



IMMEDIATE CARE TO SPORTS INJURIES

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Abstract :- This paper is for athletes at all ages and levels, for people who exercise, as well as for health care professionals, coaches, and others who want to find out more about sports injuries. This paper describes the different types of musculoskeletal sports injuries, how they can be treated and prevented, and recent treatment advances from research. 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. Some people get hurt because they are not in shape. Not warming up or stretching enough can also lead to injuries. If you get hurt, stop playing. Continuing to play or exercise can cause more harm. Treatment often begins with the RICE (Rest, Ice, Compression, and Elevation) method to relieve pain, reduce swelling, and speed healing. Other possible treatments include pain relievers, keeping the injured area from moving, rehabilitation, and sometimes surgery.

Key Words:- Athletes, Injuries, Treatment, Rehabilitation, Prevention

INTRODUCTION

This paper is for athletes at all ages and levels, for people who exercise, as well as for health care professionals, coaches, and others who want to find out more about sports injuries. This paper describes the different types of musculoskeletal sports injuries, how they can be treated and prevented, and recent treatment advances from research. In recent years, increasing numbers of people of all ages have been heeding their health professionals' advice to get active for all of the health benefits exercise has to offer. But for some people—particularly those who overdo or who don't properly train or warm up—these benefits can come at a price: sports injuries. Fortunately, most sports injuries can be treated effectively, and most people who suffer injuries can return to a satisfying level of physical activity after an injury. Even better, many sports injuries can be prevented if people take the proper precautions. It is for casual and more serious athletes as well as the trainers, coaches, and health professionals who deal with sports injuries.

COMMON TYPES OF SPORTS INJURIES

Fractures

A fracture is a break in the bone that can occur from either a quick, one-time injury to the bone (acute fracture) or from repeated stress to the bone over time (stress fracture).

Acute fractures: Acute fractures can be simple (a clean break with little damage to the surrounding tissue) or compound (a break in which the bone pierces the skin with little damage to the surrounding tissue). Most acute fractures are emergencies. One that breaks the skin is especially dangerous because there is a high risk of infection.

Stress fractures: Stress fractures occur largely in the feet and legs and are common in sports that require repetitive impact, primarily running/jumping sports such as gymnastics or track and field. Running creates forces two to three times a person's body weight on the lower limbs.

The most common symptom of a stress fracture is pain at the site that worsens with weight-bearing activity. Tenderness and swelling often accompany the pain.

Dislocations

When the two bones that come together to form a joint become separated, the joint is described as being dislocated. Contact sports such as football and basketball, as well as high-impact sports and sports that can result in excessive stretching or falling, cause the majority of dislocations. A dislocated joint is an emergency situation that requires medical treatment.

Acute and Chronic Injuries

Regardless of the specific structure affected, sports injuries can generally be classified in one of two ways: acute or chronic.

Acute Injuries

Acute injuries, such as a sprained ankle, strained back, or fractured hand, occur suddenly during activity. Signs of an acute injury include the following:

- Severe pain, swelling, inability to place weight on a lower limb, extreme tenderness in an upper limb, inability to move a joint through its full range of motion, extreme limb weakness, visible dislocation or break of a bone.

Chronic Injuries

Chronic injuries usually result from overusing one area of the body while playing a sport or exercising over a long period. The following are signs of a chronic injury:

- pain when performing an activity, a dull ache when at rest, swelling.

WHEN AND HOW TO TREAT AT HOME

If you don't have any of the above symptoms, it's probably safe to treat the injury at home—at least at first. If pain or other symptoms worsen, it's best to check with your health care provider. Use the RICE method to relieve pain and inflammation and speed healing. Follow these four steps immediately after injury and continue for at least 48 hours.

