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Fractures

Also called: Broken bone

What is a fracture?

A fracture is a break in a bone. Fractures are usually caused by injuries. Since they can sometimes be serious, it's important to get medical care right away if you think you have a fracture.

What are the different types of fractures?

There are different ways to describe fractures. For example, there are different types of fractures based on:

- **Whether the bone is partially or completely broken.**
- **Whether the bone breaks through the skin;** if it does, it's called an open (or compound) fracture. If not, it's a closed fracture.
- **The direction or shape of the break,** for example if it's in a line across the bone or if it has some kind of pattern.
- **The cause of the break.** For example, a stress fracture is a small break in a bone that is often caused by overuse.
- **Which bone is broken,** for example facial fractures include nose and jaw fractures.

What causes fractures?

Fractures commonly happen because of car accidents, falls [<https://medlineplus.gov/falls.html>], or sports injuries [<https://medlineplus.gov/sportsinjuries.html>]. Overuse and repetitive motions can also cause fractures.

Low bone density [<https://medlineplus.gov/bonedensity.html>] and osteoporosis [<https://medlineplus.gov/osteoporosis.html>] are conditions which cause weakening of your bones. Having one of these conditions makes you much more likely to break a bone.

What are the symptoms of a fracture?

The symptoms of a fracture can vary, depending on which bone you broke. But they may include:

- Intense pain
- Deformity, for example a limb that looks out of place
- Swelling, bruising, or tenderness around the injury
- Trouble moving the injured part

If you think that you may have broken a bone, get medical care right away.

How are fractures diagnosed?

To find out if you have a fracture, your health provider will do a physical exam and ask about your injury. They will also likely order an x-ray [<https://medlineplus.gov/xrays.html>] or other imaging test [<https://medlineplus.gov/diagnosticimaging.html>] to see if your bone is broken.

What are the treatments for fractures?

The most common treatment for a fracture is for you to wear a cast or a splint. This will keep your bone from moving while it heals. How long you need to wear it will depend on the type of fracture and which bone is affected. But it's often for several weeks. Your provider will let you know when you can get it off.

In some cases, you may need surgery to put in plates, pins, or screws to keep the bone in place.

Can fractures be prevented?

There are steps you can take to lower your risk of fractures:

- Keeping your bones strong by:
 - Getting enough calcium [<https://medlineplus.gov/calcium.html>] and vitamin D [<https://medlineplus.gov/vitamind.html>] in your diet
 - Getting regular physical activity [<https://medlineplus.gov/howmuchexercisedoneed.html>] , including weight bearing exercises such as walking, tennis, and dancing
 - Getting treatment for low bone density or osteoporosis (if needed)
- Wearing protective equipment [<https://medlineplus.gov/sportssafety.html>] when you do sports
- Preventing falls by:
 - Getting rid of any tripping hazards in your home
 - Being careful when walking on wet or icy surfaces
 - Choosing the right footwear [<https://medlineplus.gov/foohealth.html>]

Diagnosis and Tests

- Bone Scan [<https://www.mayoclinic.org/tests-procedures/bone-scan/about/pac-20393136?p=1>]
(Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/tests-procedures/bone-scan/about/pac-20393136?p=1>]
- Bone X-Ray [<https://www.radiologyinfo.org/en/info/bonerad>]
 (American College of Radiology; Radiological Society of North America)
Also in Spanish [<https://www.radiologyinfo.org/es/info/bonerad>]

Prevention and Risk Factors

- Bone Mineral Density Tests: What the Numbers Mean [<https://www.niams.nih.gov/health-topics/bone-mineral-density-tests-what-numbers-mean>]  (National Institute of Arthritis and Musculoskeletal and Skin Diseases)
Also in Spanish [<https://www.niams.nih.gov/es/informacion-de-salud/pruebas-de-densidad-mineral-osea-lo-que-significan-los-numeros>]
- Preventing Another Broken Bone [<https://www.niams.nih.gov/health-topics/preventing-another-broken-bone>]
 (National Institute of Arthritis and Musculoskeletal and Skin Diseases)
Also in Spanish [<https://www.niams.nih.gov/es/informacion-de-salud/prevencion-de-fracturas-adicionales>]

