

## About the surgery to my leg

### Children's Ilizarov Information Pack



## Your Folder

This folder includes information that should help you understand what your operation and your treatment at the Nuffield Hospital involves.

The folder has been developed by the Ilizarov Team to help you get the most benefit from your operation.

You may already know a lot about your operation and the treatment afterward, but this booklet goes into a little more detail for you and also tests your knowledge by getting you to answer questions.

See how you do with the questions.....good luck!

Maz

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## Preparing for your operation

This booklet contains information for you to read before you come into the hospital for your operation.

If you do not understand something in the booklet, please get your parent or guardian to help you.

You or your parent or guardian can also telephone Maz your specialist nurse, Monday to Fridays if they need to ask any questions using the Mobile Telephone number listed below.

If you wish to call Maz, please check with your parent or guardian before using the telephone.

Call Maz by leaving your message on the mobile phone answering service on:

Nurse Mobile Number:



0782 5861951

## Coming into the Hospital

Is this the first time that you have had to go into hospital?

Going into hospital can be frightening the first time.  
When you are frightened, what makes you feel better?

By the time you read this, you may have already visited the children's ward at the Childrens Hospital based at the John Radcliffe Hospital and you may have met with some of the nurses.

What is the name of the your ward?

What is the name of the toy dog with a frame on his leg?



Before you come, remember to pack some toys, games or books that you like. It is very important that you are not bored. If you have things to do which you enjoy, it will help keep your mind off your sore leg. The ward has some special people called play specialists who will also try to help you from becoming bored. The ward also has teachers to help you, so that you do not fall behind in your schoolwork.  
Does your teacher know that you are going to have an operation?

What is the name of your school?

Have you told your friends at school that you are having this frame applied?

## Who will be looking after me in the hospital?

### The Doctors

We have 3 doctors who may be looking after you. These doctors are called the Consultant Surgeon

Their names are:

Mr Martin McNally

Mr Andy Wainwright

Mr David Stubbs

A Consultant Surgeon is a doctor that has passed special exams and tests that allow him or her to perform certain types of operation to your arm and organise the treatment afterwards to help you.

Your consultant surgeon will see you in the clinic quite often after your operation, usually every week to begin with.

If you have any questions about your operation, write the question down and your doctor will answer these for you when you next see him.

### This is a picture of Mr McNally



Listen to Mr McNally speak and tell me where you think his accent is from?  
Is it Ireland, Scotland or Canada?

**This is a picture of Mr Wainwright**



What is Mr Wainwright's first name?  
**Is it Peter, Andy or John?**

**This is a picture of Mr Stubbs**



What is Mr Stubb's first name?  
**Is it Martin, Peter or David?**

## The Specialist Nurse

Maz Sutherland is called the Ilizarov Clinical Nurse Specialist. This is a very long title so we just call her Maz!

You will see Maz quite often before and after your operation.

She will help you learn how to clean your frame and your pin sites.

When you are ready, she will teach you how to make the adjustments to your frame using the spanner in this pack.

In the folder, there is a chart for you to record each time you adjust your frame. Have a look at the chart and see if you understand it.

You may have already met Maz in the clinic.

Maz wears blue trousers and a blue top. Are there spots or stripes on Maz's uniform? What colour are the stripes?



**This is a picture of Maz Sutherland**

## The Physiotherapists

A physiotherapist is a person who helps you learn special exercises to help your leg become stronger after your operation.

Physiotherapist is a very long word, so we shorten the word and call them physio's.

The physio will help you learn how to walk after the operation.

They may show you how to walk using a special frame or a pair of crutches.

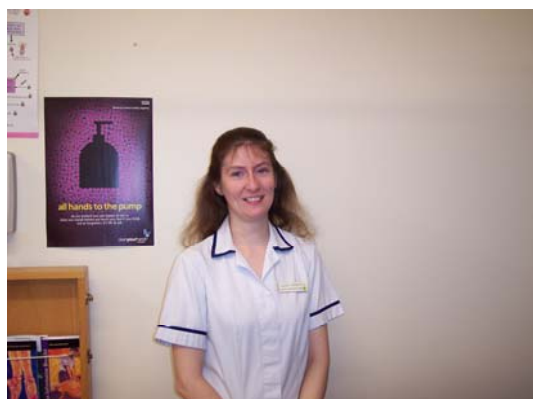
Have you ever used crutches before?

