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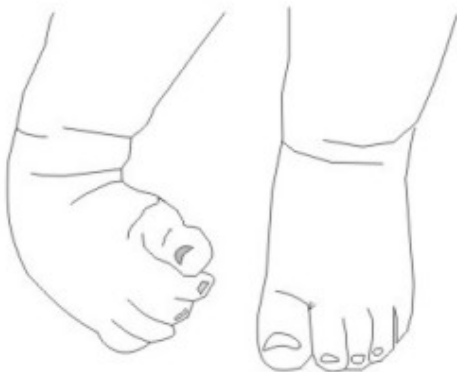
Club foot (Congenital talipes equinovarus)

Club foot (also called talipes equinovarus) is a deformity of the foot and ankle that a baby can be born with.

It is not clear exactly what causes club foot. In most cases, it is diagnosed by the typical appearance of a baby's foot after they are born.

The Ponseti method is a widely used treatment for club foot. This treatment gives good results for most children. If it doesn't work, surgery can help.

What is club foot?



Talipes equinovarus of right foot

Club foot, also known as talipes. It is a deformity of the foot and ankle that a baby can be born with.

- If a baby has club foot, their foot points downwards at their ankle and the heel of their foot is turned inwards.
- The middle section of their foot is also twisted inwards so their foot appears quite short and wide. It cannot be gently moved into a normal foot position.

- The baby's foot is kept in this position because the Achilles tendon at the back of the baby's heel is very tight and the tendons on the inside of their leg have become shortened.
- If nothing is done to correct the problem, as the baby learns to stand, they will not be able to put the sole of their foot flat on the ground.
- Some babies hold their foot in a position that can look as if they have club foot but, in fact, their foot can be moved easily into a normal position. These babies do not have true club foot.
- In about half of babies born with club foot, both feet are affected. 'Talipes' means the ankle and foot; 'equinovarus' refers to the position that the foot is in (see below). Club foot is a congenital condition, meaning that you are born with it.

What causes club foot?

In some cases the position of the foot is due to the way the baby was lying in the womb. The deformity can be easily corrected by a series of gentle stretches as advised by a physiotherapist. This is called positional talipes.

If you have had a baby born with club foot, there is about a 3-4 in 100 chance that a brother or sister born after them will also have the condition.

Babies born to a parent who has club foot also have an increased risk of being born with the deformity themselves. If both parents have club foot, this risk is higher. Club foot may also have something to do with the position of the baby's foot when the baby is in the womb.

In most cases (around 4 out of 5), the baby has no other problems apart from the club foot. However, in around 1 in 5 babies who are born with club foot, there is also another problem. These problems may include:

- Spina bifida - a condition where the bones of the spine don't form properly, which can lead to damage to the nerves of the spine.
- [Cerebral palsy](#) - a general term that describes a group of conditions that cause movement problems.
- Arthrogryposis - a condition where a child has curved and stiff joints and abnormal muscle development.

Structural talipes

Sometimes the club foot cannot be corrected easily. The muscles and ligaments may be very tight and in more severe cases there may be some bony abnormality. This is called structural talipes.

It is not clear exactly why structural talipes develops. It is thought that there may be genetic risk factors involved.

How common is club foot?

Club foot is a fairly common problem. It is one of the most common deformities that a baby can be born with. About 1 in 1,000 babies born in the UK have club foot.

About twice as many boys as girls are born with club foot and it can affect both feet.

How is club foot diagnosed?

Club foot was previously only diagnosed after a baby is born. However, as the technology of [ultrasound scanning](#) during pregnancy improves, increasingly, club foot is being detected during scanning before a baby is born.

All babies in the UK are routinely examined and checked over by a doctor shortly after they are born. The doctor will look for club foot, as well as other problems that the baby may be born with. If the baby has club foot it is usually noticed during this check. Investigations such as X-rays are not usually needed to confirm the diagnosis.

Some babies with club foot have milder foot deformity than others. If a baby is diagnosed with club foot, a specialist (usually an orthopaedic surgeon) will often use a grading system to grade the severity.

A common grading system that is used is called the Pirani score. With this grading system, a grade from 0 to 6 is given. The higher the grade, the greater the degree of foot deformity.

