



Education

Surgery to Set a Broken Bone

Surgery to set a broken bone is called an open reduction of a fracture. The surgery involves cutting open the skin and putting bone fragments back into place. The bone is then held in place with special screws or by attaching metal plates to the bone (internal fixation). Pins that go through the bone, or rods that go inside the length of the bone, are used to keep the bone in place.

When is it used?

The surgery may be done if the broken bone is deformed and needs a pin, screw, plate, or rod attached to it to hold it in a better position while it heals.

If a fractured bone goes through the skin, it is important to clean the wound very well to prevent infection of the bone. Cleaning of the wound is done in the operating room, and internal fixation is often done at the same time if it is needed.

Alternatives to this procedure include:

- Realigning the bones without surgery, a procedure called closed reduction, and using a cast, splint, or external fixation to keep the bone or bones in a better position. External fixation uses pins or screws put through the skin and bone above and below the fracture. The pins or screws are connected to metal bars on the outside of the skin to form a frame around the fracture. This frame keeps the bone pieces in place while the bone heals.
- Trying traction and resting in bed for a long time.
- Choosing not to have treatment, while recognizing the risk of your condition, that is, your bone healing in a poor position.

You should ask your health care provider about these choices.

How do I prepare for open reduction of a fracture?

Plan for your care and recovery after the operation. Find someone to drive you home after the surgery. Allow time to rest. Try to find other people to help you with your day-to-day duties.

Follow any other instructions provided by your health care provider. Do not eat or drink anything after midnight and the morning before the procedure. Do not even drink coffee, tea, or water after midnight.

What happens during the procedure?

You will be given a regional or general anesthetic. A regional anesthetic numbs part of your body while you remain awake. It should keep you from feeling pain during the operation. A general anesthetic relaxes your muscles, puts you to sleep, and prevents you from feeling pain.

The surgeon will make one or more cuts (incisions) in the area of the fracture. The broken bone will be put into a position where it lines up properly. The surgeon may secure your bone with pins, screws, plates, wire, or a rod to help it stay straight. Then he or she will close the cuts in your skin.

What happens after the procedure?

You may go home later in the day or may need to spend a couple of days in the hospital, depending on how bad the break was, how quickly you recover from the anesthetic, and how much pain you are in. You may need to wear a splint, dressing, or a cast to help keep the bone in place while it heals.

If you stress the fracture site too much before it is healed you may damage the work that was done to realign the bone. This is unusual though and it takes quite a lot of stress in most cases to cause a problem. Talk to your health care provider to find out just how much you can stress the fracture.

Exercises are usually necessary during and after the healing process. Exercise helps to make the muscle strong and flexible and helps your joints move normally.

Ask your provider what other steps you should take and when you should come back for a checkup.

What are the benefits of this procedure?

The bone may heal in a better, more normal position. In some cases, the surgery allows a quicker recovery from the fracture than just putting the bone in a cast without surgery.

What are the risks associated with this procedure?

- There are some risks when you have general anesthesia. Discuss these risks with your health care provider.
- A regional anesthetic may not numb the area quite enough and you may feel some minor discomfort. Also, in rare cases, you may have an allergic reaction to the drug used in this type of anesthesia. In most cases regional anesthesia is considered safer than general anesthesia.
- You may develop an infection.
- Even with surgery the bone position may not be perfect.
- You may lose some feeling in the area of the break near the incisions.
- If the bone is soft or broken into many pieces, the plate or screws may not hold the bone together completely.
- Because of the surgery or the insertion of metal pieces, you may develop blood clots that could cause serious lung problems. In addition, particles of fat from the bone marrow may break loose and get into your bloodstream, enter your lungs, and cause damage.
- If pins, screws, plates, wire, or a rod were used, they might cause problems some time after the surgery. In this case you may want or need another operation to remove the hardware.

You should ask your health care provider how these risks apply to you.

When should I call my health care provider?

Call your provider right away if:

- The wound is bleeding or oozing fluid.
- You develop a fever.
- You become short of breath.
- You are in a lot of pain.
- You have a cast and you have pain, numbness, or cooler skin where the cast was applied. The cast may be too tight and may need to be released or replaced.

Call during office hours if:

- You have questions about the procedure or its result.
- You want to make another appointment.

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