

*Better  
Together*

## Patient Information

### **External Fixation for the Trauma Patient**

Trauma & Orthopaedic Directorate

Your consultant /doctor has advised you to have an external fixator.

## **What is an external fixator?**

Pins or wires are inserted into your skin and down into bone and these are fastened onto external scaffolding. External fixators can be used to treat bones which are broken (fractured), infected or have failed to heal properly. If required, a bone can also be lengthened and shortened by adjusting the fixator.

There are many types of external fixators in use. Some are temporary, used for a few days or weeks to control swelling or heal wounds after fractures. Some are used for longer, typically for a few months. However, if necessary, they can stay in place longer.

Some patients have an external fixator applied as a temporary measure to allow wound care and swelling to settle. The fracture may be internally fixed or a different type of external fixator may be required for the final management of the broken bone.

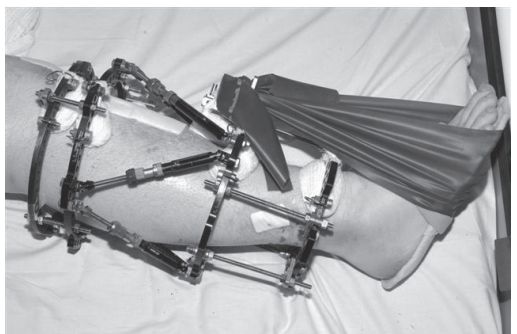
### **Temporary External Fixator**



### **Monolateral External Fixator**



### **Circular External Fixator**



## **What are the benefits of having an external fixator?**

By using the fixator as part of your treatment we hope to achieve better results for you. There are times when external fixation is the only way to treat a problem. The consultant will explain why he had chosen this method. If there are other options which can be used he will discuss those with you too.

## **What are the risks of having external fixation?**

There is a risk to every procedure. With external fixation pins or wires enter the skin, soft tissue and bone, these areas are called pin sites. Pin site infection is a risk associated with external fixation. Advice, care and the management of the external fixator and pin sites will be given, thus reducing the risk. Significant pin site infection may need antibiotic treatment and, in some cases, surgery.

There is a risk of failure of treatment, such risks vary from patient to patient. Your consultant will discuss these risks with you in full during the consent process.

## **What happens after I have agreed to surgery?**

Your doctors will explain the planned operation to you and answer any questions you may have. You will also be told of the risks and benefits involved. Your written consent will be taken, this is a legal requirement which confirms you understand the procedure and what it involves.

Before your surgery you may also meet other members of the Limb Reconstruction Team, nurses, physiotherapists and occupational therapists, when the information you have been given will be repeated. During this time information can be exchanged, problems can be highlighted and addressed. Links with the specialist team are being made.

Our aim is to ensure you are prepared for the journey ahead and that you receive the best possible care during your stay. It is important that your discharge home will be safe, effective and not delayed.

You will be able to speak to a member of the team should you wish, to discuss your planned treatment further. If you would like a family member or friend present during discussion then this is acceptable and encouraged.

## **What will happen if I decide not to have treatment?**

The consultant will explain what can happen if you decide not to have the recommended treatment. It is a patient's legal right to be able to refuse treatment at any time.

## **Getting ready for your operation**

- Routine tests will be done at this time e.g. chest X-ray, blood tests; they are to ensure you are safe, well and fit for anaesthesia and surgery.
- You will be seen by an anaesthetist to ensure you are fit for surgery. You will be told when to stop eating and drinking before your operation. Sometimes surgery may be cancelled because further tests are required or because a more urgent case takes priority over yours.
- The doctor performing your surgery will see you again before your operation. If you have any further questions or concerns they can be discussed.
- You will be seen by other doctors and nurses during your stay who will again ask many questions about your general health, lifestyle and home. Other staff e.g. physiotherapists, occupational therapists and possibly a social worker will see you, this is to ensure you receive the best possible care.

- We encourage all patients who smoke to stop as both active and passive smoking is known to have a delaying effect on wound healing and bone formation, this will prolong healing time and consequently treatment time. In some cases it can cause failure of treatment.
- It's important that we know what medication you were taking prior to your admission.