What is the treatment for club foot?

Ponseti method

The Ponseti method is now the preferred treatment by orthopaedic surgeons throughout the world. Major surgery used to be common; however, medical research has shown that the Ponseti method gives better long-term results for most children.

This method involves the specialist gently manipulating (holding, stretching and moving) the child's foot with their hands, into a position in which the foot deformity is put right (corrected) as much as possible. This is not painful or uncomfortable for the child.

Once in this position, a plaster cast is put on to hold the child's foot in position. This plaster cast usually goes all the way from the child's toes to their groin area.

After one week, the plaster cast is removed, the child's foot is manipulated again and a plaster cast is put back on with the child's foot in the new position. After another week, this procedure is repeated.

As each week goes by, usually the child's foot is able to be moved into a position that becomes closer and closer to a normal foot position. After around six weeks of repeated manipulation and plaster casting of the foot, there is usually good progress and the foot position has improved.

Achilles tenotomy

At this stage, a small operation is suggested for most children, called an [Achilles tenotomy](#). This involves releasing the tight Achilles tendon at the back of the foot, using a small cut so that the heel can drop down. It is a minor operation and it can usually be done with just a local anaesthetic.

After this, their foot is put in a final plaster cast, usually for three weeks. The child will then need to wear a brace (some special boots that are connected together with a bar). They will need to wear these for 23 hours a day for three months. After this they generally just need to wear the brace at night or during sleep periods until they are 4 years old.

It is really important for the child to continue to wear their 'boots and bar' as the specialist advises. If the boots and bar are not worn as advised, there is a chance that club foot can come back.

It is important that a baby who has club foot be referred to see a doctor specialised in treating this problem as soon as possible after birth. The sooner Ponseti method treatment is started, in general, the easier the correction of the foot deformity should be.

Other methods

Other treatment methods are available. One example is the French functional method, which involves daily manipulation as well as immobilisation with adhesive bandages and pads.

Kite technique

The Kite technique was widely practised until the emergence of the Ponseti technique. The Kite technique involves long leg plaster casts (toe to groin) with manipulation around the calcaneo-cuboid joint in the foot. Casting may continue for up to two years, with more than half of cases requiring major surgical intervention.

Minor surgery

The treatment of club foot does not usually need surgery, and surgical options are reserved for correction of any remaining deformity. Minor surgical interventions may occasionally include release of the Achilles tendon (Achilles tenotomy), moving a tendon in the foot (tibialis anterior tendon transfer) or lengthening of the Achilles tendon.

Other treatments include the use of an external brace (fixator device) and botulinum toxin injections.

What is the outlook for club foot?

The Ponseti method works well to correct the foot deformity for most children with club foot. For between 8 and 9 out of 10 children, the deformity will be corrected.

However, in a small number of children, it does not correct the deformity and more major surgery may be needed.

Children who have other problems as well as club foot, such as those discussed above, are more likely to need surgery.

Dr Mary Lowth is an author or the original author of this leaflet.

Further reading

- [Club Foot and the Ponseti Method](#); Ponseti International
- [Bina S, Pacey V, Barnes EH, et al](#); Interventions for congenital talipes equinovarus (clubfoot). *Cochrane Database Syst Rev.* 2020 May 15;5:CD008602. doi: 10.1002/14651858.CD008602.pub4.
- [Pavone V, Chisari E, Vescio A, et al](#); The etiology of idiopathic congenital talipes equinovarus: a systematic review. *J Orthop Surg Res.* 2018 Aug 22;13(1):206. doi: 10.1186/s13018-018-0913-z.
- [Mustari MN, Faruk M, Bausat A, et al](#); Congenital talipes equinovarus: A literature review. *Ann Med Surg (Lond).* 2022 Aug 18;81:104394. doi: 10.1016/j.amsu.2022.104394. eCollection 2022 Sep.
- [Gelfer Y, Blanco J, Trees A, et al](#); Attaining a British consensus statement on managing idiopathic congenital talipes equinovarus (CTEV) through a Delphi process: a study protocol. *BMJ Open.* 2021 Sep 2;11(9):e049212. doi: 10.1136/bmjopen-2021-049212.

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