Intoeing gait in children

What is intoeing gait?

Intoeing is when the feet turn inwards when walking. It is common in childhood and is usually outgrown.

With intoeing children might be prone to tripping or looking awkward when walking or running.

What causes intoeing?

There are four main causes for intoeing gait in a healthy child:

1. Metatarsal adductus: the foot turned inwards

The outside of the foot is usually straight. In metatarsal adductus the foot curves inwards. It is thought to be related to the position of the baby in the mother's uterus. In most babies the foot is flexible and improves on its own by the time the child is 3years old. Gentle exercise may help. If the foot is stiff stretches and advice on footwear may be necessary.

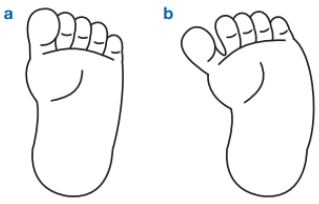

Figure 1. Normal foot **(a)** Metatarsus adductus **(b)**

2. Internal tibial torsion: the lower leg

Internal tibial torsion is where the bone of the lower leg turns inwards between the knee and the ankle. It is very common in infancy and childhood, and usually corrects without treatment by the time the child is about 8 years old. There are no specific exercises, braces or special shoes that can help.

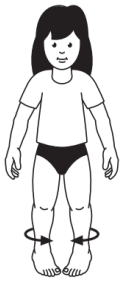

Figure 2. Internal tibial torsion – when the lower leg turns inwards between the knee and ankle

3. Internal femoral torsion: the thigh bone

Internal femoral torsion is where the thigh bone turns inwards between the hip and the knee. This is normal in young children, and usually corrects without treatment by the time the child is about 10 years old. There are no specific exercises, braces or special shoes that can help correct internal femoral torsion.

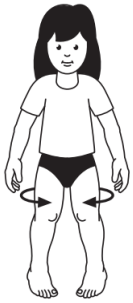

Figure 3. Internal femoral torsion – when the thigh bone turns inwards between the hip and the knee

4. Tight or weaker muscles

The hamstrings are the muscles at the back of the thigh and tightness in these muscles can also cause intoeing. Following a growth spurt, tightness may cause intoeing to worsen. A programme of stretches may help improve this. Sometimes, the muscles on the outside of the hip that turn the leg

out can be slightly weaker resulting in the legs turning in—strengthening these muscles can help in some cases.

What can I do to help?

- There is no evidence to suggest splints or special shoes produce any benefit but good quality, well-fitting shoes are recommended.

- Encourage your child not to 'W sit' but to cross leg sit instead to stretch the hips in the opposite direction, if it is comfortable for them to do so.

- Out-toed activities such as ballet, horse riding, martial arts or swimming breast stroke may help an intoeing gait.

- As your child gets older, practising activities to strengthen the hip muscles such as out-toed walking (penguin walking) or walking along a straight line (keeping feet straight) may help.

- Intoeing is a normal variant of development, so you do not have to restrict your child's activities unless specifically advised to do so.

- Intoeing can persist into adulthood in 3-20% of the population and has not been shown to affecting sporting ability or lead to arthritis.

- Overall, only 1 in 1000 cases of intoeing necessitate surgery if severe and produce functional disability in older children (adolescence).

Physiotherapy assessment and treatment

If there are concerns with pain, muscular tightness, activity levels affected or concerns with asymmetry or rigidity then a physiotherapy assessment will be necessary to support ongoing management and advice.

Sources of information

intoeing_gait_-_2015_0.pdf (csp.org.uk)

Musculoskeletal (MSK) Therapy Services – East Sussex Healthcare NHS Trust (esht.nhs.uk)

Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

Disclaimer

Please note this is a generic ESHT information sheet. If you have specific questions about how this relates to your child, please ask your doctor. Please note this information may not necessarily reflect treatment at other hospitals.

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Tel: 0300 131 4434 Email: esh-tr.AccessibleInformation@nhs.net

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

Reference

The following clinicians have been consulted and agreed this patient information: MSK Physiotherapy Paediatric special interest group, Mrs L Cassidy, Advanced practitioner MSK Paediatrics, Mrs Jo-anne Dartnell Paediatric Orthopaedic Consultant, Mr Kyle James Paediatric Orthopaedic Consultant

Next review date:	December 2025
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