Title of document: Club Feet Treatment: the Ponseti Method; Patient information leaflet
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Search Engine Keywords: orthopaedic, child, club feet, ponseti
Related links:
Description: A comprehensive leaflet outlining the ponseti method of treatment for a child with club feet
Final Validation Committee: Children’s Services Review Group
Suitable for Audience on: SUHTranet (Trust Staff Yes / No
Only) Extranet (NHS Yes / No
Community) Internet (Public) Yes / No
Date agreed: Nov-05
Accountable Officer: Judy Gillow
(Name & Position) Director of Nursing
Responsible Officer: Karen Swanson
(Name & Position) Policies & Guidelines Facilitator
Directorates who use the document: Child Health
Highlighted to: (Key staff, Departments, Directorates)
Date doc. implemented in SUHT: Nov-05
Date doc. loaded on SUHTranet: Feb-06
Date(s) Reviewed (if applicable): Oct-06
Details of most recent review: (Outline main changes made to document)

Signature of Chairman of Validation
Committee: G Connett
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Post Held: Paediatric Consultant
The Ponseti Method
for the
Treatment of Clubfeet

Parent Information Leaflet
What is Clubfoot?

Clubfoot or congenital talipes equino varus is a deformity of the foot or feet that is present at birth. The bones of the foot are abnormal in size and position, and the soft tissue structures of the foot are tight. One or both feet may be affected.

The deformity occurs in 1 in 1000 live births in this country.

Bilateral Clubfeet

Definition

Talipes - is made up of the Latin words talus (ankle) & pes (foot)
Equinus - foot pointing downward
Varus - foot points inward
Adapted from:
www.massgeneral.org/ortho/ClubFoot.htm
What causes it?

The cause is unknown, although research to find a cause continues.

We do know that:

- more boys than girls are born with clubfoot, at a ratio of 2:1
- 50% of babies are born with both feet affected.
- The incidence of clubfoot is slightly higher in families with a history of the problem.
- Most clubfeet are due to the abnormal development of the muscles, tendons, and bones.
- Genetic and environmental conditions are believed to be linked to the cause of clubfoot.
- The risk of a second child having a clubfoot if the first is affected, is 2-5%.

If only one foot is affected:

- It will tend to be smaller than the other. This is often more noticeable as the feet grow.
The calf muscle on the affected side will also be small; this is due to the abnormal muscle structure.

Categories of Clubfoot

Postural Also known as flexible. The bones of the foot are normal with the soft tissues being correctable using stretching exercises. Occasionally a series of plaster casts are necessary.

Typical This is the most common and will require treatment.

Atypical This is associated with other more complex deformities and is more difficult to treat.
What is the Treatment?

The method of treatment that we use is called the ‘Ponseti Method’. Ponseti is a surgeon in the U.S.A. who has devised and researched his method over many years.

The method is non-operative apart from a minor surgical procedure, called an Achilles tenotomy. This is performed using either a local or a general anaesthetic.

Clubfoot varies in its severity. At your baby’s first appointment their feet will be examined and given a score. This scoring system is used to assess the feet and help in understanding the extent of the problem. It will be used as a baseline to monitor your child’s progress throughout their growth.

The treatment for clubfoot involves a weekly visit to the clinic.
Your baby’s feet are gently stretched so that bones are manipulated and the tight soft tissues loosened.

A plaster cast is applied as shown in the picture to hold the corrected position. The cast is left on for a week allowing the muscles and ligaments to become used to their new position.
Each week the casts are removed and the feet gradually manipulated into a new position.

The programme of stretching and application of plaster casts will take approximately 6-8 weeks until the deformity is corrected.
The picture below shows a series of six casts. Note how the position of the foot is gradually corrected over the six weeks.

The final stage is to bring the heel down into the correct position. To do this the majority of babies (about 90%) will require a minor surgical procedure to cut the tight tendon at the back of the ankle (the Achilles tendon).

