

Limb lengthening and correction: How it works

Limb lengthening and limb correction are techniques that can help to correct the results of irregular bone growth that occurred in childhood, or help to repair the damage done in an accident. The bone is corrected in these procedures by carefully cutting the bone and then slowly lengthening or correcting the limb.

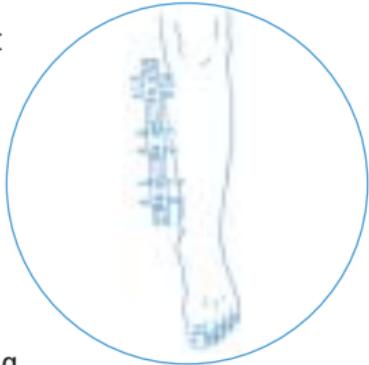
This leaflet explains quite a bit about what's involved, and the importance of taking an active role in your treatment. These can only be general guidelines, and you should always follow the instructions of your surgeon.

External fixation: What does it mean?

An external fixator is a device fitted to the outside of the limb, and is fixed securely using pins or wires to the bone fragments. The external fixator is used to support the bone while it is lengthened or corrected.

Thanks to some clever engineering, the external fixator helps your body to move normally while the bone is healing.

This can make your initial stay in hospital shorter, and help you get back to your normal life as soon as possible.



Cleaning your pin sites

The pin site is where each pin of your fixator goes through your skin. Infection of a pin site can cause pain and swelling and might stop the fixator from working properly. So your pin sites need to be kept clean.

During your hospital stay you will become increasingly involved in the process of keeping your pin sites clean, to the extent of taking complete responsibility for this by the time you go home from hospital. You will be advised while you are in hospital how often to clean your pin sites. This can take a little getting used to, but the nurses will be there to reassure and teach you. This leaflet will provide you with a reminder of the important steps in pin site care.

1 Wash your hands

Before each cleaning session, wash your hands thoroughly. Only use soap that is reserved for you, and use a clean towel every day. Don't touch anything else before starting the cleaning procedure (for example, wheelchair tyres or crutches), and if you have to remove dressings from the pin sites, wash your hands again. Wash them again afterwards, as well.

2 Prepare your cleaning materials

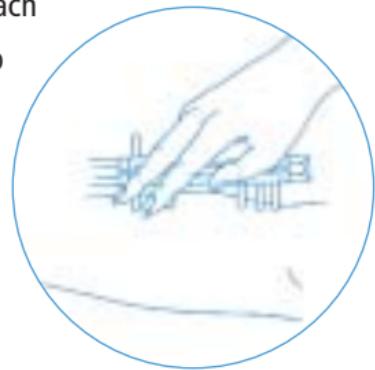
Your cleaning materials will consist of:

- Cleaning solution (as instructed by your surgeon)
- Disposable cups to hold the cleaning solution
- Sterile cotton buds
- A bag for removing all waste material

When you have collected your cleaning materials wash your hands again before proceeding.

3 Fingertip massage

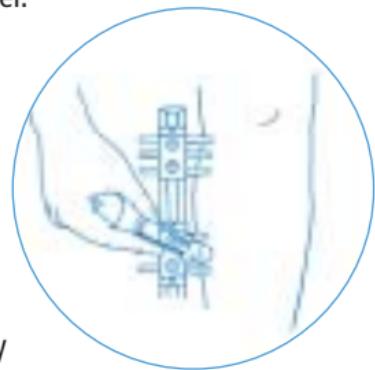
Gently massage the skin around each pin with the tips of your fingers, to make sure that the skin is free to move slightly all around the pin. This encourages any drainage to come up to the surface where it can be cleaned away, reducing the risk of infection.



4 Clean the pin sites

It is important to use a sterile cotton bud for each pin site and to not clean more than one pin site with each cotton bud. This helps to reduce the chance of spreading an infection from one pin site to another.

