



Information for  
patients and  
carers

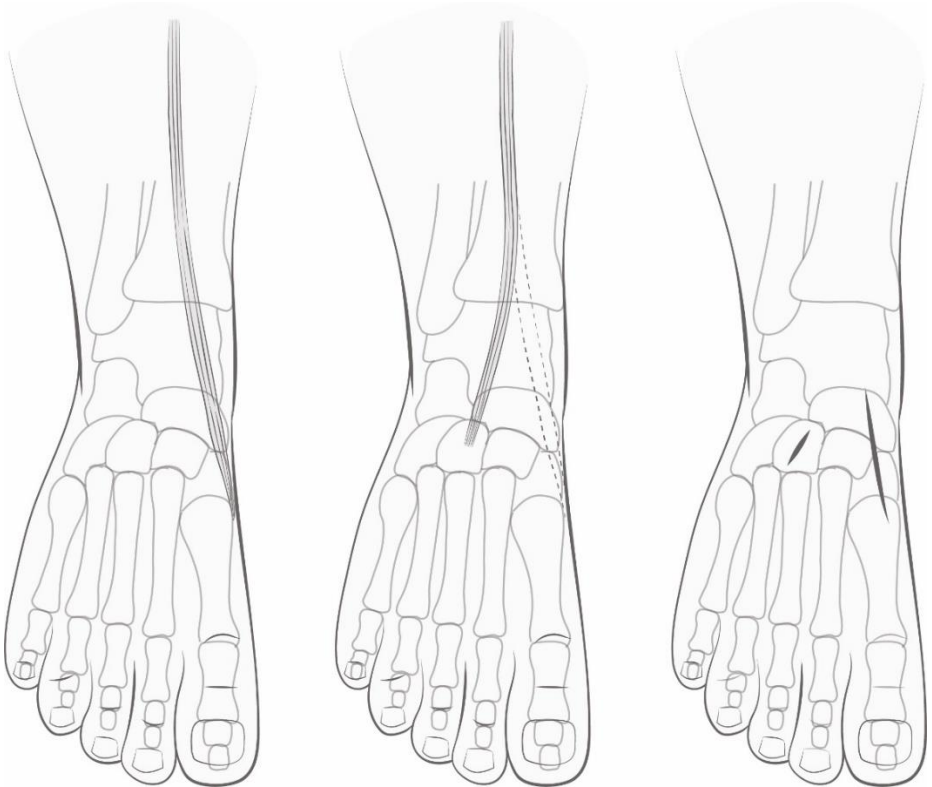
## Ponseti Technique

Tendon Transfer

Your child has been assessed as needing a tendon transfer. The following information should help you and your child understand and prepare for their operation.

## What is a tendon transfer?

This is a surgical procedure which will take place under a general anaesthetic. The operation permanently moves the Tibialis Anterior muscle tendon from its position at the inside of the foot and ankle towards the middle and top of the foot. The tendon transfer technique is recognised as being part of the Ponseti method for the treatment of a club foot.



## Indications for a tendon transfer?

When your child walks, you will notice that they are taking a lot of their weight through the outside border of their foot as they step onto the foot. This movement is known as “**supinating**”. It occurs because the Tibialis Anterior muscle on the front of your child’s lower leg is a little too tight. Normally this muscle is balanced and should simply help to pull the foot and ankle directly upwards, but if it pulls too hard it will pull the foot inwards as the foot as your child steps forwards.

You may also notice that the outside border of the affected foot is becoming curved, because of the strong muscle pull and the crease on the inside of the foot may also be returning. With some children their toes also drift inwards.

These problems are known as a ‘**relapse**’ or ‘**recurrence**’ of your child’s club foot condition.

The Tibialis Anterior muscle and the calf muscle tendon are two of the structures that are likely to have caused the original club foot deformity. As an infant, your child will have probably had an Achilles tendon tenotomy – snipping of the calf muscle tendon – to release the tension in the calf muscle and correct the residual deformity.

When a relapse is noted and tendon transfer is indicated, your child may also need a further tenotomy of the Achilles tendon or another form of lengthening, if their calf muscles have become tight again. The Clinical team will fully discuss your child’s needs.

## Why has this relapse happened?

In some children, the relapse is because they have not been wearing their boots and bar for the expected length of time. The boots and bar keep the Tibialis Anterior muscle and the calf muscles in a stretched position and allow, the cartilage, that will make the small bones of the foot, to re-shape and become harder bones over time. This allows the treated club foot to maintain a corrected position.

