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Trauma and Orthopaedics

Congenital Talipes Equinovarus (Clubfoot) - Parent/Carer Information

This information is for the parents of babies diagnosed with clubfoot. The condition will be explained at your appointment with the team at the Orthopaedic Baby Clinic at University Hospitals, Coventry and Warwickshire. Hopefully this leaflet will answer some of the questions that you may have before your appointment.

You may have your first appointment before the birth of your baby and most babies are seen in clinic within the first few days following their birth. Don't worry if you find it difficult to understand or remember all the information that is explained to you during these appointments. We will do our best to help you at this time and in the future weeks, months and years. If you have any queries or concerns, please ask the staff at any time. If you have any suggestions about how we can improve our service, please let us know.

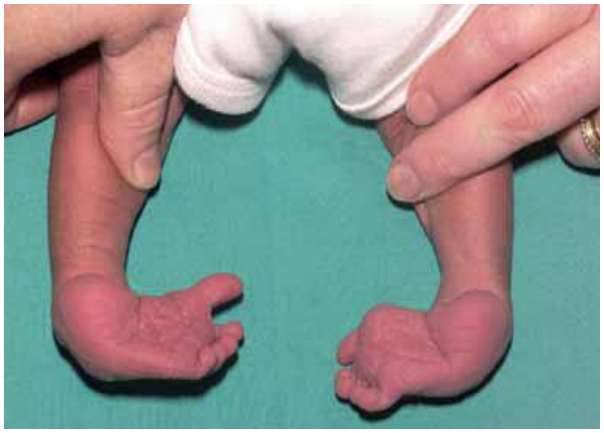
What is clubfoot?

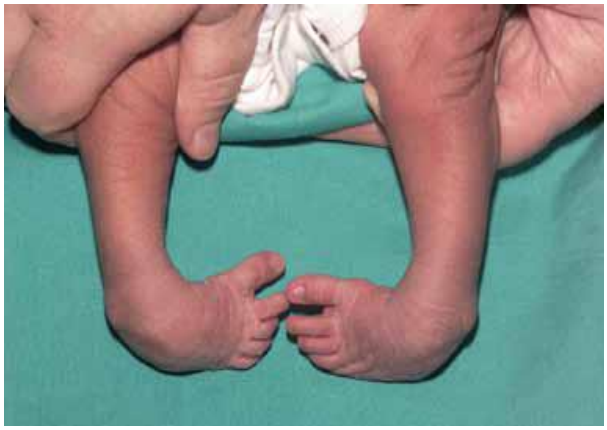
The term 'clubfoot' refers to the position of the baby's foot and ankle. It means the heel is turned inwards and downwards, with the toes and forefoot curving inwards. The foot is fixed in this position and cannot be corrected immediately. It is thought to develop during the 3rd to 6th months of pregnancy but is not always detected on ante-natal scans.

The medical term for clubfoot is 'Congenital Talipes Equino-Varus'. When broken down, this means:

- Congenital – being present at birth
- Talipes – ankle and foot

- Equino – means the heel is elevated as it would be in a horse
- Varus – the foot is turned inwards





You may also hear clubfoot referred to as ‘Talipes’ for short, and the word ‘cavus’ used in relation to the high inner arch of the foot. Clubfoot can occur in one or both feet. If only one foot is affected, the foot is slightly smaller and the lower leg muscles appear thinner than the unaffected side. If both feet are affected, they are generally the same size as each other but smaller than they would normally have been.

What is the cause?

There is no known cause for clubfoot so there is nothing that you did or did not do during the pregnancy that would have caused it. It has been suggested that there may be hereditary causes in some families. This means that future children are at a higher risk of having clubfeet. Some babies may have postural clubfoot (due to their position in the womb), which resolves after birth and does not require any treatment.

Clubfoot is the most common deformity of bones in newborn children, and it occurs in approximately 1 in 800 babies. If it is an inherited condition,

there is a 1 in 20 chance of the second child developing clubfoot. If two relatives are affected the chance of a next child developing club foot may increase to 1 in 4. Around 40% of children will have both feet affected. Boys are affected twice as often as girls.

Outline of treatment pathway

The following is an outline of the treatment pathway that your baby will follow. It is not exactly the same for everyone. All appointments are on a Tuesday afternoon in the Children's Outpatients Department at University Hospitals Coventry and Warwickshire.

1. If your baby has been diagnosed before birth on ultrasound, you may have an antenatal appointment. This usually occurs within two to four weeks of referral after the scan.

If your baby has been diagnosed at birth, your first appointment will be in the first few days following the birth. During your first appointment the nature of clubfoot and the basics of treatment will be explained.

2. At the next appointment with your baby, the severity of their clubfoot will be assessed. The scoring system goes from 0 to 6, with 0 being a normal foot and 6 being the most severely affected.

The severity of your baby's foot will determine the length of treatment. The stiffness of the deformity will also affect the length of the treatment. The scoring system also allows the improvement of your baby's foot or feet to be monitored. The different aspects of the treatment are outlined below. Photographs of the feet might be taken during appointments.

3. Initially your appointments will be frequent, in most cases weekly for the first three months. As the treatment progresses they will become less frequent, going down to yearly appointments until your child has stopped growing. Your child may also need to have a scan of their hips as there is an increased risk of hip problems.

