



Self  
Management  
Program



## Ankle Sprains

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### What is an ankle sprain?

Ligaments attach to the ankle bones and allow for normal movement and help prevent too much motion within the joint. Ankle sprains commonly occur during sports participation, however frequently occur with daily activities. The most common ankle sprain results from injury to the ligaments on the outer aspect of the ankle.

The ligaments are injured when the heel is forced inward resulting in the tissues being overstretched and damaged. Pain is usually immediate and can increase over the next 2-3 hours.



### Let pain be your guide!

The pain associated with a sprain is due to the immediate damage to the ligaments and the inflammation that occurs when ligaments are damaged. During

**Let pain be your guide as you put weight on your ankle and gradually increase activities.**

the first 2-3 days, swelling and inflammation play an important role in the body's ability to "clean up" the injured site and allow healing. However, to decrease pain and speed up the healing process, you should control the amount of swelling as quickly as possible.

The amount of pain and swelling you have is a good indication of the severity of the injury. Reoccurring pain is due to

overstressing the injured ligaments. These ligaments are damaged, weak and sensitive to motion and weight bearing. Too much stress on the ankle can cause further injury and prolong the healing process. Appropriate treatment is critical during the first two weeks following the injury to expedite the return to activity. Mismanagement of the injury early on can lead to pain and inactivity 1-2 months later.

### What should I do about mild to moderate pain?

Pain can be classified as mild, moderate, and severe. If daily activities cause mild to moderate pain, you could be causing more damage to the ankle ligaments – which can prolong your recovery. During the first 2-3 weeks after the injury, wear a brace during all weight-bearing activities to control pain, provide stability and improve function. Early in your recovery, crutches may be needed for pain-free walking.

### ANKLE REHABILITATION PROTOCOL

In order to recover from your sprained ankle, you may have to progress through several phases of rehabilitation. Immediately after your injury, initiate the **PRICE** (Protect, Rest, Ice, Compress, Elevate) treatment method described in Phase 1 of the rehab protocol. If you have not gained full function of your ankle at the completion of Phase 1, then you may need to continue through all phases of the rehab protocol.



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1

Phase

Days 1 - 3

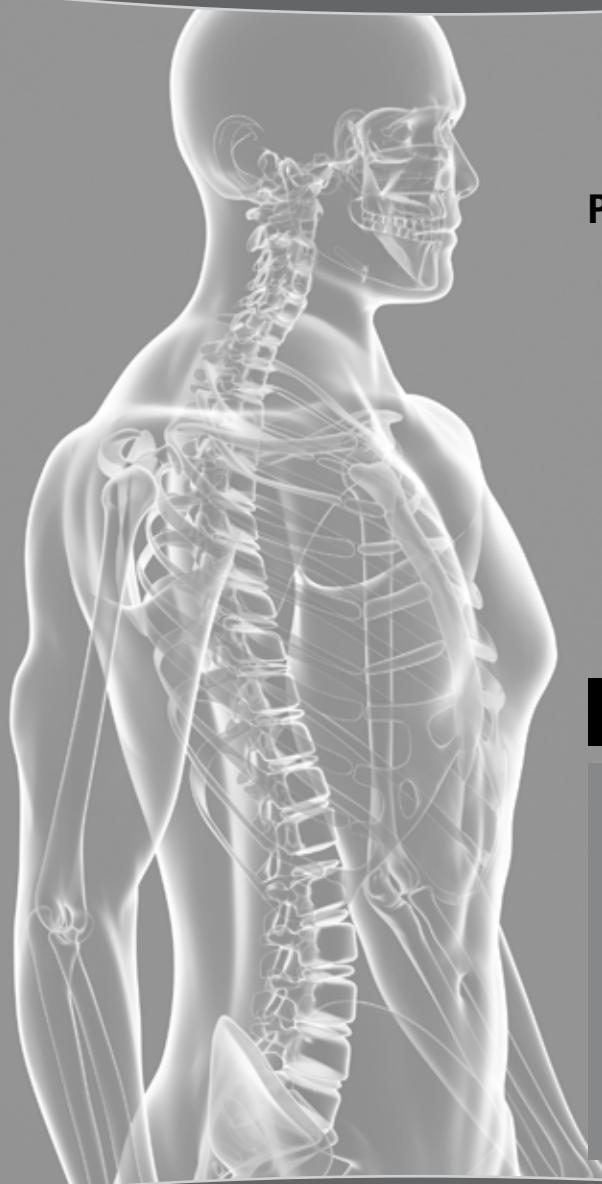
Protect

Rest

Ice

Compress

Elevate



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## Protect (Modify Activities)

For the first 2-3 weeks, wear an ankle "stirrup brace" to **protect** the ankle when you walk and during all weight-bearing activities.

