

Open Reduction and Internal Fixation (ORIF)

What is it and why do I need it?

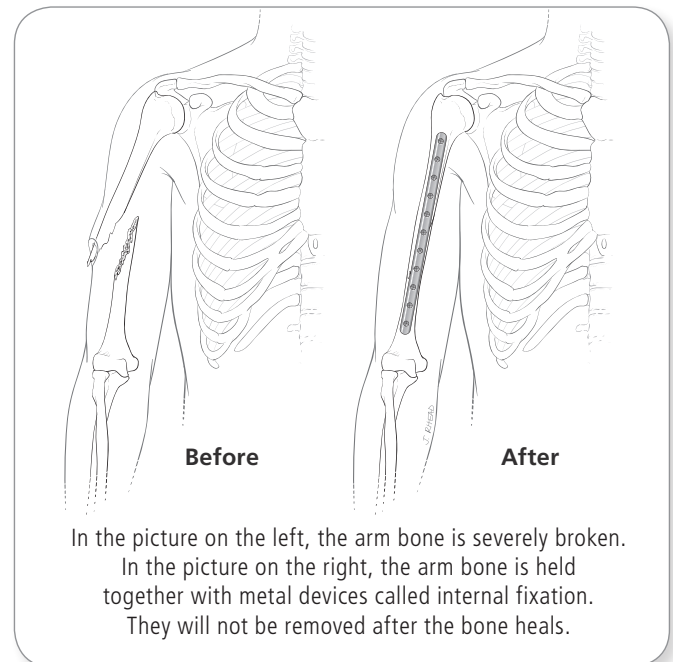
Open reduction and internal fixation (ORIF) is surgery to repair a broken bone. **Open reduction** means the doctor makes an incision (cut) to reach the bones and move them back into their normal position. **Internal fixation** means metal screws, plates, sutures, or rods are placed on the bone to keep it in place while it heals. The internal fixation will not be removed.

Why do I need it?

This surgery is done on an arm or a leg to repair fractures that would not heal properly with a cast or splint alone. Your surgeon may recommend ORIF if:

- The bone is broken into many pieces
- The bone is sticking out of the skin
- The bone is not lined up correctly
- A closed reduction (without opening the skin) was done before and it didn't heal properly
- A joint is dislocated

This surgery should allow your bone to heal properly. When it does, you will have less pain and be better able to move and use your arm or leg.



Talking with your doctor

The table below lists the most common potential benefits, risks, and alternatives for ORIF surgery to repair a broken bone. There may be other benefits or risks in your unique medical situation. Talking with your doctor is the most important part of learning about these risks and benefits. If you have questions, be sure to ask.

Potential benefits	Risks and potential complications	Alternatives
ORIF surgery may: • Decrease pain and help your broken arm or leg heal correctly • Restore the bone to its normal function • Prevent further injury	• Risks associated with any surgery: Bleeding that would require a blood transfusion; infection; allergic reaction to anesthesia • Risks associated with ORIF: – Nerve damage that reduces feeling in the arm or leg – Hardware in the arm or leg moving out of place – Pain, swelling, or trouble moving the arm or leg – Incomplete healing of the bone – Increased pressure in the arm or leg (compartment syndrome) which can damage muscles and tissue – Blood clot, possibly traveling to the heart (pulmonary embolism) – Muscle spasms	ORIF is usually done only when the break is so severe that it is the only option. If the break is not severe, your doctor may be able to move the bones back into place, or maintain the position of the bones with a cast or a brace while it heals.

How is it done?

Since broken bones are usually caused by an accident, ORIF is usually an emergency surgery. How long the surgery lasts depends on how severe the break is. In many cases, the surgery lasts a few hours. Here's what happens:

- **Anesthesia.** An anesthesia provider will discuss your pain control with you. You will likely be given general anesthesia so you sleep through the procedure and don't feel anything. You may also be given a nerve block to decrease pain after surgery.
- **Incision.** The surgeon will make an incision (cut) in the skin over the bone.
- **Moving the bone into place.** The surgeon will move the bone into the correct position. Metal plates, rods, sutures, and/or screws will then be applied to hold the bone together as it heals. An x-ray may be taken after the devices are attached.
- **Closing the incision.** Your incision will be closed with stitches or staples and covered with a bandage. A cast or splint will be put on to protect the repair as it heals.
- **Recovery.** After the surgery, you will be taken to a recovery area to be monitored until you are awake and doing well. Your circulation, sensation, and movement will be checked often. Most patients with an arm fracture go home the day of surgery. Patients with a leg fracture sometimes stay longer.

What can I expect?

Complete recovery usually takes 3 to 12 months. How long it takes depends on how severe your fracture was, and whether nerves and blood vessels were damaged.

Your doctor may recommend physical therapy during your recovery. A physical therapist can teach you exercises to help you regain strength and motion in your limb. These exercises may be necessary for you to be able to use your arm or leg the way you used to.

How do I care for myself at home?

Do these things to help your recovery go better:

- **Manage your pain well.** Your doctor will recommend prescription or over-the-counter pain medication, or both. Be sure to buy it before you go home, and take it as recommended. If it doesn't manage your pain well, call your doctor.
 - **Elevate the affected limb** above the level of your heart for the first 48 hours. You may also be instructed to use ice to reduce swelling.
 - **Keep your incision clean and covered.** Ask your doctor when it's okay for you to bathe or shower, and when the dressing will be changed.
 - **Don't put any weight or pressure on the healing limb at first,** not even for balance or to reposition yourself. If you were sent home with a sling, crutches, or wheelchair, be sure to use them.
- It may be a several weeks before you can use your limb for everyday activities. For more difficult activities, such as lifting or playing sports, you need to wait for the bone to heal completely. This could take 3 to 12 months.
- **Before you ever have any other procedures,** tell all your healthcare providers, even your dentist, that you have metal hardware in your arm or leg. They may ask you to take antibiotics to prevent infection.

When should I call my doctor?

Call your doctor if you have:

- Fever over 101.5°F (38.5°C)
- Skin that is very irritated or developing sores, especially near the edges of the cast
- Fingers or toes that are cold, pale, blue, or swollen
- Pain that isn't controlled by your medication

Call 911 or go to the emergency room if you have:

- Active bleeding (blood is bright red)
- Shortness of breath or trouble breathing
- Chest pain or a fast heart beat that comes on suddenly