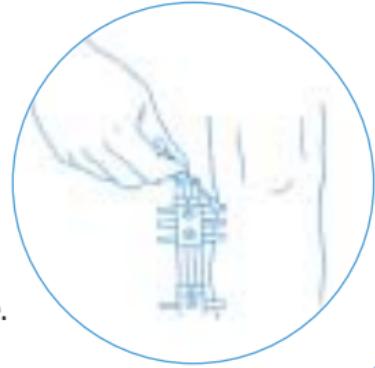
Dip your cotton bud briefly in the cleaning solution. Then clean in a circular motion all around the first pin site, making sure to remove any crusting. Use new cotton buds until the site is completely clean. Then dry the pin site with a dry cotton bud.



Repeat this process for every pin site, using a clean cotton bud for every pin. Do not use the same cotton bud for cleaning further pin sites.

5 Clean the pins

Next, using a fresh cotton bud for each pin, carefully clean the exposed metal, particularly the threaded areas. Wires only need cleaning if there is some discharge.



Cleaning the fixator

Use a damp cloth or cotton buds to keep the whole fixator free of dust, grease or dirt. When advised, you will be able to have a regular shower. In the shower, gently clean the fixator with soap and water, drying it afterwards with a clean towel. You will need to clean the pin sites after you have showered.



Warning signs

If any of your pin sites become painful, swollen or red, or if you notice an unusual amount of discharge, try cleaning the affected site more frequently and contact your doctor for advice. If there's no improvement after two days, or if the discharge becomes thick or coloured, you should contact the hospital or your General Practitioner again. Swabs may then be taken to identify the infection, and you may be prescribed antibiotics.

Antibiotics

If you are prescribed an antibiotic to fight infection, keep taking the dose regularly, until you have finished the whole course. Don't forget, you still have to clean your pin sites!

Adjusting your fixator

Soon after your operation, you will be shown how to adjust the length of your fixator frame. You will need to do this several times a day. This lengthens your bone by just one millimetre a day, which is a comfortable rate for your new bone cells to grow. By taking regular X-ray or ultrasound pictures of your bones, your doctor will make sure that the lengthening isn't happening either too fast or too slowly, and may ask you to adjust the rate of lengthening as a result.

Even when your leg reaches the right length, you will still wear your fixator while the bone grows strong. You may need to wear a plaster cast for a short while after the fixator frame has been removed.

Coping with pain

It is important throughout your treatment to be honest about your level of pain. By doing this, it means that the nurses and doctors can ensure you get the best pain relief.

For the first few days after your operation you may have a self-regulating drip administering a pain-killer that you can control yourself by pressing a button when you need to. After this period, your pain will be controlled by tablet pain-killers. It is always important to seek medical advice before taking any additional medication, and to follow the instructions on any prescriptions carefully.

Living with your fixator

For however long you wear it, your fixator should provide firm but comfortable control. During your treatment, there may be some modifications to the things that you can do, but you should find that the fixator does not interfere too much with your normal life. As soon as your fixator is no longer needed, it can be removed quickly and easily, probably as an out-patient.

More information

Hospital staff, including your surgeon, nurses and physiotherapists, will help you with every aspect of care and recovery. They are there to inform, prepare and support you through the treatment procedure. You may also find it invaluable to talk to patients and their families who have undergone this process.

They may be able to give you practical ideas, solutions and suggestions.



Getting around

Physiotherapy exercises may start the day after your operation. The exercises are important to make sure that your bone is surrounded and supported by healthy muscles, and also to ensure that your joints function well. Your surgeon, nurses and physiotherapists will plan an individual programme of care with you, and your physiotherapy treatment will alter as you progress through your treatment.

Within a few days of your surgery you may be able to stand on your feet and begin to walk with the help of crutches. At first, you will be allowed to put only some of your weight onto the operated leg.

Before you are discharged from hospital you will receive information about weightbearing and mobility. You may require a wheelchair or crutches, depending on the treatment you have had. Your physiotherapist will teach you how to use these and advise you how to reduce any mobility difficulties you may experience at home during this time. As healing progresses, your leg will become more able to bear your full weight.