Before tenotomy
This is done under either a local or general anaesthetic (see leaflet *Achilles Tenotomy*) and a plaster cast is re-applied for a further 3 weeks.
When the final cast comes off your baby will need to wear special boots that are connected together by a bar. These are worn for 3-4 months for 23 hours a day and then at night and at nap time for as long as the child will tolerate them (usually about 3-4 years).
Questions and Answers

At what age should the treatment be started?

We would like to see your baby as soon after birth as possible, ideally within two weeks.

(It is possible to start Ponseti’s method of treatment much later. This has been shown to still give good results).

Who does the stretching and puts the casts on?

A member of the team who is trained in the Ponseti method. This might be the consultant, the nurse practitioner or one of the orthopaedic doctors.

How do I calm my baby during the stretching and casting?

The procedure itself is not painful but your baby may object to being held fairly firmly to allow the cast to be put on in a good position. Try and settle them with a soother, your finger or a bottle of milk (If breast feeding, you may want to consider expressing some milk beforehand, so you can give your baby a bottle during the casting).
How are the casts removed and when?

There are two ways in which the plaster casts can be removed:

1. On the morning of the clinic appointment you can put your baby in a warm bath with the casts on. Crumble the plaster with your hands and using a pair of round ended scissors (e.g. children’s scissors) try to ‘score’ the plaster to make an end which you can then unwrap. This may take a while and you will need to top up the water to keep your baby warm. It makes a bit of a mess but it does allow your baby to have a bath every week.

2. Bring your baby to the clinic where the casts can be removed using the plaster saw. This doesn’t hurt your baby but it is noisy.

How do I care for my baby’s plaster?

- Keep the plaster casts dry at all times (except when soaking them off in the bath on the day of the appointment).
- Regularly check that you can see the toes (i.e. the toes have not slipped up inside the cast)
- Check that the toes look pink and are warm
- Check for signs of the casts rubbing your baby’s skin, particularly at the top in the groin. (Apply some baby cream and maybe some soft padding around the top of the cast).
- Change your baby’s nappy frequently. Avoid it becoming too wet, so preventing leakage onto the casts.

**How do I wash my baby?**

Whilst the casts are on you can wash the parts of your baby’s body that are exposed (‘top and tail’). If you choose to remove the casts at home on the morning of the clinic appointment, then you can do this in the bath (see above).
When will I see a difference in my baby's feet?

You will very quickly see how your baby’s feet correct with the serial casting so that they soon begin to look normal.

Will my baby need pain relief when they have the Achilles tenotomy?

If your baby is having the procedure using a local anaesthetic, it is a good idea to give them some paracetamol before you bring them to the clinic. Read the instructions on the bottle to check your baby is old enough and to see how much you can give them (see leaflet, Achilles Tenotomy, Local Anaesthetic). If you think your baby is uncomfortable following the procedure you can give them some more paracetamol when you are at home, after carefully reading the instructions on the bottle.

Should I expect any other problems after the tenotomy?

Just occasionally you may see red staining on your baby’s casts after they have had the tenotomy. The cut that is made during this procedure is very small,
but sometimes the little wound may seep some blood. If this happens it is absorbed through the plaster (which acts like blotting paper) and therefore looks a lot worse than it actually is. Draw around the redness with a pen so you can monitor whether it is spreading. It is rarely a problem, but you can contact the nurse practitioners or the plaster technicians if you are still concerned.

**How big is the scar following the tenotomy?**

The tenotomy scar is very small, measuring only a couple of millimetres.

**How often do I have to bring my baby to the clinic?**

When treatment is first started the casts are changed every week.

When your child first goes into the boots and bar we need to see them at 6 weeks and then every 3 months until the approximate age of 2 years. After this they will continue to be checked in the clinic at less frequent intervals.
Who sees my baby when I bring them to the clinic?

