

# Preventing Sports Injuries

A Guide To Safe, Smart Exercise



# The Hard-Knock Facts About Sports And Injuries

Whether it's to improve their health, work off stress, shed unwanted fat, or purely for pleasure – many Northwest residents are leading more physically active lifestyles. They're bicycling to work. Joining the company softball team. Running at lunch. Meeting friends to shoot hoops. And hitting their local health clubs with a vengeance.

They're also getting hurt. Every year, more than 28 million Americans of all ages suffer some sort of musculoskeletal (bone, joints, muscles, ligaments and tendons) injury. That's more than half of all injuries – of any kind – incurred annually.

The good news is that many pains, sprains, tears and other sports injuries can be avoided with a little common sense and a little information about injury prevention. This guide is designed to give you the tips you need to spend more time in the game, and less time sidelined with an injury.

## Types of Sports Injuries

There are two kinds of sports injuries: those that happen suddenly (acute) and those that develop gradually as a result of repeating an action over and over again (overuse). Here are some common injuries in each category:

### Acute injuries:

- Contusions
- Fractures
- Joint dislocation
- Ligament tears
- Joint sprains

### Overuse injuries:

- Heel spur
- (Plantar Fasciitis)
- Carpal Tunnel
- Shin splints
- Muscle strains
- Stress fractures
- Tendonitis
- Golfer's elbow

## Did You Know?

- **One in seven Americans has a musculoskeletal injury or condition.**
- **Sprains, dislocations and fractures account for almost one-half of all musculoskeletal injuries.**
- **Back pain is the second-leading cause of doctor-office visits.**
- **Ten percent of physically active adults suffer a sports-related injury each year.**
- **More than 775,000 American children under age 15 are treated in hospital emergency rooms for sports injuries every year.**
- **Approximately 55 percent of sports injuries are to the knee, 20 percent to the shoulder and 7 percent to the elbow.**
- **Between 1991 and 1998, the number of sports-related injuries that sent baby boomers (people born between 1946 and 1964) to hospital emergency departments, increased by 33 percent.**

# Preparing For Play

## Basketball Tips

- Invest in proper equipment, including a mouthguard and shoes designed specifically for basketball (e.g., medium-tops).
- Play only your position and know where other players are on the court to reduce the chance of collisions.
- When playing indoors, make sure the court floor is free of moisture and the court boundary lines are a safe distance from walls, bleachers and other structures.
- After jumping, land with bent knees to properly absorb the impact.
- Avoid plant and cut injuries by planting the inside foot (rather than the outside foot) when turning.
- Avoid one-step-stop injuries by gradually decelerating; taking three steps to stop instead of one.



Exercising is great for improving your health, feeling and looking your best, increasing your brain power and creativity – even meeting people. But before you get started, there is one thing to remember – play it safe. Most sports injuries happen when the athlete tries to do too much or is unprepared. Underconditioning, poor technique and improper gear can put you at risk for injury before you even get started.

### Choose the right sport

Make sure the sports you do are safe and appropriate for you. For example, while weight-bearing exercises such as aerobics and jogging are great activities for most people, they may not be good choices for people who have certain joint conditions.

In general, it's a good idea to talk to your doctor before starting a sport or exercise program. It's especially important to consult with your physician if you:

- Are over 40 years of age and have never before been physically active
- Have been diagnosed with heart, lung or metabolic disease, such as diabetes
- Have two or more risk factors for heart disease and want to start a high-intensity sport or exercise program

### Suit up properly

Use proper protective gear and any special equipment or clothing that is recommended for your sport. For example, runners should choose shoes that combine the appropriate amount of shock absorption and motion control for their particular needs.

### Learn proper technique

Take lessons to make sure you're using proper form for your sport. Good technique is an important part of injury prevention. For example, if you're taking up tennis, learning the proper way to execute a backhand stroke now could save you from developing tennis elbow down the road.

### Condition your body

Getting in proper condition before you begin a sport will make the whole experience more enjoyable and could spare you from developing a preventable injury.

You can increase your strength, flexibility and endurance by performing conditioning exercises six to eight weeks before the start of your sport season.

### Develop a balanced fitness program

Whether you're planning on playing an organized sport or training for your first marathon, there are three essential components to achieving total fitness and avoiding injury in the process: cardiovascular fitness, strength and flexibility.

### ***Cardiovascular (aerobic/endurance) exercise:***

A cardiovascular workout involves an exercise routine that uses large muscle groups, is maintained for a sustained period of time and is rhythmic in nature.

