



Children's Hospital Boston

CLUBFOOT

What is clubfoot?

Clubfoot, also known as talipes equinovarus, is a foot deformity that can affect one or both feet. It occurs in about one in every 1,000 live births and affects boys twice as often as girls. Fifty percent of clubfoot cases affect both feet.

How is clubfoot identified?

Many clubfeet are diagnosed prenatally based on ultrasound. By 24 weeks gestation, about 80% of clubfeet can be diagnosed. There is approximately a 20% false positive rate based on ultrasound diagnosis, meaning it sometimes appears that a clubfoot is present, when it is not.

At the time of birth, clubfoot is diagnosed by physical examination, with the finding of a foot which is in a fixed position, with the foot pointing downward and inward and the inability to bring the foot back into normal position. X-rays, although rarely used, can confirm the diagnosis.

How is clubfoot treated?

The methods of treating clubfoot vary from country to country. In the United States, the most frequently utilized treatment is the "Ponseti" method, in which a series of long-leg corrective casting, beginning just after birth and continuing on a weekly basis until the



forefoot and mid-foot are corrected. Following this period of corrective casting (typically 4-8 casts), a heel cord tenotomy is often done to correct the aspects of the deformity that cannot be fixed through manipulation and casting. After the tenotomy a cast is placed and worn for 2-3 weeks,

then the patient is started on a program of bracing, using a bar and shoe apparatus (see photo). Bracing is full time, 22-23 hours per day, for about the first 3 months. From this point, bracing continues during night-time and nap-time until the age of four years old. Adherence to the bracing program is essential to minimize the risk of a residual deformity. Physical therapy may also be utilized.

Alternative methods of treatment include more extensive surgical management. This is

required in approximately 10% of clubfoot cases, and involves tendon and capsular releases of the bones in the feet. The more severe the foot deformity, the more likely surgical treatment will be required. Tendon transfers and osteotomies are occasionally needed for residual deformity, typically around the age of 3-4 years, even if casting is initially successful.

What is the expected outcome of treatment?

Most children with clubfoot deformity are successfully treated with one of the above techniques, leading to a child who will wear normal shoes, perhaps have some residual weakness but be quite active and very functional. Clubfoot deformities associated with underlying neuromuscular conditions, the outcome is more guarded.

RECOMMENDED FOLLOW-UP

If you have been prenatally diagnosed by ultrasound:

- To schedule a time to see other babies with clubfoot during casting, or to speak with other parents about clubfoot, please contact: Paula Donahue, RN, at 617-355-6648.

When your baby is born:

- Please contact your Children's Hospital Department of Orthopaedics at 617-355-6021 to schedule an appointment time for evaluation and treatment within 2-3 weeks of age.
- If your baby is born at a Longwood Area hospital (Brigham & Women's Hospital or Beth Israel Deaconess Hospital) a pediatric orthopaedic consultation may be obtained while you and your baby are still in the hospital.
- Please call right away with any questions or concerns regarding your child's cast or issues with your child's brace. To contact a nurse, please call 617-355-6021. You may also contact Paula Donahue, RN, at 617-355-6648.

Our team is here to support you. Please contact us with any questions or concerns.

Thank you.

James R. Kasser, MD

Susan T. Mahan, MD MPH

Samantha Spencer, MD

Paula Donahue, RN