Either the nurse practitioner or one of the orthopaedic doctors will examine your baby in the clinic and discuss with you any problems you may be having.

How long does the overall treatment take?

A baby who starts their treatment from birth will be approximately 3 months old when they go into their boots and bar. When they have completed the full time use of boots and bar they will be approximately 6 months old.

What happens after the full time use of boots and bar?

Your baby will need to wear their boots and bar at nap times and night time for a period of approximately 3-4 years.

What do I do if my baby is not tolerating the boots and bar?

The boots and bar are a very important part of the treatment. It is therefore essential that you do your best to ensure your baby wears them. It has been
shown that the feet of children who do not wear the boots and bar tend to relapse back to a deformed position. We understand that as your child becomes older maintaining the use of the boots and bar is not so easy. Talk to other parents who may have some tips to help you, or discuss your problems with the nurse practitioners, consultant or orthotist.

**What will my baby wear on their feet during the day?**

When your baby is wearing the boots and bar during naps and at night, they can wear normal soft baby shoes during the day time until they are walking. When they start to walk they will be fitted with special boots called ‘Piedros’.

![Piedro Boots](www.sarah.parker.clara.co.uk/images/boots.jpg)

Picture from: www.sarah.parker.clara.co.uk/images/boots.jpg
Is any further treatment needed?

About 25% of children need an operation in their early childhood. This is because the front of the foot has turned inwards. A tendon transfer (moving a tendon from its position on the inside of the foot to the outside of the foot) will help to correct this.

Is the treatment successful?

The Ponseti technique has been successfully used in America for over 45 years. A 30 year follow up of Ponseti’s method of manipulation and casting showed 85% of patients had excellent or good outcomes.

Research of patient results continues and this is one reason why we assess and give all babies a score before we start treatment. The assessment and scoring of their feet is repeated at various stages during your clinic appointments.
Health Professionals you may meet during your child’s treatment:

- The **Physiotherapist** will teach you how to do simple stretching exercises to keep your baby’s foot/feet supple, before the casting begins.
- The **Consultant** will examine your baby and discuss the Ponseti method of treatment with you.
- You may meet another **Doctor** who works with the consultant, who will also be involved with your baby’s care.
- The **Nurse Practitioners (Julia and Liz)** will explain the Ponseti method and give you this booklet. They will be involved with the manipulation and casting of your baby’s foot/feet. If you have any questions or problems you can ring them. The numbers are on the back of this leaflet.
- The **Plaster Technicians** may assist with the casting of your baby’s foot/feet and removing of casts. You can contact them for advice if you have concerns about your baby’s plaster casts.
If your baby is to have the minor surgical procedure under a general anaesthetic you will also meet:

- The **Ward Nurses** who will guide you in caring for your baby when he/she returns from theatre.
- The **Anaesthetist** who will tell you about what happens when your child has the general anaesthetic for their operation.
- When the last cast is taken off the **Orthotist** will fit your baby with the boots and bar. If you have any problems with these or the fitting of the Piedro boots, you can either contact the orthotist or Julia or Liz.

The telephone number for the orthotist is: 023 80 796221
Useful Websites:

3. www.clubfoot.co.za/checklist.htm
4. www.google.co.uk (type in Ponseti)
5. www.steps-charity.org.uk
**Contact Numbers**

Julia Judd and Liz Wright  
**Paediatric Orthopaedic Nurse Practitioners:**  
Office: 023 8079 4991  
Or switchboard: 02380 777222, ask for bleep 2641  

**Ward G3:** 023 8079 6486

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**Support Group**

STEPS *The National Association for Children with Lower Limb Abnormalities*  
[www.steps-charity.org.uk](http://www.steps-charity.org.uk)  
Postal address: STEPS, Lymm Court, 11 Eagle Brow, Lymm, Cheshire WA13 0LP  
Help-Line: +44 (0)871 717 0044  
E-mail: info@steps-charity.org.uk

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2005  
Updated August 2006