CLUBFEET

Clubfeet or “talipes equinovarus” is a condition in which the infant’s foot points downward and inward. Clubfeet occur in approximately 1 in every 1000 births, is two times more common in boys than girls, and 50% of cases involve both feet. The soft tissues of the medial (inside) and posterior (hind) aspects of the foot are all shortened, including the blood vessels, nerves and skin. The calf of the involved leg is usually smaller than normal.

The majority of children born with clubfeet are otherwise healthy. The exact cause of the deformity is unknown. A simple clubfoot may correct with passive exercise or serial casting. A complex clubfoot is more difficult to treat and often requires surgery for correction. This foot may have a severe bony deformity with shortening of the soft tissues of the foot and has a higher incidence of recurrence after correction.

Treatment

Serial Casting:

Most clubfeet are treated with serial casting as soon after birth as possible. The foot is gently manipulated, stretched and casted in an improved position. The foot must be turned out by stretching of the shortened tendons before attempting to bring the foot up to a more normal position. The casts are made of plaster and extend from the toes to above the knee. The casts are changed every 1-2 weeks. Following the serial casting, an x-ray may be done to assess the correction. Unfortunately, not all feet will completely correct – even after casting. If the physical exam and x-rays show some deformity remains, surgery may be recommended to obtain final correction.

Cast Care

1. It will take 24-48 hours for the plaster to dry. DO not lean, press or bear weight against the cast during this time. Do not allow the cast to get wet.

2. Please call if the cast breaks or becomes soft or if the child's toes slip up inside of the cast. If you notice swelling, coolness or a blue or purplish color of the toes notify the orthopaedic office. You may be instructed to bring the child to the Emergency Room or to soak the cast off.
3. You may wish to remove the casts at home the night before your return visit. Mix four tablespoons of vinegar with one quart warm water and soak the casts until you are able to unravel the plaster from the foot (usually about 1 hour).

Surgery

Some feet are partially corrected by serial casting but the Achilles tendon, or heel cord, remains tight. If this is the only remaining deformity after an appropriate course of casting then the heel cord may need to be lengthened. This is usually done through a very small incision and the foot is placed in a long leg cast for 3-4 weeks following the procedure. After the tendon is healed, correction of the foot is maintained with special shoes connected by a bar or with an AFO. If the shoes and bar are used then nighttime wear is usually recommended until the child is four years old. If an AFO is used postoperatively, once the child is walking well the AFO is usually discontinued.

In more severe cases corrective surgery may be necessary. The average age for corrective surgery is between 2-12 months of age. Shortened tendons are lengthened and adjustments are made to ligaments and bands on the inside and outside of the foot. Occasionally, an additional incision is made on the bottom of the foot to lengthen a thickened band and muscles. The foot is placed in a more normal alignment, and pins may be used to secure the correction. The foot is immobilized with many layers of soft, compressive padding and placed in a long leg, bent knee cast. The child will remain overnight in the hospital for observation of swelling and pain management. Two to three weeks after the initial surgery, your child will return to the operating room for an outpatient cast change. The sutures will be removed at this time and the foot manipulated and placed back into a long leg cast for an additional 4-5 weeks. Six to eight weeks after the initial surgery your child will return again to the operating room where the pins will be removed and the foot placed in the final cast for 4-6 weeks.

Based on the professional recommendation of the individual orthopedic surgeon and the degree of bone deformity observed at the time of surgery, additional splinting may be necessary following cast removal. Ankle foot orthosis (AFO) and straight last, high top shoes are commonly used.

Postoperative Care

Because the child was immobile for a period of time, walking may be delayed for several months. Walking may also be affected until sufficient strength is regained in the muscles of the affected leg(s).

Having a clubfoot means many months of treatment and years of observation. The goal of treatment is to provide your child with a foot that functions as normally as possible without pain. Although the foot is never entirely normal, long-term outcome for the corrected clubfoot is generally good in terms of function. Most people with corrected feet are able to walk and play recreational sports as they desire.

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