There are some exercises for you in this booklet.

Please look at these before you come into hospital.

If you understand the pictures showing the exercises, have a practice at home.

Physio's wear navy blue trousers and a white top.



**This is a picture of Laura the physio**

**What is Laura's Surname?**



## Occupational Therapist

An occupation therapist is the person who helps you to get back to doing those normal day to day things like, going to the bathroom, getting on and off the toilet, getting up from your wheelchair or going back to school.

We shorten the words Occupational Therapist to OT .  
This is easier to remember and much easier to say.

The OT wears green trousers and a white top.



What is the name of this OT?

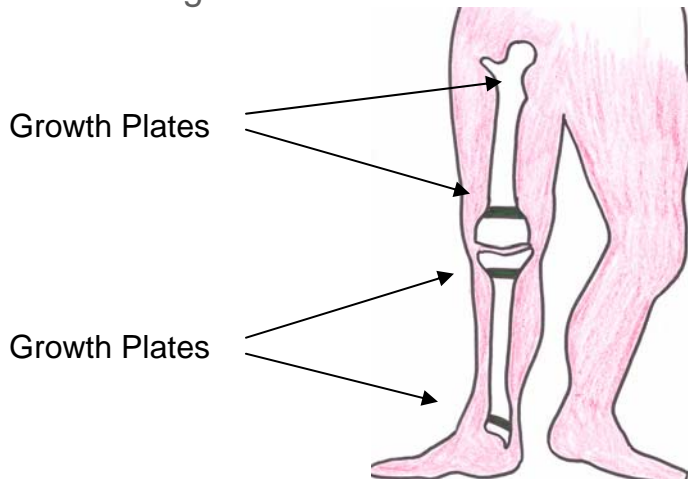


This OT is called Jackie  
What is Jackie's last name?

A clue (It is the same name as the forest where Robin Hood lived)

Why is one of my legs shorter than the other one?

Sometimes there may be a problem with the growth plates in your bones. The bones in your arms and legs are called Long Bones. Growth plates are found in the top and bottom of long bones.



Problems in the growth plates may slow down the speed that your leg grows. This may mean that you have one leg shorter than the other.

Sometimes a leg will look shorter because it has a bend in the bone. This can happen with a condition called Rickets.

Sometimes a leg is shorter because it was damaged in an accident or damaged after a fracture.

There are many reasons for legs to be shorter. Can you think of any other reasons?

Using the frame called the **Ilizarov Fixator** we are able to help you grow more length to one or more of the bones of your leg.

If you are still growing, we may try and over-lengthen your leg, so that by the time you have stopped growing, both legs will be the same length.

The Ilizarov frame is named after Professor Gabrielle Ilizarov, the doctor who invented it.

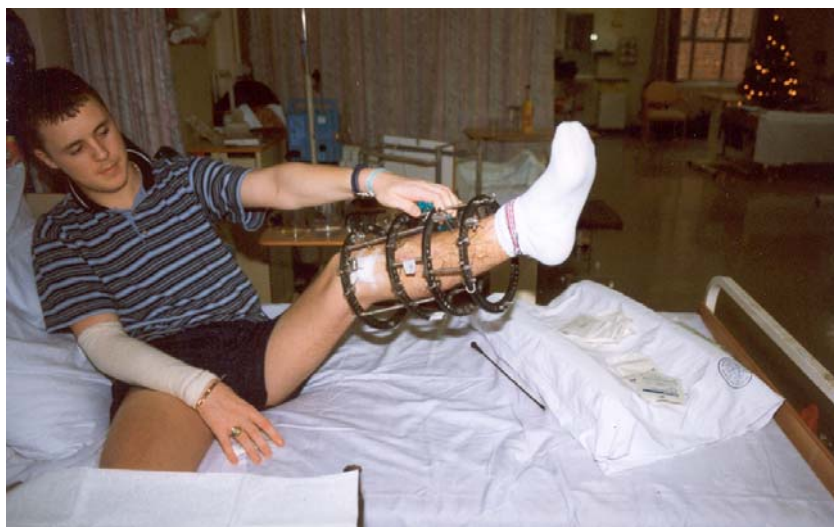
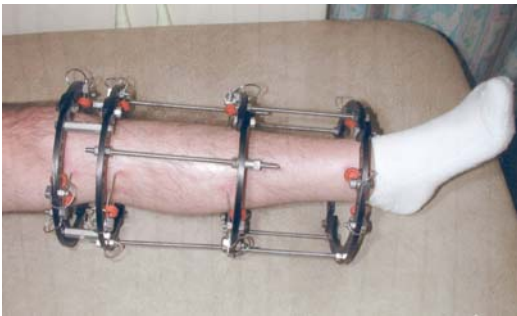
Which country do you think Professor Ilizarov came from?

