

# Normal Foot Development

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## Why is foot control so important?

Think of all the ways our feet help us move. Imagine trying to stand, walk, run, or stand up from sitting or from being on your hands and knees—all without having control of your feet. Improper foot alignment or poor muscular control can also affect knee and hip control, and may even change your child's posture and ability to function.

## What should a newborn's feet look and feel like?

Your baby's feet may turn slightly inward at the front and at the heel, because of growth and position changes in the womb. The foot flexes easily in most directions because the muscles are weak and the ligaments which connect the bones are more elastic than they will be later in life. The ankle moves through a full range of motion, from the toe-down position (*plantarflexion*) to the toe-up position (*dorsiflexion*).

## How will my baby's feet change in the first few months?

Your baby's feet will begin to move in all directions. The movements will not be well controlled and will generally be part of total body movements such as stretching or kicking. These movements exercise the muscles and let your baby learn how it feels to move.

Gradually, the position of your baby's feet will change as the positions of the hips and knees change. In the first two or three months, your baby's legs will move apart when the baby is in a backlying or tummylying position, allowing the feet to gradually turn more outward.

## How can I encourage normal movements and positions for my baby's feet during the early months?

Your baby needs to feel the feet move and to touch the feet to each other and to the surface. This is easier when lying on the tummy or back, so allow your baby to spend some time other than when asleep in those positions. Your baby can spend short periods of time on a blanket on the floor or, if necessary, in a playpen. Touch and gently massage your baby's feet to help your baby become more aware of them.

## Will rolling and moving on the floor help my baby develop foot control?

From about 4 to 7 months of age, your baby will use the feet more actively in kicking and rolling. Your baby will begin *bridging*—lifting the bottom to put weight on the feet while back-lying.

Another way for your baby to put weight on the feet is to put one foot on the floor while in a sidelying position. These activities strengthen your baby's feet and prepare them to accept more weight in the standing position. Your baby will also begin to touch the feet, bring them to the mouth, and pull on the toes. This makes your baby more aware of the sight and feel of the feet.

## What else can I do with my baby during this period?

Have your baby spend time in the tummylying position. This lets your baby begin rolling and moving on the tummy and back. Your baby will probably explore the feet naturally, but you can help by bringing the baby's hands and feet together. Diaper-changing is a good time for this.

## What happens when my baby starts standing?

At about 7 to 10 months, most babies begin to pull themselves up to a standing position. This often happens in the crib or playpen. At the same time, your baby will probably also be crawling on hands and knees and learning to move from hands and knees to sitting and back again.

All of these activities help make the foot muscles stronger. Don't worry if your baby doesn't at first always place the foot in the proper position for each activity; these trial-and-error experiences are an important part of learning. Your baby must learn to control the foot in all directions when weight is on the foot.

## Why does my baby look flat-footed in standing?

Babies have large pads of fat under their heels, which makes their feet look flat when weight is

put on them. Also, in order to feel more stable, babies stand with their legs spread widely at first. This places more weight on the inside of the feet and flattens the arch. However, the bony arch is still present and will look more normal as your baby narrows the base of support, strengthens the muscles, and learns to walk. It is not unusual for babies to look flat-footed until about age 2.

### **What happens to the feet during the cruising stage?**

Your baby will begin to *cruise*—take sideways steps while holding onto furniture—soon after learning to pull to standing. This usually occurs from 9 to 12 months of age. Cruising gives support as your baby works to develop more control while moving in the standing position.

Foot control becomes more refined during this time and your baby will practice going up on the toes and coming down. Cruising changes as your baby develops better balance and control, so there will also be changes in the position of the feet as the body begins to rotate and the hip position changes. Your baby will begin squatting next to the furniture. This requires excellent control of the feet to balance the rest of the body.

### **Is foot control fully developed when my baby learns to walk?**

During the early stages of walking, your baby will continue to strengthen the muscles of the feet and learn the subtle control of them neces-

sary for a mature walking pattern. By the age of 2, the alignment and control of the foot for walking will be quite well developed.

Further refinements will occur as your child learns new skills such as running and jumping, but those skills are related more to balance and motor control than to the foot itself.

### **Will shoes help my baby's feet develop?**

No! Shoes serve mainly to protect the feet in the early years. But they also limit what your baby feels with the feet, and they restrict motion in the joints. Babies and toddlers should be barefooted as much of the time as possible.

### **Summary**

Your child's feet will go through many changes in appearance and control while your child learns to roll, crawl, stand, and walk. Alignment and control of the feet is critical for getting up from the floor, standing, walking, and running. The muscles of the feet will get stronger and start to work at the proper times. Ligaments will tighten and the normal alignment of the feet will develop as the feet grow. Your child's feet will be half their adult length by the child's first birthday.

#### *For more information*

Chase, R. A., J. J. Fisher III, and R. R. Rubin. Photographs by B. Parsons. 1984. *Your baby: The first wondrous year*. New York: Collier Books.