What is the vestibular sense & why is it important for child development?

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Essentially our vestibular sense helps us to 'keep tabs' on the position and motion of our heads. However, our vestibular system is the most connected sensory system in our body. It works alongside our other sensory systems (including the proprioceptive sense), enabling us to use our eyes effectively and process sounds in our environment.

Our vestibular system has a HUGE impact on our physical, emotional and indeed learning skills. It is the first sensory system to develop in the womb. When the foetus is only 5 months old its vestibular system is amazingly well developed. The vestibular system provides the growing foetal brain with a whole host of sensory information as the foetus is rocked back and forth by its mother's movements.

After birth, our vestibular system is often likened to the 'brain's traffic controller' for all the sensory information it receives. It sorts and relays incoming sensory information from other sensory organs and passes it onto to the various sensory regions of our brain.

Why is the vestibular sense important for child development?

The Vestibular Sense is crucial for a child's development – helping them work, rest, and play. A typically responsive vestibular system enables a child to feel secure and confident in their body, so they can move, attend to learn, and rest.

More specifically the vestibular system:
1. Means good balance! Our vestibular system is like a gyroscope for the body. Depending on how we move our head (rotation/direction/speed), specialised cells send signals to our brain – which then 'informs' our body's reaction. e.g. as a child wobbles on one leg to get dressed, their vestibular system detects head movements, sending signals to the brain, which after processing, sends signals to the body, telling it how to respond & stay balanced. If a child's vestibular system is not working well, they may appear clumsy.

2. Improves visual tracking (maintaining a steady visual image while watching a moving object) & hand (fine motor) skills. This helps a child to be ready to learn when starting school. Without this eye–head coordination, they may find it difficult to:
a. smoothly look up at a whiteboard, then down at their work.
b. read effortlessly, as they find it hard to scan a line of text.
c. enjoy sports – keeping track of a moving ball!

3. Develops and maintains normal muscle 'tone', (our muscles' 'state-of-readiness'). At rest, muscle tone will be low, but when we want to move, it will rise in response – otherwise we would go nowhere! Without a properly functioning vestibular system, a child may find it hard to 'hold themselves up' properly. They may opt to lie on the floor instead of sitting up during circle time or lean on their elbow while at their desk. Children may manage this problem of a 'sleepy vestibular system' by tending to daydream, or conversely they may want to move and fidget – as this stimulates their vestibular system.

4. Supports language development by integrating with our auditory & visual senses.

5. Helps with a child's self-care and independence through co-ordinating both sides of their body. For example doing up buttons or a zip on their own.

6.Encourages self-regulation.

Using the vestibular sense for self-regulation
The vestibular system can be also likened to the 'volume control button' for the body, as quick up and down or spinning head movements tend 'wake us up' whilst slower rocking head movements, or keeping the head still, helps us to calm down.

Before you start: Respect your child's reaction to vestibular input as it can cause nausea, a headache, or flushing of the skin. Some children don't know yet when they have had enough, so monitor them closely and stop means stop if your child has clearly had enough.