During the first week after the injury, you should use crutches (with the ankle stirrup brace) until you can walk without pain. During this time, you may progress from two crutches to only one as your ankle begins to heal and it can tolerate more of your body's weight. Walking with a single crutch means you use the crutch on the opposite side of your ankle injury.



## Rest

Rest is important! Active resting means that you restrict or limit your activity always using pain as a guide.

If your ankle hurts during daily activities or if

**Use crutches until you can walk pain-free and without a limp.**

sports activities are resumed too soon, the healing process is prolonged and the ankle ligaments may heal in a lengthened position. This can lead to Chronic Ankle Instability (and an increased chance of recurring ankle sprains).

## Ice

1. While resting, apply ice or cold therapy to limit the swelling and reduce the pain.
2. Apply a cold pack. (Depending on the severity of your sprain, you may choose another form of cold therapy such as a Cold Therapy Wrap or a Cold Therapy Unit and Ankle Blanket.)
3. To apply the ice pack, use the ace wrap provided to wrap the pack snugly, but comfortably around the ankle.

Use the following procedures if you do not have any cold therapy products.

- **Submerge your ankle** in ice water (recommended 44-45°F) above ankle level for 20 minutes. Do this 3-4 times a day during the first 72 hours (3 days) after the injury occurs. Allow your ankle to warm for at least 30-45 minutes between ice treatments.  
**or**
- **Apply an ice bag** (crushed ice in a zip lock bag), a frozen freezer ice pack, or a bag of frozen vegetables (peas or corn) over a moist towel for 20 minutes. Repeat this procedure 3-4 times a day for the first 72 hours (3 days) after the injury occurs.

## Compression

Research shows one of the most effective ways to reduce swelling is to apply compression to the swollen area as soon as possible after the injury.



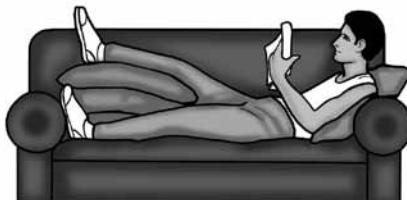
- 1.** To compress, use a 4-inch elastic wrap.
- 2.** To apply the elastic wrap, begin wrapping at the base of the toes and continue

upward to four inches above the ankle. Overlap the wrap one-third to one-half the width of the wrap with each layer as it is applied. Larger feet and ankles may require 2-3" wraps.

**Loosen the wrap immediately if you experience numbness, your toes turn blue or the wrap is uncomfortable.**

## Elevate

- 1.** Raise the ankle above the level of your heart. This position allows gravity to help reduce the swelling.
- 2.** Keep your ankle elevated (preferably on 2 or 3 soft pillows) when icing, resting, and sleeping. Combine compression with



elevation when resting and sleeping.

- 3.** Combine elevation with early, but gentle range of motion exercises. Pull the ankle toward your knee, push down toward the floor, turn the ankle inward and outward very gently 10 times – using pain as your guide. Muscle activity helps move fluid out of the ankle and speeds the healing response.

## WHEN TO DISCONTINUE

### COLD THERAPY

Swelling usually stops about 3 days after the initial injury. When it does, discontinue the use of ice.

If the swelling has stopped, the ankle will not be warmer than body temperature.

**If swelling returns at any time, start ice treatments again.**

## Moist Heat

To improve blood supply to the injured ligaments, apply moist heat or soak your ankle in warm water (100-103° F) for 20 minutes.

Perform ankle range of motion exercises as you apply moist heat.

**If applying heat increases the pain or swelling, discontinue immediately and resume ice treatments.**

### How Often?

2-4 times a day until the swelling is gone.



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Phase **2**



**Days 4 - 10**

**Continue protection**

**Begin ROM exercises  
and muscle  
strengthening**

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**Remember:** Continue to use your ankle stirrup brace during the first 2-3 weeks for protection.