- *Rest.* Reduce regular exercise or activities of daily living as needed. If you cannot put weight on an ankle or knee, crutches may help. If you use a cane or one crutch for an ankle injury, use it on the uninjured side to help you lean away and relieve weight on the injured ankle.
- *Ice.* Apply an ice pack to the injured area for 20 minutes at a time, four to eight times a day. A cold pack, ice bag, or plastic bag filled with crushed ice and wrapped in a towel can be used. To avoid cold injury and frostbite, do not apply the ice for more than 20 minutes. (Note: Do not use heat immediately after an injury. This tends to increase internal bleeding or swelling. Heat can be used later on to relieve muscle tension and promote relaxation.)
- *Compression.* Compression of the injured area may help reduce swelling. Compression can be achieved with elastic wraps, special boots, air casts, and splints. Ask your health care provider for advice on which one to use.
- *Elevation.* If possible, keep the injured ankle, knee, elbow, or wrist elevated on a pillow, above the level of the heart, to help decrease swelling.

HOW ARE SPORTS INJURIES TREATED?

Although using the RICE technique described previously can be helpful for any sports injury, RICE is often just a starting point. Here are some other treatments your doctor or other health care provider may administer, recommend, or prescribe to help your injury heal.

Immobilization

- Immobilization is a common treatment for sports injuries that may be done immediately by a trainer or paramedic. Immobilization involves reducing movement in the area to prevent further damage. By enabling

the blood supply to flow more directly to the injury (or the site of surgery to repair damage from an injury), immobilization reduces pain, swelling, and muscle spasm and helps the healing process begin. Following are some devices used for immobilization:

- **Slings**, to immobilize the upper body, including the arms and shoulders.
- **Splints and casts**, to support and protect injured bones and soft tissue. Casts can be made from plaster or fiberglass. Splints can be custom made or ready made. Standard splints come in a variety of shapes and sizes and have Velcro straps that make them easy to put on and take off or adjust. Splints generally offer less support and protection than a cast, and therefore may not always be a treatment option.
- **Leg immobilizers**, to keep the knee from bending after injury or surgery. Made from foam rubber covered with fabric, leg immobilizers enclose the entire leg, fastening with Velcro straps.

Surgery

In some cases, surgery is needed to repair torn connective tissues or to realign bones with compound fractures. The vast majority of sports injuries, however, do not require surgery.

Rehabilitation (Exercise)

A key part of rehabilitation from sports injuries is a graduated exercise program designed to return the injured body part to a normal level of function.

With most injuries, early mobilization—getting the part moving as soon as possible—will speed healing. Generally, early mobilization starts with gentle range-of-motion exercises and then moves on to stretching and strengthening exercise when you can without increasing pain. For example, if you have a sprained ankle, you may be able to work on range of motion for the first day or two after the sprain by gently tracing letters with your big toe. Once your range of motion is fairly good, you can start doing gentle stretching and strengthening exercises. When you are ready, weights may be added to your exercise routine to further strengthen the injured area. The key is to avoid movement that causes pain.

Rest

Although it is important to get moving as soon as possible, you must also take time to rest following an injury. All injuries need time to heal; proper rest will help the process. Your health care professional can guide you regarding the proper balance between rest and rehabilitation.

Other Therapies

Other therapies used in rehabilitating sports injuries include:

- **Electrostimulation:** Mild electrical current provides pain relief by preventing nerve cells from sending pain impulses to the brain. Electrostimulation may also be used to decrease swelling, and to make muscles in immobilized limbs contract, thus preventing muscle atrophy and maintaining or increasing muscle strength.
- **Cold/cryotherapy:** Ice packs reduce inflammation by constricting blood vessels and limiting blood flow to the injured tissues. Cryotherapy eases pain by numbing the injured area. It is generally used for only the first 48 hours after injury.
- **Heat/thermotherapy:** Heat, in the form of hot compresses, heat lamps, or heating pads, causes the blood vessels to dilate and increase blood flow to the injury site. Increased blood flow aids the healing process by removing cell debris from damaged tissues and carrying healing nutrients to the injury site. Heat also helps to reduce pain. It should not be applied within the first 48 hours after an injury.
- **Ultrasound:** High-frequency sound waves produce deep heat that is applied directly to an injured area. Ultrasound stimulates blood flow to promote healing.
- **Massage:** Manual pressing, rubbing, and manipulation soothe tense muscles and increase blood flow to the injury site.

