

SENSORY BASED TOE WALKING

Occupational Therapy

Some research suggests that for children who walk on their toes for sensory stimulation, this toe walking can be addressed by giving children the input they are seeking in other ways. Some suggested activities include:

EXPOSURE/DESENSITIZATION

If children toe walk to avoid walking on certain surfaces, try to provide opportunities and encourage them to walk barefoot on a variety of surfaces to offer them gradual exposure to different textures. Some examples include grass, carpet, sand, dirt, tile, rubber mats and wood floors.



Additionally, creating games or activities that require children to walk on different surfaces, without the exposure to different textures being the focus or apparent goal, also provides opportunities for exposure.

Examples of exposure activities include:

- Obstacle course or games that incorporate walking bare foot on different surfaces and objects (such as textured blankets or through shaving cream). The “rules” can include different ways of traveling in addition to walking (i.e. heel walking, bear crawling) to allow for exposure and stretching simultaneously.
- Activities such as painting with their feet allow them to focus on their creation while exposing them to the feeling of paint on their feet. Through this activity you can encourage them to make designs like their footprint, therefore practicing heel contact. Walking on bubble wrap to pop the bubbles under their whole foot at the same time provides opportunity for heel contact.

Exposure can also be facilitated even when children’s shoes are on (and barefoot activities are difficult or not possible) by inserting materials of different textures into their shoes as insoles.



MOVEMENT STRATEGIES

Walking or running up hills/areas with steep inclines (such as a slide) can stretch the muscles and tendons while keeping the toes pointed up during walking. These activities can also be made more fun or motivating by sliding or rolling back down (when possible).

Marching and stomping are activities that require the entire foot to make contact with the ground. They can be incorporated into songs, activities and games such as, If You're Happy and You Know It, Simon Say, Follow the Leader, dance parties, marching bands, when out on walks or during obstacles courses.



Auditory Input

The use of auditory feedback (shoe squeakers) that makes noise during a heel strike may encourage or motivate children to walk with their heels down. This could be done through the use of items such as “Kick Spots”, “Gait Spots” or by attaching squeakers onto the bottom of a child’s foot/shoe to encourage and provide auditory feedback each time they make heel contact while walking.



Footwear Selection/Options

Certain footwear can make toe waking more difficult and therefore could be used to help prevent or discourage toe walking. This could include the use of:

- Rigid soles in combination with heavier shoes, high top shoes or tall boots could be used to help control foot alignment and prevent/limit plantar flexion making toe walking more difficult.
- Walking in scuba flippers (with support and only on dry surfaces to prevent slipping) may help to encourage heel toe walking and prevent the ability to toe walk.



- The use (or creation) of “Grippy socks”, socks with fabric paint or small grip based spots applied on the bottom, may allow for more tactile input provided to a child’s heel and help to motivate them to weight bear through their whole foot.



Please Note: The activities listed above are potential strategies you may wish to try. Since every child is unique, not all strategies for addressing sensory based toe walking will work for everyone.

References

Williams, C. M., Pacey, V., Bakker, P. B., Caserta, A. J., Gray, K., & Engelbert, R. H. (2016). *Interventions for idiopathic toe walking*. *Cochrane Database of Systematic Reviews*. doi:10.1002/14651858.cd012363

LeCras S, Bouck J, Brausch S, Taylor-Haas A. (2011). Cincinnati Children's Hospital Medical Center: *Evidence-based clinical care guideline for Management of Idiopathic Toe Walking*.

Villaneda, A. (2015, December 16). *Toe Walking: Doctor Attributes Toe Walking to Signs of Poor Vestibular*. <https://llslearningcorner.com/2015-12-toe-walking-doctor-attributes-toe-walking-signs-of-poor-vestibular-system/>

Toe Walking in Children. (2018, May 05). Retrieved from <http://blog.dinopt.com/toe-walking/>