Cardiovascular exercise strengthens your heart, helping it to work more efficiently. As your cardiovascular fitness increases, you will be able to work out longer with greater intensity.

According to the American College of Sports Medicine (ACSM) you should perform cardiovascular exercise three to five times per week, for 20-60 minutes, at an intensity of 60 percent to 90 percent of your maximum heart rate. For more information about heart rate and exercise, talk to your physician, physical therapist or a certified fitness specialist.

There are any number of ways to achieve a good cardiovascular workout, including bicycling, jogging, swimming, cross-country skiing, playing basketball, jumping rope, roller skating, dancing, walking briskly, participating in an aerobics class or by using exercise machines such as treadmills, stair climbers or stationary cycles.

### ***Strength training (resistance/weight training):***

Strength training, another element of a comprehensive fitness program, not only builds muscle, it strengthens bones, ligaments and tendons – which is important for reducing the risk of injury.

To accomplish your strength training, you can use weight machines, free weights or medicine balls. Just remember, before you start any weight-training program consult with a fitness professional – someone who can help you determine how much weight you can safely lift – and check your form to make sure you're not putting yourself at risk for injury.

The American College of Sports Medicine recommends that average, healthy adults perform a minimum of eight to 12 exercises (eight to 12 repetitions each) involving the major muscle groups – arms, shoulders, chest, abdomen, back, hips and legs – two or three days a week.

### ***Flexibility (stretching) exercises:***

Increasing flexibility, in conjunction with cardiovascular fitness and strength, is the final piece of a complete fitness regimen. Incorporating stretching into your workouts or sport participation has many benefits. Stretching can:

- Lower the risk of sprains and strains
- Reduce general muscle soreness
- Reduce muscle tension
- Promote mental and physical relaxation
- Improve athletic performance

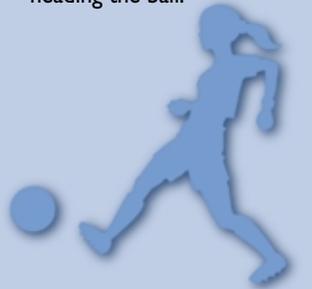
## **Bicycling Tips**

- Ride in an upright position if possible.
- Change positions on the handlebars frequently.
- Don't underestimate the value of padded handlebars and seats.
- Use toe clips or clipless pedals to hold the foot in the proper position.



## **Soccer Tips**

- Wear shoes with molded cleats or ribbed soles and shin guards.
- Stay alert on the field.
- Anchor movable goal posts.
- Make sure the field is in good playing condition, free of holes and debris.
- Use proper technique for heading the ball.



# Exercising Smart

Once you've started playing a sport or exercising regularly, there are some basic rules to follow to help you stay healthy and in the game.

## Take care of yourself

It's nothing you haven't heard before, but it's good advice worth repeating. Get your rest. Drink plenty of water. And eat a healthy, well-balanced diet that is low in sugar, salt, fat and cholesterol.

## Warm up and cool down

Starting slowly and gradually increasing the intensity of your workout may be the most important thing you can do to guard against sports injuries. A proper warm-up not only increases your circulation, it raises the temperature of large muscles, ligaments and tendons – improving their elasticity and preparing them for the physical demands ahead.

To warm up, start by walking, jogging in place, riding a stationary cycle or doing a few jumping jacks. Then slowly rehearse the sport you'll be playing. If you're playing baseball, for example, throw a few soft short- and long-arch tosses.

Cooling down is also important for preventing injuries. Don't just stop exercising abruptly. At the conclusion of your workout, gradually decrease the intensity of the exercise for at least five minutes. This will help to slowly bring your heart rate and blood pressure down to resting levels and prevent dizziness and fainting spells brought on by blood pooling around the muscles.

## Stretch, stretch, stretch

Most people who exercise don't stretch. And those who do stretch rarely stretch enough. If you want to avoid injury, resist the temptation to skip or hurry through this part of your workout. Stretching not only helps prevent cramps and stiffness, it improves your range of motion (flexibility around a joint).

To get the most out of your stretching exercises:

- Spend three to 10 minutes stretching slowly and gently
- Stretch only to the point of tension, not pain
- Hold the stretch for 15 to 30 seconds at a minimum

## Running Tips

- Wear well-cushioned shoes with good arch support.
- Replace your running shoes after every 400 to 500 miles of running.
- Do not run more than 45 miles per week.
- Run on soft surfaces, if possible.
- Build your ability to run distances before attempting to run those distances fast.



