

# Club foot – structural Congenital Talipes Equino Varus (CTEV)

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## What is structural club foot?

Club foot is a complex deformity of the foot and calf that requires treatment by experienced clinicians.



The correct term for club foot is Congenital Talipes Equino Varus or CTEV:

- **Congenital**  
this is a deformity present from birth
- **Talipes**  
means foot/ankle
- **Equino varus**  
describes the position of the foot, which is pointed down and inwards

Once your baby is born, a physiotherapist experienced in club foot treatment will visit you on the ward or arrange for you to come into the next club foot clinic for Ponseti treatment to begin – this treatment regime was developed and named after Dr Ponseti.

We aim to begin this within 2-3 weeks after birth – the clinics run every Thursday morning in the Physiotherapy department at North Devon District Hospital (NDDH).

At a later date, your baby will be seen by our children's orthopaedic surgeon, who visits NDDH fortnightly from Derriford Hospital.

## What causes club foot?

The cause of club foot is still unknown and can be due to a number of factors. It can be genetic – 'runs in the family' – or may be associated with other conditions. It tends to affect boys more than girls and it can vary in its severity. One (unilateral) or both (bilateral) feet can be affected. The bones are all present but are not aligned properly.

## What are the symptoms?

- The top of the foot is pointed downwards and inwards, increasing the arch and pulling the heel inwards
- The affected leg or foot may be slightly shorter
- The affected calf muscles are usually smaller

## How is it diagnosed?

Sometimes this condition is detected during your 20-week scan.

For parents who would like to find out more about club foot, what to expect and what will happen following the birth of their baby, we offer appointments to discuss future treatment following your ultrasound scan. The clinician who does your scan will be able to refer you to see the physiotherapist or you may contact us directly on 01271 311565.

It is important to remember that diagnosis of club foot can only be confirmed after your baby has been born.

## How is it treated?

### Stage 1: Ponseti casts



The initial stage of the Ponseti treatment is manipulation of the feet followed by the application of a series of plaster casts by the physiotherapist, to gently correct the fore-foot position. These plasters are full length, which means they go from the toes, up over the knee, to the top of the baby's thigh.



Baby in plaster

Caring for your baby in plasters can be tricky to start with. Your physiotherapist will give you advice and support on how to best to care for your baby whilst in plasters, such as using bigger baby-grows and socks to accommodate the plaster casts.

If necessary, we can have your baby weighed in between plaster changes so you can still monitor their growth and development.



Plaster change

The plasters are changed weekly in the clinic.



Stretches are done before the next cast is applied

On average a baby needs up to 6 plasters, although this can vary as some babies need more plasters and a longer treatment time, as all club feet are different. We sometimes call these feet 'atypical club feet'.

Once the physiotherapist is happy with your baby's progress, the second stage of treatment can happen.

## Stage 2: Dividing the tendon

This involves a small procedure where the Achilles tendon (heel cord) is lengthened by a procedure called a tenotomy.

Babies go home the same day as, for most babies, a general anaesthetic is not required.

This part of the treatment helps to correct the 'hind foot' which is the back part of the baby's foot and is part of the complex deformity of club foot.

**Not all, but most, babies require a tenotomy.** A children's orthopaedic surgeon will perform the tenotomy, either in Day Surgery or during the clinic appointment.

Your baby will then go back into an above knee plaster cast for 2 -3 weeks, during which time the incision will heal. You may see your physiotherapist during this time to check the plasters, as these may need to be changed.

## Stage 3: Boots and bar

Following the 2-3 weeks in plaster, it is time to start the third stage of the Ponseti treatment, when your baby goes into the boots and bar, a type of foot brace.



Baby in boots and bar

This stage of treatment is critical to the successful outcome of your baby's feet after casting / tenotomy; if the plasters are not worn, your baby's foot / feet will quickly revert to a club foot position and the Achilles tendon will shorten again. **This cannot be emphasised enough.**

The boots and bars are two boots attached to either end of a bar. The boots are set at specific angles by your physiotherapist, the bar at the correct length.

