

FACTSHEET



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Fractures – bone healing

What happens when children's bones break?

A fractured bone is the same as a broken bone. If children's bones break or are cut in surgery, it takes a while for the bone to heal. Damage to skin and other tissues leaves a scar when they heal. Bones heal without scarring by forming new bone.

When the bone breaks there is bleeding from the ends as bone has a very good blood supply. The blood forms clots in between the two ends of the bone and is used by the body to start to build new bone. Many new cells enter the damaged area causing inflammation at the site of the injury and new blood vessels are built to carry oxygen. Oxygen is needed for all body functions, including healing.

How does the bone reform?

The cells put fibrous (stringy) tissues and cartilage down in a lump called callus. This callus can be felt as a hard lump under the skin and seen on x-ray. The callus forms a weak type of bone, connecting the two ends. At this stage your child will no longer feel pain and the bone feels stronger. However, the bone is not as strong as normal and can easily re-break or bend at this early stage if your child is not careful. This stage is around three to six weeks after the break. The weaker bone is slowly replaced by your child's normal bone and the bone looks and works as it did before the break. An increase in strength occurs between six weeks to three months after the break. In children, the bone can even slowly straighten itself if it has healed in a slightly bent position. This process is called remodelling and occurs until your child stops growing as a teenager.

How long will my child be in plaster?

Your child's doctor will decide on the length of time a plaster cast is required. It is dependent on which bone was broken and how quickly your child's bone heals. As a general guide, a broken arm can be out of the cast by about six weeks, but a leg may require longer. Each child is different and some may heal quicker or slower than others. After the cast is removed, your child is likely to have a stiff joint but this usually resolves over a few weeks without any need for treatment. You will need to be advised by your doctor when your child will be able to take part in activities like contact sport.

What is needed to help bone heal?

Vitamin C and calcium found in a healthy, well-balanced diet are all that are required to assist in your child's bone healing. Medication has not been shown to help heal bones in children. Speak to your doctor or dietician for advice.

Remember:

- Your child's fracture will heal without special diets or extra calcium.
- Your doctor's advice about the length of time before solid healing is based on the type and position of the break.
- Each child is different and some may heal quicker or slower than others.
- Make sure your child is careful and does not play contact sport until told by the doctor.
- Stiff joints are usually only temporary and regain mobility without treatment over intervals of a few days to several weeks.