

TOE FRACTURE (Phalangeal)



■ ■ ■ Description

A toe fracture is when one or more of the bones in the toes are broken (fractured). The fracture may occur in one of the joints of the toes or may not involve a joint.

■ ■ ■ Common Signs and Symptoms

- Severe pain at the fracture site at the time of injury
- Pain, tenderness, swelling, and later bruising of the toe and later the foot
- Visible deformity if the fracture is complete and the bone fragments separate enough to distort normal body contours
- Numbness or coldness from swelling in the toe, causing pressure on the blood vessels or nerves (uncommon)

■ ■ ■ Causes

- Direct blow to the toe, such as with kicking or being stepped on
- Indirect stress to the toe, such as with twisting

■ ■ ■ Risk Increases With

- Sports in which shoes are not worn (ballet, gymnastics) or shoes are worn that are thin and have little support (boxing, martial arts)
- Sports in which cleats are used, such as football, soccer, and baseball
- History of bone or joint disease, including osteoporosis, or previous immobilization

■ ■ ■ Preventive Measures

- Wear appropriate footwear for running and contact sports.
- If you have had a previous toe injury or foot immobilization, use tape or padding to protect the toes when participating in sports in which toe injury is likely.

■ ■ ■ Expected Outcome

With appropriate treatment and normal alignment of the bones, healing can be expected, usually in 4 to 6 weeks. Rarely, surgery is necessary.

■ ■ ■ Possible Complications

- Nonunion (fracture does not heal)
- Malunion (heals in a bad position, including twisted toes)
- Chronic pain, stiffness, or swelling of the toe
- Excessive bleeding, causing pressure on nerves and blood vessels (rare)
- Unstable or arthritic joint following repeated injury or delayed treatment
- Arrest of normal growth in children
- Infection in open fractures (skin is broken over the fracture) or at the incision or pin sites if surgery was necessary
- Shortening or injured bones

- Bony prominence or loss of contour of the toes
- Arthritic or stiff toe joints if the fracture goes into the joint

■ ■ ■ General Treatment Considerations

Initial treatment consists of ice and elevation of the injured foot at or above heart level to reduce swelling. Pain medications help to relieve pain. Immobilization by splinting, bandaging, casting, or bracing for 4 or more weeks is usually recommended to protect the bones while they heal. Occasionally a hard-bottomed or stiff-soled shoe is recommended during healing. Surgery is uncommonly needed. If surgery is recommended, this usually involves placement of removable pins, screws, and occasionally plates. After immobilization (with or without surgery), stretching and strengthening of the injured and weakened joint and surrounding muscles (due to the injury and the immobilization) are necessary. These may be done with or without the assistance of a physical therapist or athletic trainer. Occasionally, depending on the sport and the position played, taping or a splint may be recommended when returning to sports.

■ ■ ■ Medication

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.

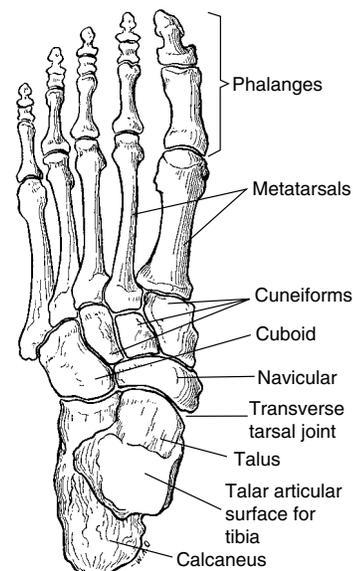


Figure 1

From Jenkins DB: Hollinshead's Functional Anatomy of the Limbs and Back, 6th ed. Philadelphia, WB Saunders, 1991, p. 286.

- Strong pain relievers may be prescribed as necessary. Use only as directed and only as much as you need.

■ ■ ■ **Cold Therapy**

Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every 2 to 3 hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage.

■ ■ ■ **Notify Our Office If**

- Pain, tenderness, or swelling worsens despite treatment
- You experience pain, numbness, or coldness in the foot
- Blue, gray, or dusky color appears in the toenails
- Any of the following occur after surgery: fever, increased pain, swelling, redness, drainage, or bleeding in the surgical area
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

EXERCISES

➤ **RANGE OF MOTION AND STRETCHING EXERCISES • Toe Fracture (Phalangeal)**

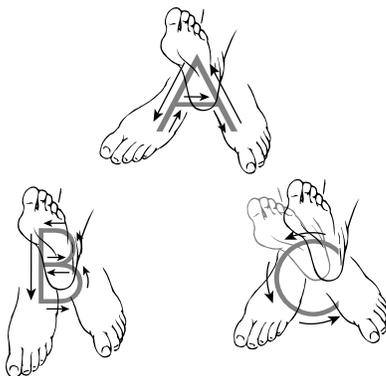
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- Flexible tissue is more tolerant of the stresses placed on it during activities.
- Each stretch should be held for 20 to 30 seconds.
- A *gentle* stretching sensation should be felt.



RANGE OF MOTION • Active Dorsi/Plantar Flexion

1. Pull your toes and foot toward your body as far as possible, then point the foot and toes away from body as far as possible.
2. Perform this exercise with the knee straight and then with the knee bent.
3. Hold this position for _____ seconds.
4. Repeat exercise _____ times, _____ times per day.



RANGE OF MOTION • Ankle Alphabet

1. Write all the capital letters of the alphabet with your foot and ankle. The motion should come from your foot and ankle, not your hip or knee.
2. Move the foot and ankle slowly, writing the letters as large as possible/comfortable for you.
3. Repeat exercise _____ times, _____ times per day.



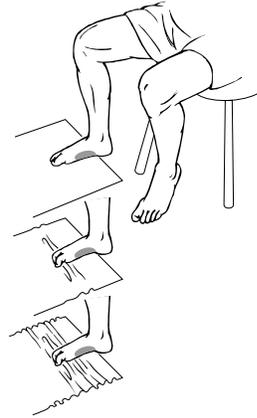
RANGE OF MOTION • Toe Extension

1. Grip your toe(s) as shown in the drawing.
2. Pull the toe(s) up toward your body as shown. Repeat this exercise by pulling the toe down.
3. Hold this position for _____ seconds.
4. Repeat exercise _____ times, _____ times per day.

> **STRENGTHENING EXERCISES** • Toe Fracture (Phalangeal)

These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- Strong muscles with good endurance tolerate stress better.
- Do the exercises as *initially* prescribed by your physician, physical therapist, or athletic trainer. Progress slowly with each exercise, gradually increasing the number of repetitions and weight used under their guidance.



STRENGTH • Towel Curls

1. Sit in a chair and place a towel on a noncarpeted floor. Place your foot/toes on towel as shown. (You may also stand to do this exercise rather than sit.)
2. Curl/pull towel toward you with your toes while keeping your heel on the floor. Move towel with toes only. Do not move your knee or ankle.
3. If this is too easy, place a light weight (book, hand weight, etc.) at the far end of the towel.
4. Repeat exercise _____ times, _____ times per day.

Notes:

(Up to 4400 characters only)

Notes and suggestions