- Inhale and exhale regularly while stretching, then inhale while releasing the stretch – don't hold your breath, as it causes the muscle to contract rather than stretch

Also, remember that cold muscles are more prone to injury. So stretch after you've warmed up.

### Don't overdo it

The weekend warrior approach to sports and exercise can be dangerous. When you push yourself hard, but sporadically, you run a higher risk of getting hurt. It's much healthier to ease into a sport and get in shape slowly but steadily. This way you can enjoy sports safely.

Also, in the heat of play, don't forget to listen to your body. Pain is an early warning sign of injury. If it hurts, it's time to slow down or cut back on the intensity of the activity (even if it means sitting out the last few minutes of an important game). If you exercise when you're injured, you run the risk of making the injury worse or developing new ones.

### Take time off

Staying physically active is great, but it's important to take time off, too. When you put your body through rigorous workouts, you need time to recover physically. This is

increasingly true the older you get. So remember – rest your body at least one day each week.

Another way to give your body an occasional break is to cross-train. For example, if you normally run, switch to walking or swimming for a day. Doing something different physically can rest your muscles and help you avoid the pitfalls of overtraining.

### Heed the 10-percent rule

Once you're comfortable with a certain level of activity, you may be ready for something more strenuous. Just remember: rapidly increasing activity puts you at greater risk for overuse injuries. So take it easy. When increasing your activity, do not add more than 10 percent per week. For example, if you regularly swim 50 laps during your workout, you can increase your laps to 55 the first week, and so on. The "10-percent rule" also applies to increasing the amount of weight you lift while strength training.

## Baseball Tips

- For the younger athlete, know your limit: do not pitch more than 10 innings or 100 pitches per week, and learn to throw the change-up early.
- Stay loose during the game by jogging in place and stretching.
- Inspect the playing field for holes and debris.
- Use breakaway bases that "give" when a runner slides into them.
- Wear your protective gear, including the appropriate mitt for your position and well-fitting molded, cleated baseball shoes.
- Always slide feet first.
- Don't block the base (to avoid collisions).



# In Case Of Injury

You can wear all the right safety gear. You can stick to a sensible training program. You can follow all the tips for injury prevention. But sometimes, even when you do everything right, things can go wrong. If you do get hurt, responding properly can help you return to your sport safely and sometimes more quickly.

## Skiing Tips

- Choose good-quality, good-fitting equipment and maintain it regularly.
- Take snow conditions and your skill level into account before hitting the slopes.
- Stretch thoroughly.
- Take a couple of slow ski runs to warm up.
- Be aware of and adhere to courtesy code.
- Don't ski when you're tired — you're more prone to accidents when you're fatigued.



The first thing you need to do following any kind of sports injury is stop the activity. If you experience any of the warning signs of an injury, including excessive muscle fatigue, a deep tingling sensation, or throbbing in one area of the body, stop what you are doing and rest.

If the pain goes away and stays away after you resume activity, you're probably fine. However, if the pain returns, you need to listen to your body and take care of the injury immediately.

### Help yourself with R.I.C.E.

Mild sprains, strains and other minor sports injuries can be treated successfully without going to your doctor — if you know what to do.

Your first course of action should be to follow the steps in R.I.C.E: Rest, Ice, Compression and Elevation.

**Rest:** Do not continue to exercise and put stress on an injured muscle or ligament. And don't go back to "playing as usual" until you can make it through your normal daily routine easily and without pain. Keep in mind, this rest period could take as little as a couple of days, or it could require weeks or months to recover. If you're impatient, try a different activity while continuing to rest the injured joint or muscle. For example, if you hurt your elbow playing tennis, try walking on the treadmill.

**Ice:** Put an ice pack (or a bag of frozen vegetables) on the injured area right away. And keep it there for 10-20 minutes. Do this

several times a day for two to three days after the injury to help reduce pain and slow the blood flow, which decreases swelling. **DO NOT APPLY HEAT** during the first 72 hours following an injury. This includes hot pads, hot baths and warming liniment. Heat applied to a fresh injury may make things worse.

**Compression:** A light wrap (Ace bandage or tape) may help prevent the accumulation of fluid.

**Elevation:** To help reduce swelling, keep the injured site raised above the level of your heart.

### Take a pain reliever in moderation

Nonsteroidal, anti-inflammatory pain medications, such as ibuprofen, can be useful in treating sports injuries. They decrease inflammation and reduce pain. Use the medication only as directed, and never for more than 10 days unless advised by your physician. Also, don't take pain medication to "mask" acute pain so that you can continue to work out.

