

Radial Shaft Fracture and Greenstick Fracture



What is a radial shaft fracture?

The radius and ulna are the two long bones of the forearm, extending from the elbow to the wrist. A radial shaft fracture happens when the radius breaks somewhere along the middle of the bone. There are two types of radial shaft fractures: bicortical fractures and greenstick fractures.

A bicortical fracture occurs when the bone breaks completely through both sides (cortices) of the bone. If you think of the bone as a tree trunk, the fracture line goes through the bark on one side of the tree and all the way through the trunk and out through the bark on the other side.

A greenstick fracture occurs when the bone breaks but the break does not go all the way through to the other side of the bone.

These injuries usually occur after a fall or a direct hit to the arm.

How is this injury treated?

Bicortical fractures can be, or become, unstable fractures. This means the bone either has moved or might move. The first step of treatment is to determine if the fracture is stable and if the bone is in the right place to heal properly.

If the bone has moved too far, it will likely need to be set back into proper position. This is called a reduction and is usually done in the emergency department. Surgery may be needed to make the bone stable and put it in the right position to heal if the fracture is too unstable.

Your child will probably wear a cast once the bone has been put into proper position. The first cast is usually a long arm cast that comes up above the elbow, but we may use a short arm cast.

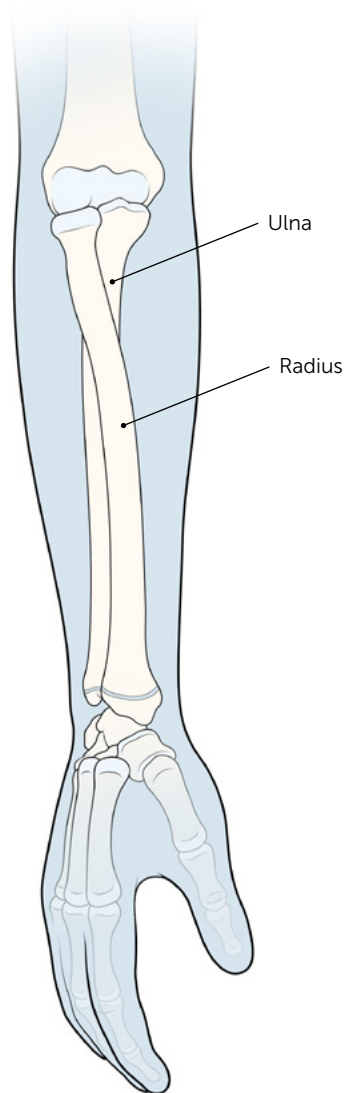
If a reduction is needed, we usually split the first cast to leave room for swelling and tape the sides of the cast with cloth medical tape. You can buy medical tape at a pharmacy in case it begins to peel off. You may also use cloth athletic tape or duct tape, but avoid these if your child has a latex allergy. The cast is held tightly in place from the inside, so it should not fall apart if the tape starts to peel. We usually do not use a waterproof cast for the first cast because of swelling.

Will my child be in pain?

Soreness is usually at its worst in the first few days through the first week after the injury. Pain from soreness can be treated with acetaminophen (Tylenol®) or ibuprofen (Advil®) as needed. **Always talk with your provider about allergies your child may have before giving over-the-counter medication.**

We may prescribe a small amount of prescription pain medication after surgery or a reduction if we feel it is needed.

Swelling in the fingers is common. Have your child keep their arm and hand lifted or resting above their heart.



Can my child be active?

The cast provides some protection, but a blow to the arm could move the fracture out of place or make the injury unstable.

Your child should not participate in activities that put them at risk of falling or getting a direct hit to the arm. This includes activities like:

- playing on playground structures (i.e. jungle gyms or swing sets)
- contact sports like basketball, hockey or soccer
- horseback riding, ice skating or skiing

How long will my child be out of sports?

We will assess your child and make recommendations based on how the fracture looks and the potential risks of the sport your child plays. Your child probably will not be able to play contact sports or do playground activities for eight to 12 weeks, including some recovery time after the cast comes off.

Will my child need physical therapy or treatments after bracing or casting?

Your child probably will not need physical therapy and should regain full strength and movement within one to two weeks after the cast comes off.

When should I follow up?

Your child should come back for x-rays in one week and again the following week.

The muscles in the arm put tension on the bone, even though your child is in a cast and cannot move much. This tension can allow the bone to drift out of the correct position. We watch closely for this so we can treat it early if it does happen.

If the first cast was split and everything looks good at the one-week appointment, we will overwrap that cast. This means we put a new layer over the cast to close it off, which keeps it from getting too loose as swelling goes down.

The most common timeline for casting is four weeks in a long arm cast, followed by two weeks in a short arm cast and two weeks in a wrist splint.

When should I contact the office?

Call us if your child has:

- pain that increases quickly and without warning
- swelling with no new fall or injury
- new redness and warmth around the area with new fevers, chills or nausea (feeling sick)
- pain that does not get better after taking acetaminophen (Tylenol®) or ibuprofen (Advil®)
- numbness and inability to wiggle fingers

These could be signs of a different problem, and we may direct you to take your child to our clinic or the emergency department.

Notes