## **Your hospital stay**

- The length of stay is dependent on the severity of your injuries. We aim not to keep you in hospital any longer than necessary; we need to ensure you are comfortable, fit and safe for discharge.
- During your stay you will be encouraged to undertake your personal care which also includes looking after the external fixator and pin site care, this will give you confidence and ease when handling the fixator. The Limb Reconstruction Team and ward staff will be available to teach you this and answer any queries you may have during this time.
- During your treatment it is important that you receive a healthy diet to assist with tissue repair, and bone healing. If eating or weight loss is or becomes a problem then a dietician may assess you to help provide your dietary requirements.

## **The day of your operation**

- You will be asked to shower or wash, a gown and disposable underwear will be provided. If you are unable to perform this task, don't worry, you will be helped by the nurses looking after you.
- You will be asked to remove jewellery - plain bands can be worn but they will be taped.

- Any body piercings will have to be removed as well as false nails, nail polish and make up.
- If you are on regular medication, you will be told if you need to take it, as usual, on the day of your surgery.
- A bracelet with your personal details will be attached to your wrist.
- A doctor will use a marker pen to draw an arrow on the limb being operated on.
- An anaesthetist may prescribe some medication for you to take before your operation. A member of the nursing staff will give this to you.
- You will be taken on your bed to the operating theatre, a nurse and porters will accompany you.
- If you have dentures, glasses or a hearing aid they can stay with you on your journey to the operating theatre.
- When you arrive in the theatre area, the ward nurse will leave you with the theatre staff who will check your details with you again.

### **What should I expect after my operation?**

- After your operation you will be kept in the theatre recovery room before being transferred to the ward.
- You will be given oxygen to breathe through a mask; your doctors will decide when this can stop.
- You will be given some fluids intravenously. Again, your doctors will decide when this can be stopped.
- At regular intervals a nurse will check your pulse, blood pressure, breathing rate and the limb you have had operated on. You will be given regular painkillers. **It is important if you feel your pain is not being controlled that you inform the nurse immediately.**

- The nursing staff will also advise you when you can start taking sips of water. Anaesthetic can make some people sick. If you feel sick we advise you not to drink until this feeling has passed. The nursing staff may offer medication to help this sick feeling go away.
- If your fracture is to one of your lower limbs then you are at risk of knocking the external fixator against your other leg when you are recovering from the anaesthetic. A bandage will be applied to your other limb to protect it, this is known as a 'buddy bandage', it will have been applied in the operating theatre. This can be removed when you are fully awake.
- Almost all patients are given an injection of a blood thinning drug daily, this is to reduce the risk of clots forming in your lower limbs which can occur after lower limb trauma, surgery, external fixation and reduced mobility. You may have to continue having the injections when you are discharged home. Your doctors will tell you if this is required.
- You will have some postoperative tests e.g. blood tests, repeat X-ray.
- A physiotherapist and occupational therapist will see you.
- Physiotherapy is a vital part of limb reconstruction, you will be assessed and the amount of physiotherapy you will require will be decided and organised.
- When you see the Occupational Therapist postoperatively, he/she will make an assessment: you may require splintage; modification of footwear or aids/help with your personal care. This can be arranged during your hospital stay and outpatient visits.
- It may also be necessary for your clothing to be modified to fit over the fixator, which can be bulky and easily catch on clothing and bedding causing damage. Track suits with zips or buttons on the outer part of the leg can be worn, trousers can be altered to fit too. Many patients prefer to wear shorts. Ladies usually like to wear a long skirt. You may be asked, with your consent, questions about your home, the height of your bed, chairs and width of doors for example. It is important that we know you will be safe and able to manage.

- You may, again with your consent, be seen by a hospital social worker who can offer advice and organise services which may be required for your safe discharge.
- The pin sites are cleaned and redressed at regular intervals throughout your treatment. The dressings will be changed daily for the first three days and then approximately every seven to ten days. You may find cleaning of the pin sites a little uncomfortable at first but this usually settles. You will be given the opportunity to learn how to perform pin site care. It's important that the dressings are left undisturbed unless the cleaning is taking place.
- Pin sites can, at times, become infected. You will be told how we deal with this problem. Sometimes antibiotic treatment and occasionally surgery is required.
- If adjustments to the fixator is required as part of your planned treatment then you will be shown how to do this. The aim is that when you are discharged you will be able to manage the adjustments confidently and competently.
- You may be transferred to another ward or hospital during your stay, if this happens then your doctors, in consultation with other members of staff, will have made the decision.
- The first time you get out of bed please make sure a nurse or physiotherapist is with you. You may require aids e.g. crutches to assist mobilisation. You may also feel a little dizzy; this is normal and usually settles fairly quickly.
- We aim not to keep you in hospital any longer than necessary however we need to ensure you are comfortable, fit and safe for discharge.
- Your doctors will tell you how long they expect you to be in hospital.



