

CONGENITAL TALIPES EQUINOVARUS (CTEV)

Congenital talipes equinovarus is the medical term for clubfoot deformity in the newborn. If untreated, the foot looks like a club hence its common name - clubfoot. The condition varies in severity from mild to severe, depending on how stiff the foot is. Treatment will reflect this.



The diagnosis can easily be made by clinical examination. It is the most common foot defect known, affecting one to two per 1,000 population. The condition is not painful. It is twice as common in males and affects both feet in 50% of cases.

True club foot is distinct from **Postural clubfoot** and **Metatarsus adductus**. Postural clubfoot is easily corrected manually by the examiner and in metatarsus adductus only the forefoot points towards the midline. Both can usually be easily corrected by manipulation and respond to serial casting.

The anatomical deformities in CTEV are many: in simplified terms the foot points downwards and inwards. There are changes in bone, skin, tendons and ligaments. The bones actually become distorted due to tightness of the soft tissues. In a true clubfoot these deformities are not easily correctable.

The causes of CTEV are unknown, but many factors may play a part. A baby born to a parent with clubfeet has a 1:10 chance of inheriting the disorder. Environmental factors may also play a part, but these have not been identified. A very small number of cases have other condition as, such as spina bifida or arthrogryposis.

TREATMENT

One of the most obvious questions asked by parents is will their child walk normally. In the majority of cases this condition will be treated successfully and the child will be able to participate in all activities he or she wishes to. Some famous athletes were born with clubfeet.

It is important to note that treatment is a lengthy process. In some cases treatment with plaster casts is sufficient but often, one or more operations may be required. Also, the deformity can sometimes return but can usually be treated again quite successfully.

The patient, after treatment, will always have a slightly smaller foot and calf on the affected side. There may be a surgical scar as well as extra skin folds on the outer side of the foot.

There are three stages in the treatment of CTEV: correction, maintaining the correction, and observation for several years to prevent recurrence.

METHODS OF TREATMENT

A. Serial casting: - Corrective manipulation and serial plaster casting of the foot usually begins as soon as possible after birth. We use the Ponseti method. In most cases this type of treatment is very successful without the need for major



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surgery and this is one of the major advantages of this technique. However, smaller surgical procedures are often required. There are two phases of treatment.



In the first phase, weekly serial casting is done. The plasters extend from the toes to the top of the thigh. This usually lasts between 5 and 10 weeks. Pressure sores and casts that fall off are two of the dangers of this treatment.

When the position of the foot is adequate most feet will require a small operation to release the Achilles tendon at the back of the heel. This is usually done under a local anaesthetic as a day case procedure. Infections can occur but are uncommon. Rarely this procedure needs to be repeated. After the procedure a plaster is applied that stays on for 2- 3 weeks. Occasionally further casts are required.

B. Boots and Bars - In the second phase the child has to wear boots and bars. This consists of a pair of boots connected by a metal bar. This is worn full time for 3 months and subsequently at sleep times until the age of 5 years. This is often the most difficult phase for parents as the child's feet are of normal appearance and the need for the splint may not be obvious and initially the child may find the splint a little difficult to get used to. However, **this phase is crucial** as many studies have shown that most failures and recurrences occur as a result of not wearing the splint till age 5. In some cases further casts may have to be applied before the splint can be worn if adequate correction has not been achieved.



C. Surgical treatment

Either as part of the above method or if the above treatment has not corrected the foot sufficiently then surgery maybe required. This would only be in 1 in 4 cases and would not happen until the age of at least 2.5 -3 years old. This surgery can be just transferring a tendon but can also involve more major surgery to the bones and tendons of the foot.

COMPLICATIONS OF CLUBFOOT AND ITS TREATMENT

The problems with plaster casts have been mentioned. *Persistent intoeing* can occur but usually is not a problem. Some *stiffness* of the foot is not uncommon but occasionally the joints of the foot are very stiff and can become painful later. *Recurrence* is another possible problem. This may be several years after the initial correction and can be distressing for all concerned. Further casting may be sufficient to treat this but there are a few different operations that can be performed. The orthopaedic surgeon will choose the most appropriate method for each particular patient, taking into consideration the age and condition of each patient.

This all looks very daunting but remember that in most cases a good result can be obtained. If you have any questions, please do not hesitate to ask one of the team.