Without the boots and bar, the muscle tendons are shorter and tighter and can cause further deformities, as described above.

In other children, it can still happen once the boots and bar have been discontinued, even when they have been worn for the expected length of wear, although the chances of this happening are much reduced.

It is thought that in some children, the original deforming muscle forces continue to have a strong, adverse effect on their foot function. This can sometimes be seen in children whose original club foot was a more difficult foot type to treat, often described as an atypical club foot.

## What are the benefits of a tendon transfer?

- Improve the foot deformity
- Improved foot position during walking
- Pain-free foot function

## What are the risks of a tendon transfer?

- A low risk of bleeding and nerve damage
- Pulling out of the transferred tendon
- A need for further procedures

**All these risks are small.**

## When will the operation take place?

The procedure can normally take place from 3 years of age upwards.

Your child may need an X-ray before a decision is made to do the operation. This is to assess if one of the bones in the foot – the lateral cuneiform – is big enough, as this is the bone that will receive the transferred tendon. If your child is old enough to have the operation and you agree with the procedure, their name will be added to a waiting list.

## Preparation before surgery

Before the operation, your child will need pre-operative plaster casting, to move the foot back into the best, corrected position. The plaster cast will be applied to the foot and leg, up to the middle of the thigh, with the knee slightly bent.

Your medical team will decide how many plasters your child will need – normally they will need between one and three plaster casts, changed on a weekly basis, depending on how tight the muscles of the foot have become.

One hour after the plaster has been applied, your child is free to walk on their plaster(s). They will be given a plaster shoe to go over the plaster to prevent slipping. If your child is school age, they should still be able to go to school in plaster casts before the operation.

Your child will be referred to the Physiotherapy service to be provided with a walking aid, for use after their operation. This will be arranged when you are at one of your Out- Patient appointments. It is important that they are familiar with how to use the aid before their operation, although they won't need its support before the operation.

If your child is having an operation on both feet or if they have some other medical conditions that affect their mobility, they will be discussed with the clinical team, who will decide whether your child requires any special equipment for after their operation.

You will be asked to sign a consent form.

Please make sure you understand what is planned and have your questions answered before signing the form.

## Operation day

You will be given some fasting instructions before admission to hospital.

Please follow these instructions carefully to avoid cancellation of the operation.

Please arrive at the specific ward at the time advised.

On the ward, you will be introduced to your named nurse and will be shown around the ward facilities.

There are several admission procedures that the nurse will go through with you.

On the ward you will be seen by your Surgeon and your child will also be assessed by an Anaesthetist to check that they are well enough to have their operation.

When the theatre staff are ready for your child, you will be taken with them to the anaesthetic room. You can stay with them as they are going to sleep. One of the team will then escort you back to the ward.

In theatre, your child's plaster will be removed using a plaster saw.

The Surgeon will perform the procedure. The transferred tendon will be held in place by a surgical button which is temporarily held by a stitch under the sole of your child's foot. Your child will also have 2 small incisions on the top of their foot.

Dressings will be applied over all the small incisions on your child's foot before the full leg plaster is then applied with your child still asleep.

The Surgeon will assess the foot position and range of movement after the transfer is completed.

A small number of children may require splints after their operation to further improve and support the posture.

When your child is brought back to the ward, they will have several checks and observations taken by the nursing staff. Your child's discomfort levels will be monitored and appropriate pain relief be given.

Normally a child having an operation on one side will be able to go home the same day and a child having both sides operated on will stay

on the ward overnight. Before being discharged home, your child will be checked on the ward by a member of the medical team and will be assessed by the physiotherapy team.

## After care

Your child may need some pain relief after their operation especially at night times as they may experience some discomfort and occasional muscle spasms. It is important that they remain comfortable and in the first few weeks it may be useful to give them regular pain relief.

Your child should not take any weight through the operated foot in the first two weeks following the procedure. Children who have had one leg operated on, should use the walking aids already provided.

If both feet have been operated on, they will need to use a wheelchair.

If they are school age, they will probably stay off school during this first two weeks.

From two weeks after the operation onwards, your child should be encouraged to try and take weight through their feet and walk on their plaster or plasters as able. If they are school age, they should be able to return to school during this period, but you should discuss this directly with the school staff.

If you have any questions or concerns after the operation, please use the contact numbers detailed below.