Treatments and Therapies

- Fractures (Broken Bones): First Aid [<https://www.mayoclinic.org/first-aid/first-aid-fractures/basics/ART-20056641?p=1>]
(Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/first-aid/first-aid-fractures/basics/art-20056641?p=1>]
- Recovering from Fractures [<https://www.bonehealthandosteoporosis.org/patients/treatment/exercisesafe-movement/recovering-from-falls/>] (Bone Health and Osteoporosis Foundation)

Living With

- Mobility Aids: MedlinePlus Health Topic [<https://medlineplus.gov/mobilityaids.html>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/mobilityaids.html>]

Specifics

- Avulsion Fracture: How Is It Treated? [<https://www.mayoclinic.org/diseases-conditions/broken-ankle/expert-answers/avulsion-fracture/faq-20058520?p=1>] (Mayo Foundation for Medical Education and Research)

Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/broken-ankle/expert-answers/avulsion-fracture/faq-20058520?p=1>]

- Greenstick Fractures [<https://kidshealth.org/en/parents/fractures-greenstick.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/fracturas-en-tallo-verde.html>]
- Stress Fractures [<https://www.mayoclinic.org/diseases-conditions/stress-fractures/symptoms-causes/syc-20354057?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/stress-fractures/symptoms-causes/syc-20354057?p=1>]

Images

- Bone fracture repair - series [https://medlineplus.gov/ency/presentations/100077_1.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/esp_presentations/100077_1.htm]
- Creating a sling - series [https://medlineplus.gov/ency/presentations/100137_1.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/esp_presentations/100137_1.htm]

Clinical Trials

- ClinicalTrials.gov: Fractures, Bone [<https://clinicaltrials.gov/search?cond=%22Fractures,+Bone%22&aggFilters=status:not%20rec>]  (National Institutes of Health)

Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Fibula-first fixation in same-level distal third tibia and fibula fractures: A... [<https://www.ncbi.nlm.nih.gov/pubmed/40734215>]
- Article: Does high frequency exercise or electrical muscle stimulation improve strength and... [<https://www.ncbi.nlm.nih.gov/pubmed/40646451>]
- Article: Single versus double symphyseal plating in management of tile C1-2 and... [<https://www.ncbi.nlm.nih.gov/pubmed/40346505>]
- Fractures -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Fractures%2C+Bone%22%5Bmajr%3Aexp%5D+OR+%22Fractures%2C+Cartilage%22%5Bmajr%3Aexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+1+Year%22+%5Bedat%5D+AND+%28patient+education+handout%5Bpt%5D+OR+guideline%5Bpt%5D+OR+clinical+trial%5Bpt%5D%29++NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

Find an Expert

- National Institute of Arthritis and Musculoskeletal and Skin Diseases [<https://www.niams.nih.gov/>] 
Also in Spanish [<https://www.niams.nih.gov/es/portal-en-espanol>]

Children

- Broken Bones (For Kids) [<https://kidshealth.org/en/kids/broken-bones.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/kids/broken-bones.html>]
- Broken Bones (For Parents) [<https://kidshealth.org/en/parents/b-bone.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/b-bone.html>]
- Cast Care: Do's and Don'ts [<https://www.mayoclinic.org/healthy-lifestyle/childrens-health/in-depth/cast-care/art-20047159?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/healthy-lifestyle/childrens-health/in-depth/cast-care/art-20047159?p=1>]
- Growth Plate Injuries [<https://www.niams.nih.gov/health-topics/growth-plate-injuries>]  (National Institute of Arthritis and Musculoskeletal and Skin Diseases)
Also in Spanish [<https://www.niams.nih.gov/es/informacion-de-salud/lesiones-en-las-placas-de-crecimiento>]

Teenagers

- Comminuted Fractures [<https://kidshealth.org/en/parents/fractures-committed.html>] (Nemours Foundation)

Also in Spanish [<https://kidshealth.org/es/parents/fractures-committed.html>]