### RANGE OF MOTION (ROM) EXERCISE

#### Alphabet

Use your big toe as your focal point and write the entire alphabet (A-Z) in capital letters. Try to aggressively achieve full motion of your ankle; again, using pain as your guide.

**How Often?** 4 times a day until you have full ROM. If you experience pain, reduce the intensity level until the pain resolves.

### HEEL CORD STRETCHING

#### Non-Weight Bearing

Use this exercise if the ankle is still painful to stand. Perform the exercise while sitting.

- In a sitting position, stretch your calf and Achilles Tendon



by looping a towel around your foot and pulling back as far as you can. Hold for 15-20 seconds.

**How Often?** Perform 5 repetitions 4 times a day. Use pain as your guide.

### Weight-Bearing Calf and Achilles

#### Stretching

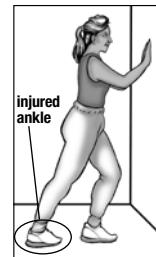
Use this exercise if you can tolerate walking in your ankle stirrup brace. Perform the exercise standing.

1. Place your hands on a wall with your elbows slightly bent.

2. Put your injured foot and ankle behind you with your knee straight and heel down. Bend your opposite knee (unaffected leg) forward.

3. Keeping your injured heel down, bend the opposite knee until you feel a stretch in your calf and Achilles tendon. Hold for 15-20 seconds.

**How Often?** Perform 5 repetitions with the knee straight and 5 reps with the knee slightly bent, 4 times a day.

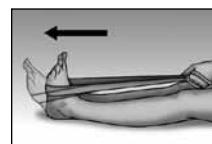


### ANKLE STRENGTHENING EXERCISES

#### Plantar Flexion

Wrap your exercise band around the sole of your injured foot/ankle. With your leg straight, slowly point your toes forward, pressing your foot down.

- How Often?** Perform 3 sets of 10-15 repetitions one time a day.



#### Dorsi Flexion

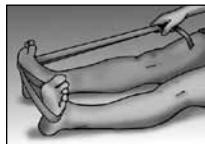
Wrap the end of your exercise band around a table or chair to anchor the band. Slip your injured foot/ankle into the loop of the exercise band. With your leg straight, slowly pull your toes toward you, pulling your foot up.

- How Often?** Perform 3 sets of 10-15 repetitions one time a day.



## EVERSION EXERCISES

Wrap your exercise band around your injured foot and under the sole of your non-injured foot. Move your injured foot/ankle outward away from your body performing three sets of 10-15 repetitions each time.

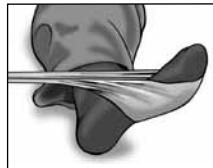


## INVERSION EXERCISES

Wrap the end of your exercise band around a table or chair to anchor the band. Slip your injured foot/ankle into the loop of the exercise band. Move your injured foot/ankle inward performing three sets of 10-15 repetitions each time.

**How often?** Perform these exercises daily

for one week, then three times per week, for the next 4-6 weeks.



## Cycling

Riding a stationary or street bike is an excellent way to apply healthy stresses to your ankle and work on ROM. 15-20 minutes of easy cycling is

recommended while wearing your ankle stirrup brace. Let pain be your guide.

If cycling on the road, avoid hilly terrain and go for an easy ride. Stay close to home in case your ankle begins to hurt.

## Walking

You should make walking part of your rehabilitation program when you can bear weight on your ankle pain free and without assistance (crutches). This usually occurs around day 10 (post injury) as the ligaments continue to heal and get stronger.

The average American takes about 15,000 steps a day. So, during the first 10 days, your daily activities will be enough.

**Start with 15 minutes** of walking at a comfortable pace. Again, avoid hilly terrain initially. Each day, add 3 minutes and very gradually increase your walking speed.

**Ice for 20 minutes** after all walking activities for the first 3 weeks if you experience any swelling.

**Three weeks after the injury**, a goal could be to walk for 45 minutes. Use pain as your guide to determine the intensity and duration of your activities. If you experience soreness during or after a walk, take the next day off. Use common sense and give your body time to recover if you do too much.