### Start moving

After the pain and swelling have subsided, you can slowly return to your previous level of activity. In fact, it's important to work toward returning to a full range of motion to prevent scarring around the injury site. After a couple of days' rest, gently stretching can help you prevent scar tissue from forming and interfering with movement later.

## Cross-train during recovery

To maintain your endurance and overall conditioning during your rehabilitation period, consider cross-training. You can give your injury “relative rest” by shifting the focus of your exercise to another part of the body. For example, you can swim after an ankle injury.

## When to get medical help

Some injuries should not be treated on your own; they need to be evaluated by a doctor. How do you know if the injury is serious enough to require professional medical attention? The severity of an injury is usually indicated by the level of pain. The worse the pain, the more serious the injury is likely to be.

As a rule, you should see a doctor for:

- Any eye injury
- Severe pain, disability or numbness

- Loss of movement
- A minor injury that doesn't improve or heal with three weeks of home care and rest
- Infection, pus, red streaks, swollen nodes or fever
- Any injury marked by bleeding, immediate swelling or bruising
- An extremity that appears to be shorter than usual or in an unnatural position
- Exposed bone

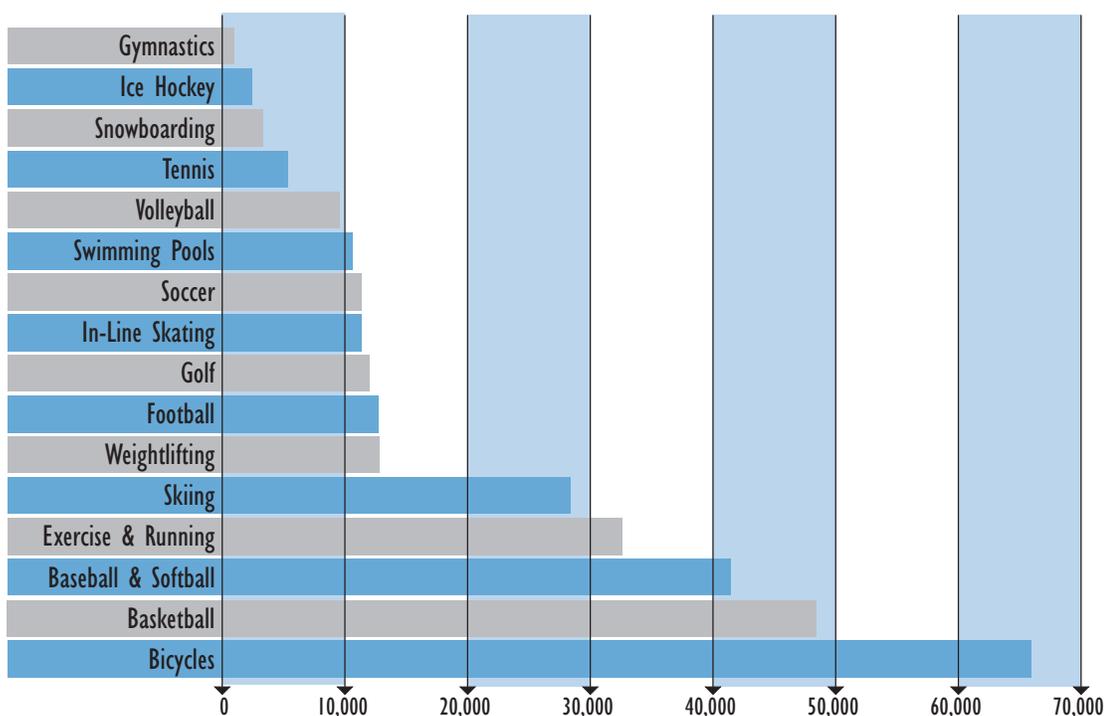
If you have any of the last three symptoms, you may have sustained a fracture. To be safe, immobilize the injured area by splinting it. You can either tie it to another stiff object (splinting one joint above and below the injured area) or tape it to another part of the body (e.g., one toe to another toe). Then see your doctor.

## Tennis Tips

- Avoid landing on the ball of your foot.
- To absorb shock, wear two pair of socks and a pair of shoes with good support.
- When serving, bend your knees and raise your heels, distributing your weight evenly over your heels.
- Start backhand swings from your shoulder.



