginning, it should not be compelled to complete it, but it must start with 1 repetition and gradually begin to set 6 Follow up on next sessions. If he does not even have the ability to perform a move, he must first strengthen his muscles with lighter movements and then go on to the desired exercise. For example, women often can not flex easily, because their upper body is not able and willing to do this. These people should initially strengthen lumbar, upper, upper and lower muscles, and gradually go on to improve their muscular strength. Otherwise it will damage your body (10).

Another important principle in exercise is to avoid locking the elbow and knee joints. When you keep these joints in a flat and locked position, you have to double the joint pressure. Now, if you exercise at the same time, you increase the pressure on the joint and multiply the risk of injury. To avoid the situation, you should do some exercise with elbow and knee flexion. In exercise, the axis of the joints should not be removed. For example, people often break their wrists and bend into the arm when lifting the weight or getting TRX claws. This will last a long time with joint damage to the wrist. To prevent this damage, special gloves can be used to cover the wrist with a thick cache and help keep it in normal condition. Strengthening muscle with the help of exercise requires time. Muscle tissues should be restored after each exercise (1). Otherwise, they may have a wound or a scar. When the muscle is over-pressed, the muscle fibers interconnect in some places to relieve the pressure more easily. As the two strings of rope are tighter than a string of ropes, the muscle strands also gain more weight to bond with each other, but unfortunately this transplant causes muscle tissue wounds. All athletes should use recovery methods (recovery of muscle strength and muscle tissue repair) after each training session. The pain and aging of the day after the exercise is caused by the accumulation of lactic acid in the muscles resulting in very tiny tears in the muscle. Exercise, by creating muscle expansion and contraction under severe and stressful conditions, causes microscopic damage to the muscles, thereby contributing to muscle growth and development (6).

Although exercise can help improve lower back pain, but a group of exercises and movements such as scott, long and sitting, lumbar barbell, backward bend, hand reaching the tip of the toe and ... . causing pressure on the inter-seated discs to exacerbate Lumbar pain in people who are susceptible. In order to prevent back pain during exercise, you must complete the axis of the joints and strengthen the central muscles, such as the abdominal muscles and the muscles of the body. However, if you have back pain or back rest, you should check with your doctor before doing any exercise. Otherwise, you may have low back pain (8), even with the strengthening of the central muscles and the side muscles.

Most people with knee problems are overweight. These people usually go for astringent aerobic exercise, such as jogging on the treadmill, but because of the lack of preparation and weakness in the thigh muscles, they transfer pressure to the knee joint. Therefore, they increase the knee length and put aside the exercise. These people, in consultation with the physician, should work on exercises such as bodybuilding, in addition to weight loss, to strengthen their muscles. Also, people who are struggling with exercise often take their neck out of the center of gravity when performing movements. The human head weighs about 5 to 8 kilograms. The responsibility for bearing this weight is the vertebrae of the upper part of the spine and the surrounding muscles. When the head is placed vertically along the spine, this weight is divided equally between the muscles and the vertebrae, but if the head is held forward in the curved position, the pressure on the neck is increased, causing cervical pain (3). The management of pain and injuries is different. Sometimes the pain is so severe that one needs to go to the treatment center as soon as possible, but it is recommended to treat the pain in the first stage of home therapy. In home therapy, you can use the "Price" solution. The components of this solution include supporting a damaged member, resting, using a cold therapy, compressing and keeping a member of the affected area from the heart. If the pain does not respond to home therapy after 3 days, then a non-invasive physician such as Chiropractic, Physiotherapy, Rehabilitation, Physical Medicine, Acupuncture, etc. should be referred to in order to determine the cause. In the absence of improvement by physical and non-invasive methods, at a later stage, the physician may be advised of the use of a drug and a variety of anti-inflammatory and anti-inflammatory tablets. If the patient does not respond to medication, he or she should be treated with invasive methods, such as drug injection. Surgery is also the last option for treatment.

Professional and amateur athletes can all avoid injury during workout by following simple tips. The first and most important thing is to have the right tools and accessories, such as proper shoes, belt bodybuilders, etc., which can dramatically prevent many injuries. The second is the technique and the correct form of training (proper running, weight lifting, or even moving the golf carts or tennis rackets). Putting all these points together can dramatically reduce the damage and prevent your time being lost due to injury (10).

Most sports injuries are inappropriately wrong before exercising due to improper warming and stretching. A sudden increase in the intensity of exercise can also hurt you. Therefore, the best way to prevent proper tensile movements before and after exercise and to increase the intensity of exercise in accordance with your skills and experience in that sport.

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