

# Clubfoot

## What Is Clubfoot?

Clubfoot, also known as talipes equinovarus, is a condition where a baby's foot is twisted inward to the point where the bottom of the foot faces sideways and in some cases upward. When a child has clubfoot, their feet and legs have all the same bones, tendons and muscles as a healthy child, but they are positioned incorrectly.

Clubfoot occurs when:

- » The tendons that connect the leg muscles to the foot bones are too tight.
- or
- » The leg muscles are shorter than normal.

The severity of clubfoot can range from mild and flexible to severe and rigid. Around half of all cases involve one foot, while the other 50% affect both feet, which is known as bilateral clubfoot. Left untreated, clubfoot can make it hard for a child to walk normally.

It is one of the more commonly diagnosed fetal conditions, occurring in around one in every 1,000 live births. Boys are twice as likely to develop clubfoot than girls.

## What Causes Clubfoot?

Clubfoot develops prenatally and can be caused by both genetic and environmental factors. If a parent was born with clubfoot and has an affected child as well, the chance for future offspring to have clubfoot could be as high as 25%. When a couple has a child with clubfoot and neither of them were born with clubfoot, there is around a 3% of having another child with the same condition with each future pregnancy.

Clubfoot is often classified as isolated or non-isolated.

- » Isolated clubfoot is the most common and is not associated with any other medical conditions.
- » Non-isolated clubfoot occurs in babies who have other conditions such as spina bifida or arthrogyrosis. If non-isolated clubfoot is suspected, your doctor may recommend you consider pursuing genetic testing.

## How Is Clubfoot Diagnosed During Pregnancy?

A suspected diagnosis of clubfoot can be determined via prenatal ultrasound as early as 13 weeks, but it is typically discovered during an ultrasound around 20 weeks gestation. The severity of the clubfoot often cannot be determined until after delivery.

A Cardinal Glennon St. Louis Fetal Care Institute nurse is available 24 hours a day, seven days a week to discuss referrals with physicians and potential families by calling 314-268-4037, option 2.

Phone 314-268-4037, option 2  
Toll-free 1-877-SSM-FETL (776-3385)  
Web [stlouisfetalcare.com](http://stlouisfetalcare.com)  
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Around 10% of babies with clubfoot have another fetal condition. This is why a Level II ultrasound is conducted when clubfoot is suspected. During this ultrasound, additional images will be gathered to determine if there are any other underlying medical conditions that are associated with clubfoot.

### How Is Clubfoot Managed And Treated During Pregnancy?

Throughout your pregnancy, your SSM Health Cardinal Glennon St. Louis Fetal Care Institute nurse coordinator will arrange for you to meet with a team of specialists who will monitor the health of you and your baby and plan the safest delivery and treatment plan.

This team will include SLUCare physicians, including a maternal fetal medicine specialist and a pediatric orthopedic surgeon, along with a genetic counselor, social worker and sonographer.

There are currently no prenatal treatment or fetal surgery options available for clubfoot.

### How Will Clubfoot Affect My Delivery?

Clubfoot will not be painful for your baby and should not impact your delivery. The condition typically does not require a stay in the NICU (neonatal intensive care unit). Every situation is unique, but in most cases your baby should be able to go home from the hospital with you following delivery.

### How Is Clubfoot Treated?

According to the American Academy of Orthopaedic Surgeons, the most widely used technique to treat clubfoot is the Ponseti Method, which uses gentle stretching and casting to gradually correct the deformity.

In the Ponseti method, long-leg casts are applied after the feet are correctly positioned. Treatment should ideally begin shortly after birth, but older babies have also been treated successfully with the Ponseti method. Elements of the method include:

#### *Manipulation and casting*

Your baby's foot is gently stretched and manipulated into a corrected position and held in place with a long-leg cast, which runs from their toes to thigh. Each week, this process of stretching, re-positioning, and casting is repeated until the foot is largely improved. For most infants, this improvement takes about six to eight weeks.

#### *Achilles tenotomy*

After the manipulation and casting period, approximately 90% of babies will require a minor procedure to release continued tightness in the Achilles tendon (the tendon on the back of the ankle that connects the calf muscle to the heel bone). During this quick procedure (called a tenotomy), your doctor will

use a thin instrument to cut the tendon. The cut is very small and does not require stitches. A new cast will be applied to the leg to protect the tendon as it heals. This usually takes about three weeks. By the time the cast is removed, the Achilles tendon has regrown to a proper, longer length, and the clubfoot has been fully corrected.

#### *Bracing*

Even after successful correction with casting, clubfeet have a natural tendency to recur. To ensure that the foot will permanently stay in the correct position, your baby will need to wear a brace (commonly called "boots and bar") for a few years. The brace keeps the foot at the proper angle to maintain the correction. This bracing program can be demanding for parents and families, but is essential to prevent relapses.

For the first three months, your baby will wear the brace essentially full-time (23 hours a day). Your doctor will gradually decrease the time in the brace to only overnight and nap time (about 12 to 14 hours per day). Most children will follow this bracing regimen for three to four years. Proper bracing is critically important for the successful treatment of clubfoot.

In rare cases, additional surgery or treatment may be required. Clubfoot will not heal without treatment. With proper treatment, clubfoot can be corrected to the point where a child has a pain-free foot that allows them to walk and stand freely.

Every clubfoot diagnosis is unique, and our team of specialists will work with you and your family to determine the best course of treatment for your child.

### How Will Clubfoot Affect My Baby As They Grow?

If treated early and properly, the long-term prognosis for clubfoot is positive. Many children go on to lead active lives with no lasting effects of the condition.

In some situations, the affected leg and foot may:

- » Be less flexible than the other leg
- » Be shorter than the other leg
- » Have smaller calf muscles

If clubfoot is left untreated, the child will be unable to walk normally and will be at a higher risk of developing arthritis.

From your first appointment to your last, our fetal and baby specialists at SSM Health are available to care for you and your baby's complex needs. Our multidisciplinary team collaborates across our hospital to provide your baby the specialized care they require.