TREATMENT OF CLUBFOOT (TALIPES EQUINOVARUS) 
WITH THE PONSETI METHOD

Information for Patients

WHAT IS CLUBFOOT?

Your child has been diagnosed with the clubfoot deformity, also known as talipes equinovarus. Clubfoot is the most common congenital deformity of the foot, occurring in one to two children per thousand births, slightly more commonly in boys. The deformity is present on both sides in half the children affected. In a baby born with clubfoot, the heel with the back part of the foot is turned up (equinus) and in (varus), and the front part of the foot is additionally twisted with respect to the heel (adductus). The treatment of the deformity must be started within a few weeks of birth.

WHAT IS THE PONSETI METHOD?

The Ponseti method of treating clubfoot with plaster casts was developed 50 years ago by Dr Ignacio Ponseti, an American physician of Catalan birth, at the University of Iowa. Because of its excellent results, the method is now widely used around the world and has become the standard treatment for this deformity. It involves gentle manipulation of the bones and stretching of the soft tissues in the foot. After each manipulation, the doctor fixes the foot in its new position with an above-knee plaster cast which remains in place for seven days. During this time, the soft tissues and muscles of the foot stretch, allowing the bones to develop properly.

HOW MANY TIMES WILL THE CAST NEED TO BE CHANGED?

The cast must be changed every seven days. In most children, the position of the foot is corrected after five to seven weeks in a cast. After removing each cast, the doctor will check the mobility of your child’s foot and manipulate it into a new position. The progress of the treatment will be assessed during each visit by comparing the position of the foot in the cast that has just been removed with that in the newly applied cast.
HOW CAN THE PARENTS HELP?

The parents play an important part during the treatment session by helping to calm the child. Try to feed the child just before the casting procedure and distract the child’s attention with a toy during the procedure.

WILL MY CHILD NEED SURGERY?

After five to seven weeks of casting, more than 75% of treated children require a small operation that involves cutting the heel cord (achilles tenotomy). The purpose of tenotomy is to achieve satisfactory upward movement (dorsiflexion) of the foot. The operation lasts about five minutes and is performed in the operating theatre under general anaesthetic. The child generally leaves the hospital the same day. After the procedure, a new above-knee cast is applied for another two to three weeks.

HOW SHOULD WE CARE FOR A CHILD WEARING AN ABOVE-KNEE CAST?

- When changing the diaper, always check that your baby’s toes are warm and a normal pink colour.
- Inspect the skin on the child’s thighs, where rubbing of the cast may cause redness or abrasion.
- Keep the cast dry.
- Change the child’s diaper frequently to avoid soiling the cast.
- The edge of the diaper should come over the upper edge of the plaster to keep urine from getting onto the cast.
- Baby wipes are suitable for cleaning the baby’s toes.

WHEN IS AN EMERGENCY APPOINTMENT NECESSARY?

- If the child’s toes are not the usual pink colour or are cold to the touch.
- If the plaster becomes loose, soft or cracked.
- If the child cries more than usually and seems to be in pain (possibly due to rubbing inside the cast).
WILL MY CHILD NEED ANY FURTHER TREATMENT AFTER THE END OF CASTING?

Once a satisfactory position and adequate movement (abduction and dorsiflexion) of the foot have been achieved with casting and possibly tenotomy, the bracing phase begins. Your child will be fitted with a Denis Browne splint, consisting of a metal bar and a pair of boots attached to it at a proper angle. A plaster technician will determine the size of the boots, set the distance between them, and later make all necessary adjustments.

The transition from the casts to the Denis Browne splint will be the most difficult period of treatment for you and your baby. Inadequate or improper use of the splint significantly increases the risk of recurrence of the deformity. It is very important for the parents to be aware of this and make every effort to comply with the doctor’s instructions.

The child must wear the splint 23 hours a day (most of the day and night) for the first three months, and then 16 to 18 hours a day until the end of the first year of life. From then until the age of four years, the splint is worn only at night (10 to 12 hours). During the day, the child should wear well-fitting shoes with adequate space for the toes.

CAN CLUBFOOT BE CORRECTED WITH ONLY EXERCISES AND PHYSIOTHERAPY?

Stretching exercises and placing the foot into the proper position are an important part of treatment once the child has stopped wearing the brace during the day. Parents can improve the mobility of the foot and extensibility of the heel cord by doing regular exercises several times a day using a flat wooden board (it is important to stretch the entire foot, not only its front part). When the child grows up, squatting exercises with the feet flat on the ground while going up and down and cycling on an exercise bike are beneficial. However, no amount of exercise can replace casting and bracing with the Denis Browne splint as recommended by the specialist team.

HOW OFTEN WILL MY CHILD VISIT THE DOCTOR FOR FOLLOW UP?

In the initial stages of treatment with the casts, your child will be seen weekly. After the end of casting and successful transition to bracing with the Denis Browne splint, follow up is
required every four to six months. From the age of four years until the end of skeletal growth (16 years), your child will attend our outpatient clinic once a year.

HOW IS A RECURRENCE OR WORSENING OF THE DEFORMITY TREATED?

The treatment of a recurrence or worsening of the deformity depends on the child’s age and the extent of the deformity. In some cases, several weeks of additional casting, bracing with the Denis Browne splint or intensive physiotherapy are needed. Severe forms of the deformity may require surgical lengthening or transfer of tendons in the child’s foot. These operations are performed at the age of one to three years.