



## Safe Exercise

When people begin a new exercise program, they often push their bodies too far and put themselves at risk for injury. The common notion that exercise must be really hard or painful to be beneficial is simply wrong. Moderation is the key to safe exercise. Safe exercise programs start slowly and gradually build up in intensity, frequency, and duration.

In addition, if you have an existing health problem, such as high blood pressure, diabetes, a history of heart disease, or are a smoker, you should contact your doctor before beginning any vigorous physical activity.

### Safe Exercise Guidelines

- **Use Proper Equipment.** Replace your athletic shoes as they wear out. Wear comfortable, loose-fitting clothes that let you move freely and are light enough to release body heat. When exercising in cold weather dress in removable layers.
- **Balanced fitness.** Develop a balanced fitness program that incorporates cardiovascular exercise, strength training, and flexibility. In addition to providing a total body workout, a balanced program will keep you from getting bored and lessen your chances of injury.
- **Warm Up.** Warm up to prepare to exercise, even before stretching. Run in place for a few minutes, breathe slowly and deeply, or gently rehearse the motions of the exercise to follow. Warming up increases your heart and blood flow rates and loosens up other muscles, tendons, ligaments, and joints.
- **Stretch.** Begin stretches slowly and carefully until reaching a point of muscle tension. Hold each stretch for 10 to 20 seconds, then slowly and carefully release it. Inhale before each stretch and exhale as you release. Do each stretch only once. Never stretch to the point of pain, always maintain control, and never bounce on a muscle that is fully stretched.
- **Take Your Time.** During strength training, move through the full range of motion with each repetition. Breathe regularly to help lower your blood pressure and increase blood supply to the brain.
- **Drink Water.** Drink enough water to prevent dehydration, heat exhaustion, and heat stroke. Drink 1 pint of water 15 minutes before you start exercising and another pint after you cool down. Have a drink of water every 20 minutes or so while you exercise.
- **Cool Down.** Make cooling down the final phase of your exercise routine. It should take twice as long as your warm up. Slow your motions and lessen the intensity of your movements for at least 10 minutes before you stop completely. This phase of a safe exercise program should conclude when your skin is dry and you have cooled down.
- **Rest.** Schedule regular days off from exercise and rest when tired. Fatigue and pain are good reasons to not exercise.

## Common Sports Injuries

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### **Overuse Injuries**

Exercise puts repetitive stress on many parts of the body such as muscles, tendons, bursae, cartilage, bones, and nerves. Repetitive stress can lead to microtraumas — minor injuries that would typically heal with enough rest. When you exercise too frequently, your body never has a chance to repair these microtraumas. As microtraumas build up over time, you become prone to overuse injuries, such as:

- Damage to elbow cartilage in athletes who throw
- Heel bursitis and stress fractures in runners
- Nerve entrapment in rowers
- Kneecap (patellar) tendinitis in volleyball players

### **Traumatic Injuries**

To build strength and endurance from exercise, you must slowly and gradually push your body beyond its limits. When you push too far too fast, the body is prone to traumatic injuries such as sprains and fractures. Many seasonal sports injuries happen when athletes rush their reconditioning and do too much too soon with bones, joints, tendons, ligaments, and muscles they ignored in the off-season.

## Risk Factors

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There are many risk factors that make injury during exercise more likely.

- The duration, intensity or frequency of an exercise is excessive or rapidly increasing.
- The terrain or weather conditions are extreme or irregular.
- You use incorrect equipment, such as athletic shoes that are not designed for your activity.
- You have been injured in the past.
- You smoke or have led a sedentary lifestyle.
- You have low aerobic or muscle endurance, low or imbalanced strength, or abnormal or imbalanced flexibility.
- You have underlying musculoskeletal conditions that predispose you to injury, such as bowed legs or high arches in your feet.

## First Aid

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Accidents can happen despite safe exercise precautions. If you pull a muscle (or worse) during exercise, apply a protective device such as a sling, splint, or brace. Then use the first aid standard for musculoskeletal injuries: rest, ice, compression, and elevation (RICE).

- Rest the injury.
- Ice it to lessen swelling, bleeding, and inflammation.
- Apply a compression bandage to limit swelling.
- Elevate the injury above heart level to reduce swelling.

You may use nonsteroidal anti-inflammatory medications such as ibuprofen for pain. See your doctor if you have severe pain, cannot move the injured body part, or if symptoms persist.

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Train Smart and Stay Strong (video) (<http://orthoinfo.aaos.org/topic.cfm?topic=V00001>)

Warm Up, Cool Down, and Be Flexible (<http://orthoinfo.aaos.org/topic.cfm?topic=A00310>)

### OrthoInfo

The American Academy of Orthopaedic Surgeons

9400 West Higgins Road

Rosemont, IL 60018

Phone: 847.823.7186

Email: [orthoinfo@aaos.org](mailto:orthoinfo@aaos.org)