Most of these therapies are administered or supervised by a licensed health care professional.

WHO IS AT GREATEST RISK FOR SPORTS INJURIES?

If a professional athlete dislocates a joint or tears a ligament, it makes the news. But anyone who plays sports can be injured. Three groups—children and adolescents, middle-aged athletes, and women—are particularly vulnerable.

Children and Adolescents

Although playing sports can improve children's fitness, self-esteem, coordination, and self-discipline, it can also put them at risk for sports injuries: some minor, some serious, and still others that may result in lifelong medical problems.

Adult Athletes

More adults than ever are participating in sports. Many factors contribute to sports injuries as the body grows older. The main one is that adults may not be as agile and resilient as they were when they were younger. It is also possible that some injuries occur when a person tries to move from inactive to a more active lifestyle too quickly.

Women

More women of all ages are participating in sports than ever before. In women's sports, the action is now faster and more aggressive and powerful than in the past. As a result, women are sustaining many more injuries, and the injuries tend to be sport-specific.

Female athletes have higher injury rates than men in many sports, particularly basketball, soccer, alpine skiing, volleyball, and gymnastics. Female college basketball players are about six times more likely to suffer a tear of the knee's anterior cruciate ligament (ACL) than men are, according to a study of 11,780 high school and college players. Information on injuries collected since 1982 by the National Collegiate Athletic Association shows that female basketball and soccer players have a much higher incidence of ACL injuries than their male counterparts.

Children

Preventing injuries in children is a team effort, requiring the support of parents, coaches, and the kids themselves. Here's what each should do to reduce injury risk.

WHAT PARENTS AND COACHES CAN DO:

- Try to group youngsters according to skill level and size, not by chronological age, particularly during contact sports. If this is not practical, modify the sport to accommodate the needs of children with varying skill levels.
- Match the child to the sport, and don't push the child too hard into an activity that she or he may not like or be physically capable of doing.
- Try to find sports programs where certified athletic trainers are present. These people, in addition to health care professionals, are trained to prevent, recognize, and give immediate care to sports injuries.
- See that all children get a preseason physical exam.
- Don't let (or insist that) a child play when injured. No child (or adult) should ever be allowed to work through the pain.
- Get the child medical attention if needed. A child who develops any symptom that persists or that affects athletic performance should be examined by a health care professional. Other clues that a child needs to see a health professional include inability to play following a sudden injury, visible abnormality of the arms and legs, and severe pain that prevents the use of an arm or leg.
- Provide a safe environment for sports. A poor playing field, unsafe gym sets, unsecured soccer goals, etc., can cause serious injury to children.

WHAT CHILDREN CAN DO:

- Be in proper condition to play the sport. Get a preseason physical exam.
- Follow the rules of the game.
- Wear appropriate protective gear.
- Know how to use athletic equipment.
- Avoid playing when very tired or in pain.
- Make warm-ups and cool-downs part of your routine. Warm-up exercises, such as stretching or light jogging, can help minimize the chances of muscle strain or other soft tissue injury. They also make the body's tissues warmer and more flexible. Cool-down exercises loosen the muscles that have tightened during exercise.

TIPS FOR PREVENTING INJURY

Whether you've never had a sports injury and you're trying to keep it that way or you've had an injury and don't want another, the following tips can help.

- Avoid bending knees past 90 degrees when doing half knee bends.
- Avoid twisting knees by keeping feet as flat as possible during stretches.
- When jumping, land with your knees bent.
- Do warm-up exercises not just before vigorous activities like running, but also before less vigorous ones such as golf.
- Don't overdo.
- Do warm-up stretches before activity. Stretch the Achilles tendon, hamstring, and quadriceps areas and hold the positions. Don't bounce.
- Cool down following vigorous sports. For example, after a race, walk or walk/jog for 5 minutes so your pulse comes down gradually.
- Wear properly fitting shoes that provide shock absorption and stability.
- Use the softest exercise surface available, and avoid running on hard surfaces like asphalt and concrete. Run on flat surfaces. Running uphill may increase the stress on the Achilles tendon and the leg itself.

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