

The Vestibular System



The vestibular system is one of the body's sensory systems. It detects both rotational movements and linear movements of the head in relation to gravity and in conjunction with other sensory systems help us to make the necessary adjustments to our posture and movement to maintain balance, achieve visual control and develop coordination skills.

Your local
healthcare
provider

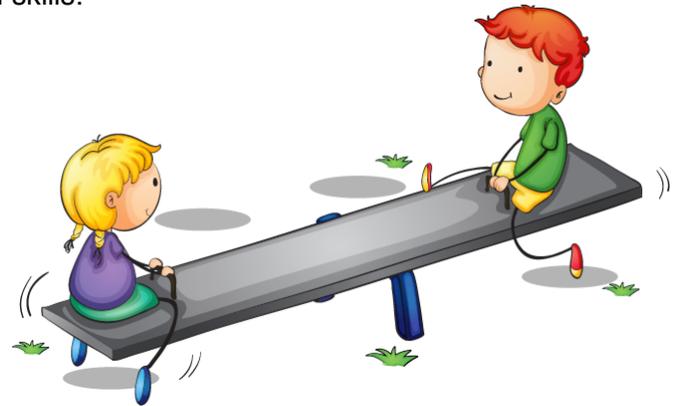
This sense helps us to:

- Co-ordinate eye and hand movements
- Balance
- Develop and maintain muscle tone to hold body position
- Co-ordinate both sides of the body together (bilateral integration)
- Visually track objects, words and images

Difficulties with vestibular processing may make many aspects of everyday life challenging. Children with vestibular processing difficulties may appear lazy, hyperactive, clumsy, inattentive, impulsive, or anxious. Difficulties can arise due to an under-responsive or over-responsive vestibular system and a child may exhibit behaviours of both.

Children with vestibular processing difficulties may present with some of the following features:

- Dislike or seek out activities requiring their feet to leave the ground such as swings, slides, riding a bike, jumping or climbing
- Clumsiness or frequent falling
- Often moving slowly/cautiously
- Frequent motion sickness/dizziness
- Appearing to never become dizzy with excessive spinning
- Seemingly unaware of danger/risks or impulsively jumping, running, and climbing
- Appearing frequently "lost" in their environment or having difficulty locating objects
- Dislike of being moved onto their stomach or back as a baby or having their head tilted back
- Rocking, spinning, twirling, or frequent head tilting. May also intently watch moving objects



- Often prefer sedentary activities, i.e. avoids movement activities
- Difficulty sitting still or unable to concentrate when not moving, the child may appear weak or 'floppy'.
- Difficulty focusing on a task or listening in class
- Difficulty with reading, writing, mathematics
- Often slouches, leans against the wall, holds their head up with their hands (i.e. props their head up with their non-writing hand when writing), or prefers lying down.
- Can irritate others by leaning on them
- Difficulty with coordinating both sides of body e.g. completing star jumps, skipping
- Difficulty maintaining visual attention while moving

The vestibular system is also involved in the regulation of other sensory systems. Difficulties processing vestibular sensory input effectively can have an impact on a child's emotional development, anxiety levels and their ability to maintain focus and attention.



The Vestibular System

Your local
healthcare
provider

*Strategies to improve vestibular processing

- Somersaults and cartwheels
- Play ground equipment e.g. Swings, slides, balance beam
- Log rolling
- Jumping rope
- Bike riding
- Swimming
- Gymnastics
- Lying on the stomach to complete activities
- Climbing across or hanging upside down from monkey bars
- Set up an obstacle course with options to go over/under, climb up/down, run backwards from one point to another, etc.
- Trampolining
- Moving up/down, on /off curbs or other surfaces,
- Skipping rope, hopscotch, hula hoop
- Bouncing on a large inflatable ball (exercise ball)
- Rough and tumble games

When at school offer the child the opportunity to:

- Have regular movement breaks e.g. errands for the teacher, tidying up
- Allow the child to use 'chew' to calm products and fidget products
- Body break – 2-5 minutes of physical movement e.g. jumping jacks, wall push ups, chair push ups

***It is important to monitor the child's response to the activities and stop the activity if the child becomes distressed or 'over excited' or 'hyperactive'**

Be careful not to swing or spin your child excessively, as this can cause adverse reactions such as nausea or changes in breathing and heart rate.

For children who are highly sensitive to head movements, it is important to start with basic movement activities, gradually increasing the pace and complexity of the movements as the child develops confidence and their responses become less severe. Slowly introduce different movements into the child's life in a safe way. For children who is extremely sensitive to movement is important for them to initiate and be in charge of these activities whenever possible.

Sources:

Information compiled from

<http://theinspiredtreehouse.com/vestibular/>

<http://nspt4kids.com/parenting/understanding-sensory-processing-disorder-vestibular-system/>

<https://www.snugvest.com/blogs/news/69556933-what-is-vestibular-dysfunction>

Information for Families 2011 (Michael Cheng & Jennifer Boggett-Carsjens.

<http://creativecommons.org/licenses/by-nc-sa/2.0/>

Further reading suggestions:

www.theinspiredtreehouse.com/vestibular