

# Strains, Sprains, and Fractures



*Most minor strains and sprains can be treated at home, but severe sprains and fractures need professional care.*



A *strain* is an injury caused by overstretching a muscle.

A *sprain* is an injury to the muscle and the ligaments, tendons, or soft tissues around a joint.

A *fracture* is a broken bone.

All three types of injuries cause pain and swelling. Unless a broken bone is obvious, it may be difficult to tell if an injury is a strain, sprain, or fracture. Rapid swelling often indicates a more serious injury.

Most minor strains and sprains can be treated at home, but severe sprains and fractures need professional care. Apply home treatment while you wait to see your medical professional.

You may have a severe sprain or a broken bone if:

- The injured area is visibly swollen.
- The injured area is twisted or bent out of shape or a bone is poking through the skin.
- The injured area is black and blue.
- The pain from the injury prevents normal use of the limb, such as walking.

## Prevention

- To avoid falling, don't climb stairs with both hands full. Make sure that you can always see where you are walking.
- To avoid falling, use a stepstool when reaching for high objects. Do not stand on chairs or other objects.
- Get help to carry heavy or awkward objects.

## Home treatment for pain and swelling

Generally speaking, if the injury is to a muscle, ligament, tendon, or bone, the basic treatment is the same. It is a two-part process:

1. **RICE** (rest, ice, compression, elevation) to treat the acute pain or injury
2. **MSA** (movement, strength, alternate activity) to help the injury heal completely and to prevent further problems.

Begin the **RICE** process immediately for most injuries. If you suspect a fracture, splint the affected limb to prevent further injury. Refer to the *Kaiser Permanente Healthwise Handbook* topic "Splinting" for more information.

If the sprain is to a finger or part of the hand, remove all rings immediately. Refer to the *Kaiser Permanente Healthwise Handbook* topic "Ring, removing" for more information.

## R - Rest

Do not put weight on the injured joint for at least 24 to 48 hours.

- Use crutches to support badly sprained knee or ankle.
- Rest a sprained finger or toe by taping it to a healthy one next to it.

Injured muscle, ligament, or tendon tissue needs time and rest to heal. Stress fractures need rest for two to four months.



## I - Ice

Cold will reduce pain and swelling and promote healing. Heat feels nice, but it may do more harm than good, since it may increase the swelling after an injury.

Apply cold packs immediately to prevent or minimize swelling. For difficult-to-reach injuries, a cold pack works best.

Refer to the *Kaiser Permanente Healthwise Handbook* topic “Ice, for injuries” for more information.

## C - Compression

Wrap the injury with an elastic (Ace) bandage or compression sleeve to immobilize and compress the sprain. Don't wrap it too tightly, which can cause more swelling. Loosen the bandage if it gets too tight. A tightly wrapped sprain may fool you into thinking you can keep using the joint. With or without a wrap, the joint needs total rest for one to two days.

## E - Elevation

Elevate the injured area on pillows while you apply ice and anytime you are sitting or lying down. Try to keep the injury at or above the level of your heart to help minimize swelling.

- Aspirin, ibuprofen, naproxen, or Orudis may help ease inflammation and pain. Do not use drugs to mask the pain while you continue to use the injured joint. Do not give aspirin to children or teens under age 20. Review aspirin guidelines.
- The use of heat (hot water bottle, warm towel, heating pad) after 48 hours of cold treatments is controversial. Some experts think it will increase swelling; others think it may speed healing. If you use heat, do not apply anything that is uncomfortably warm.

Begin the **MSA** process as soon as the initial pain and swelling have subsided. This may be in two days or up to a week or longer, depending on the location and severity of the injury. Resume sports and activities slowly. Any increased pain may be a sign that you need to rest a while longer.

## M - Movement

After one to two days of rest, begin moving the joint. Move your joint gently through its full range of motion. If an activity causes pain, stop it and give the joint more rest. Gentle stretching will prevent scar tissue (formed as the injury heals) from limiting movement later.

## S - Strength

Once the swelling is gone and range of motion is restored, begin gradual efforts to strengthen the injured area. This may require specific exercises.

## A - Alternate activities

After the first few days, but while the injured part is still healing, phase in regular exercise using activities or sports that do not place a strain on the injured part.

## Call Kaiser Permanente if . . .

- a bone is poking through the skin, or if a limb below the injury is white, cold, or numb.
- you suspect a severe sprain or fracture. After you have stopped weight-bearing activities, splinted the injury, and applied ice, a short delay in receiving professional care will not affect the outcome.
- a sprained joint is very unstable, won't support your weight, or wobbles from side to side.

- you cannot bear weight on a sprained ankle after 24 hours, or if it hurts to bear weight after three days.
- pain is still severe after two days of home treatment.
- a sprain does not improve after four days of home treatment.

## Other resources

- Connect to our Web site at **members.kp.org**. Here you'll find the Health Encyclopedia, which offers more in-depth information on “Bone, Muscle, and Joint Injuries” and many other topics.
- Check your *Kaiser Permanente Healthwise Handbook*.
- Listen to the Kaiser Permanente Healthphone at 1-800-332-7563. For TTY, call 1-800-777-9059.
- Visit your facility's Health Education Department for books, videos, classes, and additional resources.

This information is not intended to diagnose health problems or to take the place of medical advice or care you receive from your physician or other medical professional. If you have persistent health problems, or if you have additional questions, please consult with your doctor. If you have questions or need more information about your medication, please speak to your pharmacist. Kaiser Permanente does not endorse any brand names; any similar products may be used.