

# Information for Parents and Carers about Intoeing Gait

## What is Intoeing Gait?

A very common reason for children to be referred to the orthopaedic clinic is for intoeing. This is sometimes referred to as being pigeon toed or hen toed, and simply means that when your child walks their feet point inwards. We would describe this as an intoeing gait. It is common and usually affects both sides. Intoeing is thought to affect 1 in 6 of all children, and is therefore more common than being left handed!

In most cases the intoeing is a result of the fact that the child's whole leg turns in and is actually coming from the position of the child's hip! It is usually not a problem with the feet and therefore special shoes or insoles make little difference. In most children the intoeing improves gradually as they grow and is much less obvious by the time they reach the age of about 8.

Parents often comment that their child trips and falls more often however this tends to resolve as the child grows stronger, develops more co-ordination and control of their muscles. Intoeing does not affect your child's ability to walk and should not delay their development. It is often more evident when your child is tired and if your child has flexible joints.

Most will correct over time, but some children will be able to turn their hip in more than out even as an adult. Some parents will also be able to in-turn more. In lots of ways children often end up like their parents. There is nothing to stop your child walking with their feet pointing forwards if they want to. It just happens to be easier to walk the way they do. Many children improve with time. However, they often tend to intoe when tired, not concentrating or running fast.

## What causes it?

When you walk, the position of your foot comes from 3 different places. All of these are reasons why your child may intoe. The most common reason actually comes from your child's thigh!

### 1. The shape of the thigh bone

The femur is the large bone of the thigh. It forms part of the hip joint at the top and also part of the knee joint at its lower end. When we are born the femur points forwards by approximately 40 degrees with relation to the hip. This is termed the femoral anteversion. As a child grows, this untwists to an adult level of around 10 – 15 degrees by the age of about 8. This happens gradually over time. It is quite common for this twist to resolve more slowly and this causes the whole leg to turn in and is the most common cause of an intoeing gait. You can imagine on yourself that if the hip is turned in then the whole leg and foot will turn in. It is called persistent femoral anteversion



and is most evident in children around the age of 2-4 years old and commonly resolves (naturally) as the child grows older and taller. Persistent femoral anteversion is more common in girls than boys and commonly runs in families. This requires no treatment as it is simply the way that person's body is built and is one end of a normal range.

## **2. The shape of the lower leg or shin bone**

The tibia, or shin bone, is the large weight bearing bone that goes from the knee to the ankle. Naturally, in most people, there is a slight twist in this bone resulting a slightly outward position of the foot. However, as with anything in life, there is a variation in what would be considered normal. There may be an inward twisting of the tibia which will result in intoeing, the technical term is tibial torsion. This is typically seen in toddlers and will normally correct of its own accord by age 4-5 years old as the bones grow, walking pattern matures and the bones straighten up. No specialist input is normally necessary.

## **3. The shape of the foot**

Occasionally a child's foot itself may be curved. The best way to tell this is sitting your child down and lifting up their leg. You should then look at the outside border, running from the heel to the little pinkie toe. This is usually straight but occasionally there may be a curve here and if so we call this metatarsus adductus. This is an inward turning of the foot. The foot is usually fully flexible and correctable and has often been caused by the baby being cramped in the womb. Most will resolve naturally if the foot appears stiffer then a physiotherapist may suggest stretches in the first instance. This is usually picked up when a child is fairly small, usually before they walk.

## **What can I do to help?**

As mentioned most cases of intoeing gait will resolve naturally as your child gets older. Clumsiness and falling improve naturally as your child gains more co-ordination, balance and control of their muscles.

Sitting in a W position can encourage an intoeing gait pattern and therefore we would advise you to encourage your child to sit in other positions such as with their legs crossed.

As your child gets older practicing an out-toeing walking pattern (Penguin walking) may help to strengthen the muscles and keep the feet straight.