## **Going home/ discharge information**

Many patients are concerned about going home and how they will manage. We do try to make your journey through the limb reconstruction process easier by providing you with support, advice and care throughout treatment.

- All the information you require will be provided to you in verbal and written format when you are discharged.
- You will be given appointments to attend outpatient clinic and outpatient physiotherapy.
- Contact numbers will be given to you so that if you do have a problem, no matter how small, you can contact us for advice and information.
- The nursing staff will arrange for a district nurse to call at your home to provide wound/pin site care if required.
- You will be provided with a supply of medicines and dressings.
- Advice on returning to work, driving and exercise and what social activities you can do will be given.
- If you pay for prescriptions it is often more cost effective if a 'season ticket' is purchased. This covers all prescription costs for a period of three or twelve months.

## **What happens during my treatment period?**

- You will be seen in the outpatient clinic on a regular basis. Our clinics are usually very busy, we ask for your patience if the clinic is running late.
- Most patients undergoing limb reconstruction also attend specialist physiotherapy here at the Royal Hospital University Hospital once or twice a week.

- The team will also review you there as the need arises.
- **It is important that we know what medication you are taking. You must let us know if someone, outside the Limb Reconstruction team, prescribes medication for you, or you are taking 'over the counter' medicines as there are some drugs which can affect bone healing.**
- Your consultant will give you further advice on returning to work, driving, exercise and what social activities you can do.
- We can also help with claims to the Department of Health and Social Security and employment issues.
- It is important that you try to lead as normal life as possible.
- If, at any time, you find coping with the fixator difficult then let us know so that we can address your concerns. We offer a 'drop-in' service so you do not have to wait until your scheduled appointment.

## **What happens when the bone is healed?**

Your doctors will keep you informed as to how your bone is healing. Sometimes you may have to have more operations to help the healing process. Again, this will be explained to you and, as before, you will be asked to give your consent.

When the bone is healed the fixator can be removed during a clinic visit. You will be offered Entonox (Gas and Air) to breathe which will help as it is an uncomfortable procedure. Alternatively, you can be admitted to hospital, usually as a day case. You will be taken to the operating theatre and given a light anaesthetic to allow removal of the fixator.

Following fixator removal your pin sites will be dressed and usually heal in a matter of days. Your limb may require some support for a while, a splint/support or plaster may be applied. You will be given information on how to manage and what care we need to provide you with.

There is always the risk that the bone may bend or break again. Although rare, you need to be informed of the risks. Again, any questions or concerns you may have can be discussed with your doctors and/or other members of the Limb Reconstruction Team. The aim is that your treatment and management will be successfully completed without problems being encountered.

Patients undergoing limb reconstruction can be affected in many different ways, both emotionally and physically, **this is a normal response**. Please remember we are here to help and support you throughout the treatment phase. If you have any concerns then please do not hesitate to call us.

## **Contact Numbers**

### **Secretaries**

Secretary to Mr Nayagam	0151-706 3440
Secretary to Mr Narayan	0151-706 3545
Secretary to Mr Giotakis	0151-706 3545

### **LRS Team Members**

Norma Holt	Specialist Practitioner	0151-706 3529
Paula Whittaker	Specialist Physiotherapist	0151-706 2760
Giles Stamps	Specialist Physiotherapist	0151-706 2760
Fiona Daglish	Specialist Physiotherapist	0151-706 2760
Madeleine Mooney	Senior Occupational Therapist	0151-706 2771

**Liverpool Limb Reconstruction Unit [www.limbrecon.com](http://www.limbrecon.com)**

## **Further Information**

**Norma Holt 0151 706 3529**

**norma.holt@rlbuht.nhs.uk**

**FAGENDS [www.stopsmoking.org.uk](http://www.stopsmoking.org.uk) 0800 1952131**

**Directgov. [www.dwp.gov/directgov.uk](http://www.dwp.gov/directgov.uk)**

**Disability Benefits Tel: 0800 882200**

**Employment & Support Allowance & Incapacity  
Benefit Tel: 0800 0556688**

**Author: Trauma and Orthopaedics**

**Review Date: May 2014**

**The above information is available on request in alternative formats including other languages, easy read, large print, audio, Braille, Moon and electronically.**