- Comminuted Fractures [<https://kidshealth.org/en/teens/fractures-commminated.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/teens/fractures-commminated.html>]
- Greenstick Fractures [<https://kidshealth.org/en/teens/fractures-greenstick.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/teens/fractures-greenstick.html>]
- What to Expect When Your Cast Comes Off [<https://kidshealth.org/en/teens/cast-care.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/teens/cast-care.html>]

Older Adults

- Falls and Fractures in Older Adults: Causes and Prevention [<https://www.nia.nih.gov/health/falls-and-falls-prevention/falls-and-fractures-older-adults-causes-and-prevention>]  (National Institute on Aging)
Also in Spanish [<https://www.nia.nih.gov/espanol/caidas/prevenga-caidas-fracturas>]

Patient Handouts

- Broken bone [<https://medlineplus.gov/ency/article/000001.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000001.htm>]
- Closed reduction of a fractured bone [<https://medlineplus.gov/ency/patientinstructions/000521.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000521.htm>]
- Closed reduction of a fractured bone - aftercare [<https://medlineplus.gov/ency/patientinstructions/000522.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000522.htm>]



MEDICAL ENCYCLOPEDIA

Bone fracture repair - series [https://medlineplus.gov/ency/presentations/100077_1.htm]

Bone scan [<https://medlineplus.gov/ency/article/003833.htm>]

Bone x-ray [<https://medlineplus.gov/ency/article/003808.htm>]

Broken bone [<https://medlineplus.gov/ency/article/000001.htm>]

Closed reduction of a fractured bone [<https://medlineplus.gov/ency/patientinstructions/000521.htm>]

Closed reduction of a fractured bone - aftercare [<https://medlineplus.gov/ency/patientinstructions/000522.htm>]

Creating a sling - series [https://medlineplus.gov/ency/presentations/100137_1.htm]

Hardware removal - extremity [<https://medlineplus.gov/ency/article/007644.htm>]

How to make a sling [<https://medlineplus.gov/ency/article/000017.htm>]

Joint x-ray [<https://medlineplus.gov/ency/article/003810.htm>]

Pin care [<https://medlineplus.gov/ency/patientinstructions/000481.htm>]

Related Health Topics

Ankle Injuries and Disorders [<https://medlineplus.gov/ankleinjuriesanddisorders.html>]

Arm Injuries and Disorders [<https://medlineplus.gov/arminjuriesanddisorders.html>]

Bone Diseases [<https://medlineplus.gov/bonediseases.html>]

Elbow Injuries and Disorders [<https://medlineplus.gov/elbowinjuriesanddisorders.html>]

Finger Injuries and Disorders [<https://medlineplus.gov/fingerinjuriesanddisorders.html>]

Foot Injuries and Disorders [<https://medlineplus.gov/footinjuriesanddisorders.html>]

Hand Injuries and Disorders [<https://medlineplus.gov/handinjuriesanddisorders.html>]

Heel Injuries and Disorders [<https://medlineplus.gov/heelinjuriesanddisorders.html>]

Hip Injuries and Disorders [<https://medlineplus.gov/hipinjuriesanddisorders.html>]

Jaw Injuries and Disorders [<https://medlineplus.gov/jawinjuriesanddisorders.html>]

Knee Injuries and Disorders [<https://medlineplus.gov/kneeinjuriesanddisorders.html>]

Leg Injuries and Disorders [<https://medlineplus.gov/leginjuriesanddisorders.html>]

Neck Injuries and Disorders [<https://medlineplus.gov/neckinjuriesanddisorders.html>]

Osteoporosis [<https://medlineplus.gov/osteoporosis.html>]

Shoulder Injuries and Disorders [<https://medlineplus.gov/shoulderinjuriesanddisorders.html>]

Toe Injuries and Disorders [<https://medlineplus.gov/toeinjuriesanddisorders.html>]

Wrist Injuries and Disorders [<https://medlineplus.gov/wristinjuriesanddisorders.html>]

National Institutes of Health

The primary NIH organization for research on *Fractures* is the National Institute of Arthritis and Musculoskeletal and Skin Diseases [<http://www.niams.nih.gov/>]

Other Languages

Find health information in languages other than English [<https://medlineplus.gov/languages/fractures.html>] on *Fractures*

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