They are initially worn during the day and at night for 12 weeks. Your baby can have 1 hour a day maximum out of the boots and bars, for bathing etc.

### **“Wearing the boots and bars is a critical part of the successful treatment of your child’s feet.”**

After 12 weeks they are worn at night and nap times only. Your baby now needs to wear the boots and bars for 14 hours in total, for example, overnight 7pm to 7am plus 2 hours for daytime naps.

This night and nap routine continues until your child is 5 years old.

The physiotherapist will regularly check how you are getting on and ensure that the boots are fitting well and being put on correctly. As your baby grows, bigger boots will be fitted and/or the bar lengthened.

Many parents find this stage of the Ponseti treatment difficult. It can take a little while for you and your baby to get used to the boots and bar. Talking to other parents can be very helpful, especially to parents who have a young toddler whose feet have done well because they persevered with the boots and bars, making it all worthwhile.

## **Monitoring and maintenance**

### **“Stretches & exercises will help maintain flexible, pain-free, happy feet!”**

Once your child has completed their boots and bars treatment (at age 5) they will continue to have regular reviews here at the NDDH physiotherapy clinic and intermittent review by the children’s orthopaedic surgeon.

It is very important to monitor your child’s feet as no matter how successful the treatment, a relapse is always possible. You will need to attend appointments for regular monitoring throughout your child's growing years.

Some club feet will require further treatment such as more plastering for stretch or possibly more surgery.

Your physiotherapist will show you daily exercises to stretch your child’s feet. This will help maintain the flexibility and movement achieved by the treatment. Just as we all brush our teeth daily to prevent tooth decay, stretches and exercises will help maintain flexible, pain-free, happy feet!

## **Possible side effects of treatment**

Your baby’s skin may become dry or sore when in plaster or boots, the foot / feet can become a little swollen and, on occasion, the plaster may slip. Your physiotherapist will monitor this and advise you accordingly.

## What is the prognosis or expected outcome of treatment?

We expect your baby to have good correction of foot posture and the ability to walk on pain-free, flexible feet that are flat to the ground. He / she will be able to wear normal shoes.

## Are there any possible complications?

A foot that keeps slipping in the plaster may become more difficult to correct. It is vital that slipped casts are removed and replaced as soon as possible.

Circulation must be kept a close eye on – the cast can usually be removed by parents if there are any concerns regarding a slip or circulation. The latter may include toes that become white and stay white, toes that remain dusky after the first day or a very swollen top of foot that doesn't resolve.

## Further information

Please contact Fiona Eckford, Children's Physiotherapist NDDH, on 01271 311565.

### Useful links

C-Pro Direct: Supporting the Ponseti Method [www.c-prodirect.co.uk](http://www.c-prodirect.co.uk)

Steps: We don't take walking for granted [www.stepsworldwide.org](http://www.stepsworldwide.org)

NHS website information on Club Foot [www.nhs.uk/conditions/club-foot](http://www.nhs.uk/conditions/club-foot)

You can also join Facebook 'Clubfoot baby support group'

## References

With reference to information produced by the Clubfoot service, Bath Royal United Hospital, for their website

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## PALS

The Patient Advice and Liaison Service (PALS) ensures that the NHS listens to patients, relatives, carers and friends, answers questions and resolves concerns as quickly as possible. If you have a query or concern call 01271 314090 or email [ndht.pals@nhs.net](mailto:ndht.pals@nhs.net). You can also visit the PALS and Information Centre in person at North Devon District Hospital, Barnstaple.

## Have your say

Royal Devon University Healthcare NHS Foundation Trust aims to provide high quality services. However, please tell us when something could be improved. If you have a comment or compliment about a service or treatment, please raise your comments with a member of staff or the PALS team in the first instance.

'Care Opinion' comments forms are on all wards or online at [www.careopinion.org.uk](http://www.careopinion.org.uk).

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