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Phase **3**



**Days 11 - 28**

**Begin progressive  
weight-bearing  
and functional  
strengthening**

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## PROGRESSIVE WEIGHT BEARING AND FUNCTIONAL STRENGTHENING

At this point in your rehabilitation, it may be necessary to use a functional ankle brace such as the Element® Sport Ankle, DeRoyal Sports Ankle or the DeRoyal Functional Ankle Brace depending on your pain and the severity of your injury. Consult your physician or medical professional.

During this phase, perform all exercises on your feet (weight bearing). Do each exercise in succession — as each one places progressively more stress on your ankle and injured ligaments.

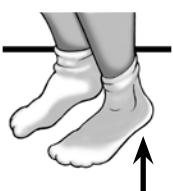
## FUNCTIONAL STRENGTHENING EXERCISES

**Always use pain as your guide.** You may have mild discomfort as you advance through the exercises. If this happens, apply ice and stay at the same exercise level for an additional day. Then, try to progress to the next level.

**Continue the calf strengthening exercise before and after all Phase 3 activities. Continue your walking program daily as outlined in Phase 2.**

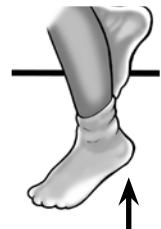
- Bilateral Heel Raises.** With both feet, rise up on your tiptoes and hold for a 10 count. Then, rest for 1-2 seconds. Perform 3 sets of 15 repetitions, resting between each set.

**How Often?** Three times a day. Use pain as your guide.



- Single Leg Heel Raises.**

Standing only on the injured leg, raise your heel (pain-free) and hold for a 10 count. Lower the heel slowly to the ground. Then, rest for 1-2 minutes. Perform three sets of 15 repetitions, resting between each set.



**How Often?** Three times a day. Use pain as your guide.

- Bilateral Hopping.** Running involves jumping from one leg to the other. Hopping prepares you to jump — so, hop! Hop in place (pain free) for 30 seconds. Perform 8-10 sets. Discontinue Bilateral Heel Raises.

**How Often?** Three times a day. Use pain as your guide.

- Single Leg Hopping.** Standing on your injured leg, hop in place for 30 seconds, gradually trying to increase the height of your jump. Perform 8-10 sets. Discontinue Bilateral Hopping.

**How Often?** Three times per day. Use pain as your guide.

- Improve Balance and Coordination.** Place 5-6 pieces of tape on the floor 3-4 inches apart and hop to each spot. Continue Single Leg Hopping.

**How Often?** Three times per day. Use pain as your guide.

### Resuming Athletic Activities

If you are going to participate in athletic activities, the following activities are recommended. Check with your physician or medical professional for guidelines on the frequency, duration, and distance of the activities. Their recommendation will be specific to the severity of your individual injury and to your sport. Continue Single Leg Hopping and Balance exercises.

- Walk/Jog
  - Jog straight ahead
  - Jog in S or Figure 8
  - Jog, initiating 45° cutting on your injured ankle
  - Jog initiating 90° cutting on injured ankle (Z).
- Running at half speed:
  - Figure 8's
  - 45° diagonals
  - 90° cutting
- Running at three-quarters speed:
  - Figure 8's
  - 45° diagonals
  - 90° cutting
- Cutting on command and sport specific activities or skills may be added by your personal physician or medical professional.

### What should I do for my ankle after I start back into my exercise or sports routine?

Continue to ice after activity, if swelling persists, consult your physician or medical professional. Continue your ankle strengthening and flexibility program for 4-6 weeks after injury. Continue to wear your Element® Sport, Functional or DeRoyal Sport Ankle Brace with activities to prevent reoccurring ankle injuries.

Please contact your physician or medical professional if you have any questions about these rehabilitation recommendations. Your injury may be too severe to initiate Phase 2 and Phase 3 of the rehabilitation protocol within the recommended time frames.

Consult your medical professional for specific guidelines on how to manage your injury. Always follow the individual instructions of your physician or medical professional.



## Self Management Program

With any injury or medical condition it is advisable to consult a physician or other medical professional before beginning any treatment or rehabilitation program. DeRoyal strongly recommends that you contact your physician immediately if you experience any of the following symptoms:

- Numbness or tingling in your feet or ankle.
- Cold or discolored toes (Try loosening or removing your elastic bandage if it is being worn. If the problem continues, consult your physician or medical professional).
- An increase in swelling with decreased mobility.
- Severe pain that does not ease after rest.
- Inability of your ankle to bear weight more than four days after your injury.



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