Here is a clue, it is one of these countries, Ireland, Russia, Italy or Scotland.

What is an Ilizarov Frame?

The Ilizarov frame is a circular black frame also sometimes called an external fixator. The Ilizarov fixator is named after the Russian doctor who invented it, Professor Gabrielle Ilizarov.

Some pictures of the Ilizarov Fixator



How do you lengthen the bone in my leg?

The surgeon will make a small crack in the bone called a corticotomy. Then the frame is attached above and below the corticotomy area.

A picture of the Corticotomy



For 5 days after your operation, we do not make any adjustments to your frame. On day 6 after your operation, we will show you, (or you mum or dad) how to adjust the special **Dice nuts** on the frame.

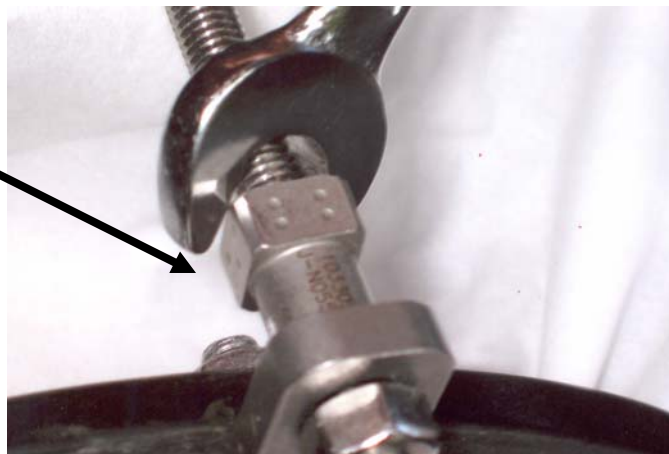
There are usually 4 dice nuts on your frame. When you turn the Dice Nuts, you are actually helping to grow the new bone in your leg.

What do the Dice Nuts look like?

**The Dice Nut**

Each side of this square Dice Nut has a number on it.

What number is showing in the photo?



Each day we teach you to turn the Dice Nuts from one number to the next number. This is repeated at 4 different times during the day. The first turn of each day is done at breakfast time. The second turn is made at lunchtime. The third turn is made at suppertime and the last turn is done at bedtime.

In the photo below, the patient shows you how to adjust his Ilizarov frame to perform one-quarter turn or to go from one number to the next number.



Every time you turn the Dice Nut from one side to the next (or from one number to the next) you are growing one quarter of a millimeter of new bone.

**So, let's test your Math's Skills!**

In your pack, there is a straight ruler that you can use to measure things.

On your ruler, you can see how big one centimeter (cm) looks.

Each time you turn the Dice Nut, you have grown a quarter of a millimeter (mm). So each day after your 4 turns, you have grown one whole millimeter (mm).

There are 10 millimeters (mm) in every centimeter (cm).

So, if you need to grow 2 centimeters (cms) of new bone, it should take you 20 days!

How many centimeters do you need to grow using your frame?

How many days will this take?

If you find this difficult to work out, ask someone to help you.

**Using your ruler**

**Draw an oblong of the exact amount that you need to lengthen your leg. Each week, colour in the amount that you have lengthened during that week.**





## Exercises

Your Physio will tell you which exercises you should do and how  
Often you may have to do these.

The exercises are very important and will help to stop stiff joints and increase the strength in your leg

**It is very important that you exercise regularly, at least 3 times a day.**

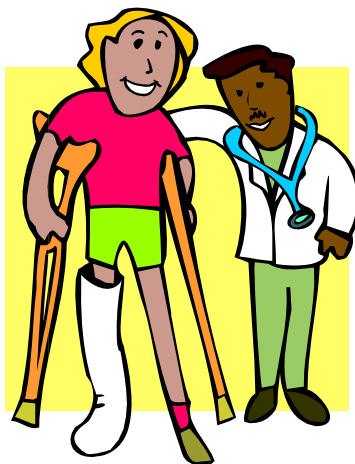
Try doing the exercises to your favorite music.  
Or get your friends or family to do the same exercises with you.