Treatment

The current treatment is known as the Ponseti technique pioneered by Dr Ponseti in the United States of America. This technique has been used for over 40 years and replaces older, surgical treatment. Recently, the results

of his work have been published and his technique is now acknowledged worldwide. At UHCW we use the same manipulation technique as Dr Ponseti, but instead of an above the knee plaster cast, we use below knee Soft Cast which is easier to tolerate and may help with the development of the legs. Our results were published in the Journal of Bone and Joint Surgery in November 2008 and are as good as the conventional Ponseti treatment. One of the main advantages of this method is that it reduces the amount of extensive surgical procedures. The condition will not affect your baby's development and they will learn to walk at about the normal time.

The major benefits of the treatment, provided it progresses well and that the boots are used as prescribed, are:

- You can see progress being made weekly.
- Major surgery is reduced.
- There is little scarring.
- The aim is a relatively flexible, pain free foot that is nearly normal in appearance.

In most cases the treatment is extremely effective and in many children the deformity is hardly noticeable, provided everyone works together to get the best results. With a well corrected clubfoot your child will be able to participate in sports, even at a high level.

How can I help?

The most practical way is by helping your baby to relax during the different elements of their treatment. It is important to remember that you are not going through this process alone. At the start, the treatment may appear to be very complex and time consuming, but the most frequent appointments are during your baby's first few months of life. The most important thing is that you, as parents, follow the treatment and advice given.

It is useful to talk to and share experiences with other parents going through the same process, perhaps while sitting in the waiting room. We encourage you to talk to the parents of older babies and toddlers as they can act as an important support network for you and can pass on many useful tips.

Sources of Information

Staff are an important source of information. If you need information or clarification on any aspect of your child's condition or treatment, please talk to staff. Be careful which websites you look at, as these will often give worse case scenarios or information about out of date treatment, so it is best to ask the staff or other parents for recommendations of good websites/social media sites to visit. We would recommend the following websites: www.step-charity.org.uk and www.clubfoot.co.uk

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Tenotomy of the Achilles Tendon

When the foot is fully turned outwards, a small operation to release the tendon at the back of the heel, known as a "Tenotomy of the Achilles Tendon" will be performed. This is because the calf muscles (or gastrocnemius soleus) do not have as much crimp as the foot muscles and cannot be stretched as easily. This procedure is needed in 9 out of 10 babies and allows the ankle to be fully corrected. If both your baby's feet are affected, they will be operated on at the same time. This involves your baby coming into hospital. The procedure is performed in the operating theatre with local anaesthetic, so your baby should hopefully be discharged home the same evening.

Before the operation, the plaster cast is removed and a local anaesthetic cream is applied to the skin at the back of the heel, covering the area over the Achilles Tendon. This cream will numb the skin so that an injection of local anaesthetic can be administered to numb the area further. The tendon can then be divided with a small blade, which your baby will not feel.

This procedure allows the ankles to be fully corrected and another cast will then be applied to maintain this position. The procedure is carried out in the operating theatre to ensure a sterile environment. When your baby returns from theatre, they will need to have the foot raised slightly to reduce swelling. This enables the circulation to adjust to the foot being in this new position. It may seem that the foot is now pointing outwards too far. Do not worry as this is intentional and will not last. When your child is walking, the foot will assume its natural position anyway. To prevent the foot relapsing and to hold the correct position until the bones mature (which usually occurs around four years of age) your child will need to wear boots designed specifically for this condition.

The Foot Abduction Brace

To maintain the correct foot position following the completion of casting, your baby needs to wear boots with a bar joining both feet together. This operates as a brace to maintain the corrected position of the feet (in a turned out position). For the first three months the boots need to be worn for 23 hours per day. This allows one hour for a bath and for checking the feet for sore areas. After three months the boots need to be worn for 14 hours in every 24 hours, which is at bedtimes and naptimes, until your child is about four years old. **Without the child wearing the boots and bar, the chances of the deformity coming back are very high.**

A separate information leaflet will be given to you to cover this part of treatment

Summary

- Clubfoot is a deformity that your baby is born with. It can occur in one or both feet.
- The cause is not known and it is important to remember that, with the occasional exception, it is not to do with the pregnancy.
- Approximately 1 in 1000 babies are affected.
- Your baby's treatment programme will be described to you during your first appointment and the programme itself will depend on the severity of your baby's clubfoot.
- At the beginning of treatment, you will have an appointment almost every Tuesday afternoon, with the appointments becoming less frequent as the feet improve.
- Boots treatment usually continues until your child is about four years old.
- Sometimes other treatment may be necessary.

- It is important to ask either staff members, or other parents, any questions you may have, no matter how small they may seem.
- At University Hospital, we use a modification of the Ponseti method.
- Soft Cast is used to hold the gradual correction of the foot with the casts being changed on a weekly basis, usually for five to eight weeks.
- Although your baby may become upset at having their leg held still, the treatment is not painful.
- Around 9 out of 10 babies will need to have a small operation, known as a tenotomy of the Achilles tendon, to fully correct their foot.
- Another cast is applied after the operation.
- A foot abduction brace also knows as “boots and bar” is used to maintain the correct position of the foot.
- A child with a well corrected clubfoot will walk normally and have no significant disability.

Contact Details

Paediatric Orthopaedic Team 024 7696 7001/024 7696 6918

The Trust has access to interpreting and translation services. If you need this information in another language or format please contact us on **024 7696 7001** and we will do our best to meet your needs.

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