## Out-patient clinic follow-ups

Your child will be given an appointment to attend the Outpatient clinic 5–6 weeks after the operation – this may vary slightly if they need to have an appointment to have a bespoke splint made.

**It is useful to give your child pain relief before they arrive at the clinic**, as the plaster cast and the surgical button, will both need to be removed.

Please bring your child's socks and some supportive footwear with you to this appointment as they will be encouraged to start weight bearing without their plaster during the clinic visit, to allow the tendon to start moving properly. It is likely that your child will need new footwear as the foot shape will be different.

The foot will be assessed once the plaster cast has been removed to check the position and function of the tendon.

Your child's leg will look very dry – they should start to have regular baths and use moisturiser creams on their skin, especially over the small scars that can initially be quite sensitive. It is better to get your child to rub the moisturiser into their own leg rather than do it for them, as the skin will become less sensitive as their brain processes the feelings of touch.

You may notice a small 'lump' on the top of your child's foot that wasn't there before the operation. This is the transferred tendon in its new position. Over time, it will become less prominent as their foot grows.

The tendon transfer surgery will not change the position of the toes if your child's toes were drifting inwards before the operation. This should not cause them any problems with wearing footwear or with their physical function.

Your child will be reviewed two weeks after the plaster cast removal, and it is expected that they come to clinic walking independently, ideally not using the walking aids.

Their walking pattern is likely to be a little slower than normal at first and their operated foot is likely to be turned out to the side. This position will again improve over time.



The more active the children can be, the quicker they will recover. Some children however may be referred for some Physiotherapy.

Clinic reviews will continue and be determined by the clinical team.

**The information in this leaflet has been produced by the Specialist Foot service team at Royal Manchester Children's hospital and is used with their permission.**

## Contact details

Should you require further advice or information please contact:

Physiotherapy - 01772 524114

Secretary - 01772 522509

## Sources of further information

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

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

[www.accessable.co.uk](http://www.accessable.co.uk)

[www.patient.co.uk](http://www.patient.co.uk)

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

All our patient information leaflets are available on our website for patients to access and download:

[www.lancsteachinghospitals.nhs.uk/patient-information-leaflets](http://www.lancsteachinghospitals.nhs.uk/patient-information-leaflets)

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Please ask if you would like help in understanding this information. This information can be made available in large print and in other languages.

**Gujarati:**

આ માહિતીને સમજવામાં સહાયતા જોઈતી હોય તો કૃપા કરીને પૂછો. આ માહિતી મોટા છપાણ માં અને અન્ય ભાષામાં ઉપલબ્ધ કરી શકાય છે.

**Romanian:**

Vă rugăm să întrebați dacă aveți nevoie de ajutor pentru înțelegerea acestor informații. Aceste informații pot fi puse la dispoziție în format mare și în alte limbi.”

**Polish:**

Poinformuj nas, jeśli potrzebna jest ci pomoc w zrozumieniu tych informacji. Informacje te można również udostępnić dużym drukiem oraz w innych językach

**Punjabi:**

ਜੇ ਤੁਸੀਂ ਇਹ ਜਾਣਕਾਰੀ ਸਮਝਣ ਵੱਲ ਮਦਦ ਲੈਣੀ ਚਾਹੋਗੇ ਤਾਂ ਕਰਿਪਾ ਕਰਕੇ ਇਸ ਬਾਰੇ ਪੁੱਛੋ। ਇਹ ਜਾਣਕਾਰੀ ਵੱਡੇ ਪ੍ਰਿੰਟ ਅਤੇ ਹੋਰਨਾਂ ਭਾਸ਼ਾਵਾਂ ਵੱਲ ਮੁਹੱਈਆ ਕੀਤੀ ਜਾ ਸਕਦੀ ਹੈ।

**Urdu:**

دو سر ی زبانوں او ر بڑی اگر آپ کو ہی معلومات سمجھنے کے لیے مدد کی ضرورت ہے تو ییچھیا جس ییہ ابی دست ہو یسکت ہے برا ئے مہر یان پو ے یچھدی۔ معلومات

**Arabic:**

مطبو عة بأ ح ر ف ك ب ي ر ة و ب ل غ ا ت إذا ك ن ت ت ر يد م سا ع دة في ف ه م ه ذه لم عل و مات يُ ر جى أن ت طلب أ خ رى ي م ا ك ن ت و ف ي ر ه ذه الم عل و مات

**Department:** Orthopaedics - Fracture Clinic

**Division:** Surgery

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