It is usually best to do your exercises half an hour after taking your painkillers.

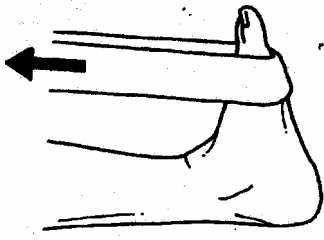
During your time in the childrens ward, the physio will teach you how to walk in the frame using a pair of crutches.

The physio will also show you how to go up and down the stairs.

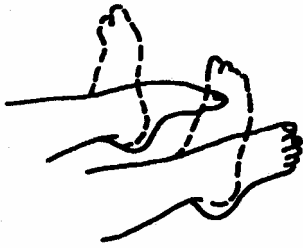
You may want to use a wheelchair for school or may feel more confident on your crutches.



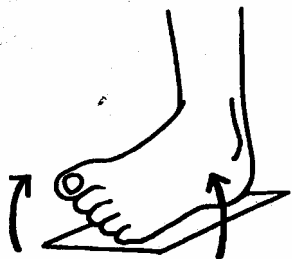
## Ankle Exercises



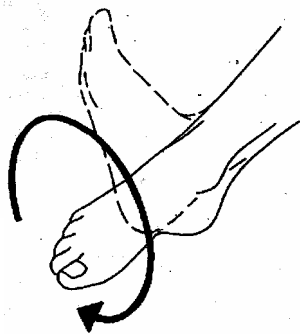
**S**it with one leg straight out in front of you. Put a band around your foot. Gently pull the band and feel the stretch in your calf. Hold for approx. \_\_\_\_\_ seconds. Repeat \_\_\_\_\_ times.



**L**ying on your back or sitting. Bend and straighten your ankles briskly. If you keep your knees straight during the exercise, you will stretch your calf muscles. Repeat \_\_\_\_\_ times.



**S**itting with your foot on the floor. Alternately raise the inner border of your foot (big toe) and then the outer border (little toe). Repeat \_\_\_\_\_ times.



**S**itting or lying. Rotate your ankle. Change directions. Repeat \_\_\_\_\_ times.

## Hip Exercises

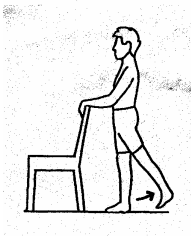


Starting position: Stand against a wall.

Action: Lift leg with frame as far up as possible, bend at hip and knee.

Hold for \_\_\_\_\_ seconds.

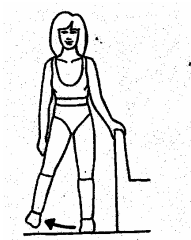
Repeat \_\_\_\_\_ times on left and right.



Stand straight holding onto a chair.

Bring your leg backwards keeping your knee straight. Do not lean forwards.

Repeat \_\_\_\_\_ times.



Stand straight holding on to a support.

Lift your leg sideways and bring it back keeping your trunk straight throughout the exercise.

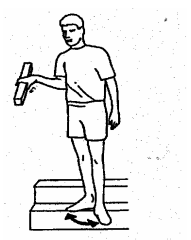
Repeat \_\_\_\_\_ times.



Standing sideways on a small step with support for balance. Allow your outside leg to hang free over the edge of the step.

Gently let the leg swing forwards and backwards like a pendulum.

Repeat \_\_\_\_\_ times.



Standing sideways on a small step with support for balance. Allow outside leg to hang free over the edge of the step. Turn your foot inwards and outwards keeping your toes in line with your kneecap. Feel the muscles in the hip working.

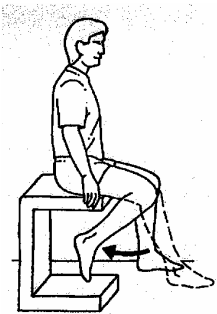
Repeat \_\_\_\_\_ times.



