

Toe Walking! **An appeal to physicians!**



As a board certified pediatric physical therapist with 23 years experience, & have worked in the same city for my entire career, I have seen many consequences of “idiopathic” toe walking in later years that could have been avoided had they been looked for, noticed, &/or addressed in a timely manner.

Of primary concern are the orthopedic deformities that are manifested within the first 2 to 4 years of independent gait. These deformities result in pain in the limbs, hips, feet & low back. Unfortunately, due to the very nature of bone, once the symptoms of pain and dysfunction become evident, these deformities are unable to be effectively resolved in the future.....even with surgery as a last resort.

Toe walking as a part of normal childhood development is not well supported in the literature. Such reports are mostly anecdotal, passed on from one practitioner to another. Rather, the toe walking is an outward symptom of other problems that are not evident as yet. As is with most developmental concerns, these problems are best dealt with quickly, efficiently & cost-effectively in order to reduce the potential for them becoming bigger challenges to the child’s future functional ability.

Here are a few facts to consider:

- Boney alignment, especially in the foot, is at a greater risk for deformities prior to the age of four.
- Skeletal changes are less likely to respond to intervention after four years of age.
- A child's balance reactions & stability strategies are consistent, reliable, and predictable at the age of three. Therefore, a walking pattern is much less likely to respond to intervention after that age.

The toe walkers of 2-3 generations ago are different to the toe walkers of today, & therefore their management differs from what we were/are taught. Dynamic stability is often absent or impaired in early/toe walkers, & is correlated to the overuse of supportive toys & furniture.

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In addition, with the increasing prevalence of autism, toe walking can no longer be viewed as a musculoskeletal etiology. Research finally suggests that, “tightness of the calf musculature may be the consequence of ITW rather than the cause.”

Furthermore, sympathetic nervous system activation is a marker of over responsiveness; which may result in the exaggerated fight, flight, fright, or freeze responses of individuals with autism, as evidenced in a rigid gait pattern, such as toe walking.

The neurologically founded somatosensory systems, primarily the vestibular, proprioceptive, tactile, & visual, are the human foundation for optimum development of movement. Therefore, a thorough evaluation of toe walking MUST include an assessment of the functioning of these crucial foundational systems.

My children regularly show an improvement, & often full resolution, of the pathological toe walking without the necessity of invasive measures.....such as Botox (“*the addition of Botox to a serial casting regimen led to earlier recurrence of spasticity contracture and equinus during gait*”).....and surgery (“*lengthening of the Achille’s tendon results in a high rate of over weakening of the triceps surae, as defined by the need for a floor reaction brace*”), & restrictive bracing.

I encourage you to view my MedBridge webinars & contact me for further information on this topic. I am happy to educate, & collaborate with, anyone (medical professional or parent) who desires to improve the quality of care for children.

- Ackman J D et al. Comparing Botulinum Toxin A with casting for treatment of *Dev Med Child Neurol*. 2005 Sep.
- Dietz, FR, Albright JC & Dolan L. Medium Term Follow Up of Achilles Tendon Lengthening in the Treatment of Ankle Equines in Cerebral Palsy. *The Iowa Orthopaedic Journal*. 2006;26:27-32.
- Schumway-Cook A, & Woollacott H. *Motor Control: Theory and Practical Applications*. Baltimore, Maryland: Lippincott Williams & Wilkins; 2001:25.