**Estimated Number Of Injuries Treated In Emergency Rooms  
Among Persons 35-54 Years Of Age For 1998**



SOURCE: U.S. Consumer Product Safety Commission, Directorate for Epidemiology, National Electronic Injury Surveillance System (NEISS)

# Take Care Of Your Sports Injuries At Swedish

You may not be a professional athlete, but when it comes to serious sports injuries, you want the same level of care the pros get. And many athletes from Seattle's professional teams count on Swedish Medical Center to get them back on the playing field. That's because Swedish has the largest and most comprehensive orthopedic program in the Northwest. Swedish assures you of the highest level of medical expertise, as well as the support of a complete range of services spanning three campuses. With the recent merger of Swedish and Providence Seattle Medical Center, the Swedish program not only serves our First Hill and

Ballard campuses, but also features the respected musculoskeletal specialists from Providence.

## Did You Know?

Between the three Swedish Medical Center campuses you'll find a distinguished history in orthopedic expertise:

- **Surgeons credited with implanting the first artificial knee in Seattle**
- **Surgeons who have pioneered joint-replacement instruments and techniques now being used worldwide**
- **Orthopedic specialists who attract patients from as far away as the Pacific Rim and the Middle East**
- **Surgeons who, collectively, perform more joint replacements than surgeons at any other hospital on the West Coast**
- **Specialists who are part of the National Spine Network, an elite association of 28 medical centers around the U.S. specializing in spine care**
- **Specialists who invented a device that can alleviate hip pain without a hip replacement**
- **Specialists who pioneered the regional use of an innovative "cage implant" technology that eliminates the need for metal bridges and screws to fuse a broken spine**

## Expert care from leading specialists

The orthopedic program at Swedish includes some of the area's most prominent specialists. Some are pioneers in researching new orthopedic treatments. Others developed new medical devices and procedures that are now being used around the world. And still others are at the forefront of pain-control techniques. Together, they represent the highest level of orthopedic experience in the region.

## Comprehensive diagnostics

The first step in developing an effective treatment plan is to pinpoint the exact problem and evaluate the extent of the damage. The orthopedic specialists at Swedish have a complete range of the most advanced diagnostic tools at their disposal –

everything from the latest imaging equipment to advanced procedures for determining muscle strength, to sophisticated tests for diagnosing nerve damage.

## Advanced nonsurgical treatments

Swedish's renowned physiatrists are experts in evaluating and treating all types of athletic injuries – from sore shoulders to spinal-cord injuries – without surgical intervention. Their approach to treatment focuses on physical therapy and rehabilitation. They offer a full range of progressive treatment options, from cortisone injections to a sophisticated spine procedure that can tighten injured tissue within a disc.

## The region's most experienced surgical treatment

Swedish surgeons perform more than 8,000 orthopedic surgeries annually. Some of these are “minimally invasive” procedures, which allow surgeons to remove bone fragments, repair tears, and do other procedures through tiny incisions. Others – including total joint replacements, knee ligament reconstruction, neck and spine surgeries – are much more complex operations.

If you need surgery, you'll have the reassurance of knowing your procedure will be done in a state-of-the-art operating room,

equipped with sophisticated technology and staffed by an experienced, dedicated surgical team, skilled in virtually every orthopedic procedure available.

## Support through recovery

If you have a serious sports injury, chances are you will need physical therapy. The Swedish Providence campus includes one of the most advanced rehabilitation centers in the Puget Sound area. And the Swedish First Hill campus has Seattle's only 98° hydrotherapy swimming pool. Best of all, whether your rehabilitation is best served by electrotherapy, ultrasound or therapeutic exercise, Swedish's highly trained and experienced physical therapists are here to help make your recovery as quick and complete as possible.

## Orthopedic And Musculoskeletal Specialists — Who Does What?

**Orthopedic Surgeon** — An orthopedic surgeon specializes in surgical procedures to reconstruct or repair joints, bones, tendons and ligaments.

**Physiatrist** — Also known as physical medicine and rehabilitation doctors, physiatrists specialize in the diagnosis and comprehensive nonsurgical management of all types of musculoskeletal injuries, from sore shoulders to complex spinal injuries.

**Physical Therapist** — Physical therapists are licensed medical professionals, but they are not M.D.s. Their role in musculoskeletal care is focused on rehabilitative, nonsurgical therapies.

If you have a bone, muscle or joint injury, remember — the orthopedic program at Swedish has all the expert care you need to overcome your injury and get back to the activities you most enjoy.

For a free physician referral, call 1-800-SWEDISH (1-800-793-3474).



## **SWEDISH MEDICAL CENTER**

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