Intoeing and Outtoeing

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The purpose of this sheet is to inform you about the origins of this pathology and to present the various treatment options. Please note that this sheet is for informational purposes only; each case is different and a physicians examination and instructions prevail.

1. What does it mean?

In-toeing gait is a common condition in children less than age 4 which typically presents with the internal torsion of the tibia (twisting of a child's shinbone inward) and/or more frequently the anteversion of the femur (an inward twisting of the thigh bone) that results in feet that turn inward when walking ("pige-on-toed" appearance) and this causes frequent falls.

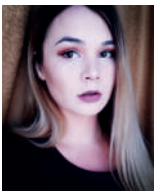
The feet are not deformed, they are normal, in fact is the whole leg that turns towards the interieur. When the child is standing, the feet are turned in, that is to say that the tips of the feet are close together. Looking at the knees, the kneecaps are also oriented inwards, meaning aan excessive femoral anteversion. When the child walks, the rotation inside increases.

When the child runs, his knees willingly remain close to the middle while the legs tend to go outwards. Falls are frequent because the feet often cross.

When the child plays in a seated position, he prefers to kneel, placing his legs on the outside of the thighs, in a so-called "W" position due to the internal rotation of the hips increased. (the opposite of the lotus position in yoga, or the so-called cross-legged position).

Out-toeing gait is a less common condition in children which typically presents with the external torsion of the tibia (twisting of a child's shinbone outward) and/or the retroversion of the femur (an outward twisting of the thigh bone) that results in feet that turn outward when walking (an out-toeing gait).

Out-toeing gait usually runs in the family and can become more serious during periods of rapid growth in late childhood and the early teen years. It usually affects both legs.



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The feet are not deformed, they are normal, in fact is the whole leg that turns towards the exterieur. When the child is standing, the feet are turned out, that is to say that the heels are close together and the tips of the feet are apart. Looking at the knees, the kneecaps are also oriented outwards.

2. What is the prognostic?

With growth, the bones grow in length, but they also change in the horizontal plane, that is, in rotation. Thus, excessive tibial torsion (internal or external) and the anteversion or retroversion of the femur tends to correct itself in a few years. The prognosis is therefore spontaneously favorable.

3. What is the treatment?

Until the age of 4 years old **in-toeing** gait is normal, so no treatment is necessary, it resolves spontaneously over time, but the practice of physical activities is beneficial because the muscles play a positive role in the correction of horizontal rotational disorders.

For **out-toeing** gait treatment is generally nonoperative with rehab and activity modications for the majority of patients. Surgical management is indicated for children older than 8 years of age with a significant rotation for which nonoperative treatment failed.

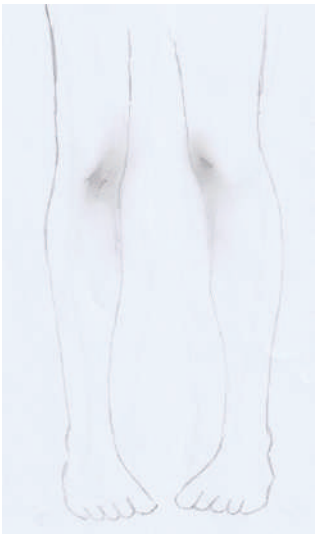
4. When you should take an appointment with an orthopaedic surgeon?

The doctor should be consulted when:

- the deformities tend to worsen over time;
- when the child limps or walks constantly on tiptoe;
- when the deformity is very asymmetrical;
- when the child complains of pain;
- when the child is unable to correct its position upon request.

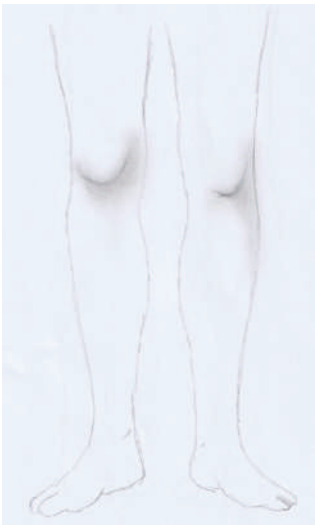
Your child's doctor will perform a physical exam and measure the rotation of your child's legs and feet. As part of the exam, the doctor will take your child's complete personal and family medical history (especially to see if there's a history of inward or outward pointing feet in your family).

Most of the time, doctors do not need an x-ray to diagnose these conditions.

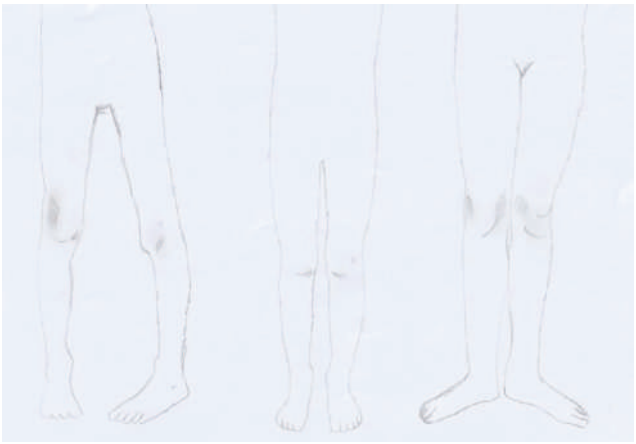


Standing position due to an excessive femoral anteversion

Femoral anteversion measurement in prone position



Standing position due to an excessive external tibia torsion



Different normal standing positions in young child

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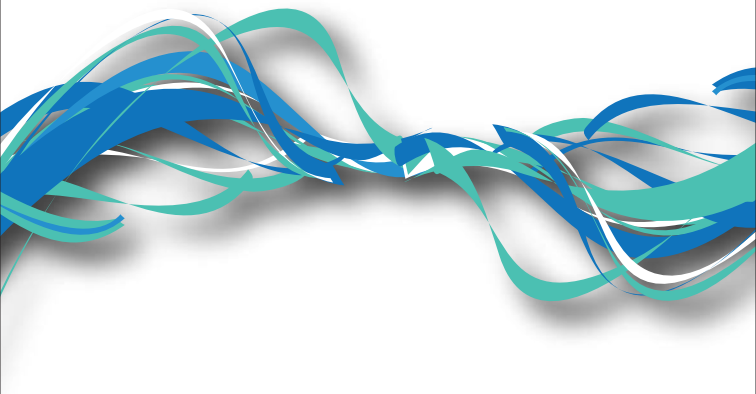

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