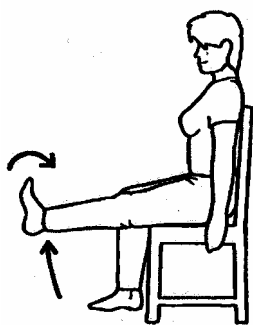
## Knee Exercises



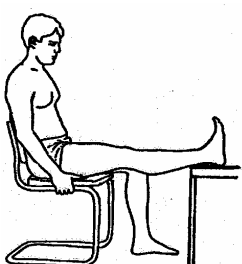
Lying on your back. Bend one leg and put your foot on the bed and put a cushion under the other knee. Exercise your straight leg by pulling your foot and toes up, tightening your thigh muscle and straightening the knee (keep knee on the cushion) Hold approx. 5 seconds and slowly relax. To make the exercise harder put a \_\_\_\_\_ kg weight around your ankle. Repeat \_\_\_\_\_ times.



Sit on a chair with your feet on the floor. Bend your knee as much as possible. Repeat \_\_\_\_\_ times.



Sit on a chair. Pull your toes up, tighten your thigh muscle and straighten your knee. Hold approx. 5 seconds and slowly relax your leg. Repeat \_\_\_\_\_ times.

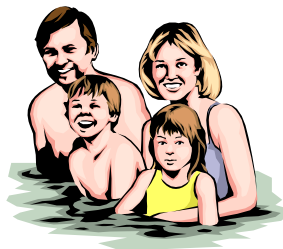


Sitting on a chair, with the leg to be exercised supported on a chair as shown. Let your leg straighten in this position. Hold for \_\_\_\_\_ seconds. Repeat \_\_\_\_\_ times.

**If you are tired or if your leg is sore after doing your exercises, try having a warm bath to relax the muscles of your leg**



**Am I allowed to go swimming?**



Yes, swimming is known to be a very good exercise. After swimming, please remember to shower your frame with shower water and dry the frame and pin sites.

**When can I go back to school?**

Children with Ilizarov frames on their legs are encouraged to walk as much as possible. So as soon as you feel confident to walk on your crutches, ask your parents if you can go back to school.

Some schools will make sure that you have a special classroom assistant who will help you at break-time or if you need help going to the toilet. Some schools may prefer to arrange home tuition for you.

**What happens when the frame comes off?**

The frame is removed in the operating theatre while you are asleep. It takes about 20 to 30 minutes and afterward you may have a plaster or splint on your leg. Mr McNally will let you know how long the plaster will have to be on. You will only be in hospital for 2 days at the most. Most children go home the same day.

## Contact Telephone Numbers

- Ilizarov Office Telephone: **(01865) 737626**
- Ilizarov Clinical Nurse Specialist Mobile Telephone Number  
Telephone: **0782 5861951**

Please leave a message on the answering service along with your name and telephone number and we will phone you back.

- Mr McNally Medical Secretary  
Telephone: **(01865) 738035**
- Mr Stubbs Medical Secretary  
Telephone: **(01865) 738035**
- Mr Wainwright Medical Secretary  
Telephone: **(01865) 738044**
- Physiotherapy Department  
Telephone: **(01865) 738074**
- Occupational Therapy Department  
Telephone: **(01865) 737551**

## Other Useful Telephone Numbers and Web Addresses

Please note, we cannot be responsible for the content and accuracy of information on these sites.

NHS Direct      Tel (0845) 4647 (Free phone)

NHS Direct:

[www.nhsdirect.nhs.uk](http://www.nhsdirect.nhs.uk)

Ilizarov Pages:

[www.ilizarov.com](http://www.ilizarov.com)

[www.ilizarov.org.uk](http://www.ilizarov.org.uk)

[www.groups.yahoo.com/group/ilizarovs-and-fixators](http://www.groups.yahoo.com/group/ilizarovs-and-fixators)

Advice on Medical Conditions:

[www.oxmed.com](http://www.oxmed.com)

NOC Web Page:

<http://194.32.128.14/>

STEPS Organization:

[www.steps-charity.org.uk](http://www.steps-charity.org.uk)

STEPS External Fixator Parent / Carer “Buddy” Support Group

This is where you can phone or email the STEPS Organization and the coordinator will put you in contact with another child or parent of a child who are having similar treatment with an external fixator.

