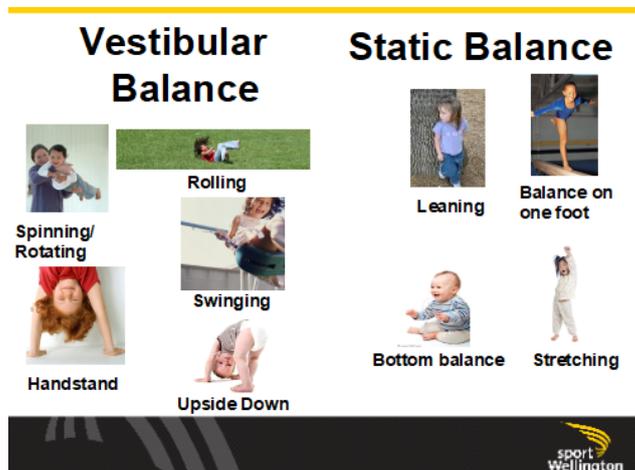


# Balance and Stability

Stability is a critical element of all Fundamental Movement Skills, as it is the basis from which all controlled movement originates.

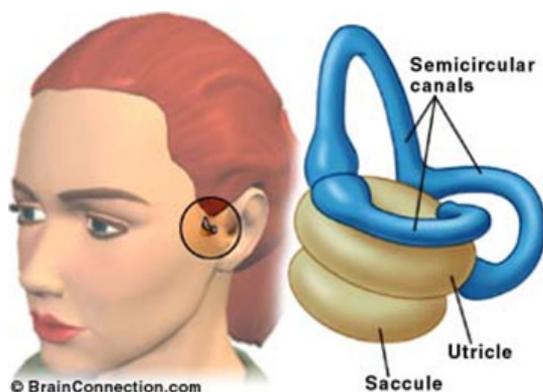
Stability skills relate to the body's ability to gain or maintain balance, either when still or moving. If we start falling over, our brain sends a message to muscles to right ourselves, whether we are sitting, standing, moving etc. Good balance is supported by having strong back and tummy muscles and is attained when the centre of gravity is over the base of support.

Stability and balance rely on a sensory system known as the vestibular system which gives our sense of orientation in relation to gravity. It maintains body position and balance and directly or indirectly affects everything we do. The ability of a child to sit still in class, be alert to incoming information, focus their vision on a task, all rely in part, on the vestibular system.



## How it works

There are 3 semicircular canals in our inner ear (different canals for rolling, spinning, hanging upside down) and the utricle and saccule. Inside the utricle and saccule are millions of hair cells (cilia). When we move (any body movement stimulates the vestibular system) the layer of fluid washes over the hair cells and causes them to bend. This initiates an impulse to the brain to make adjustments in our muscles, including our eyes.



The vestibular system starts developing in the womb, but it is the experience and stimulation that happens after birth that develops it properly. It needs to be stimulated everyday and in both directions. Little and often is best with a speed of 1 revolution per 8 seconds (so the eyes can focus on objects), for no more than 1 minute. Boys vestibular system develops slower than girls.

As we get older and stop doing so much spinning and tipping, the layer of fluid eventually thickens. The hair cells don't get as much movement which means they are not sending as many messages to our brain and body and hence we get dizzy. Some adults still have a very active vestibular system e.g. dancers. You can still do spinning etc as an adult to help the system.

**Signs of a poorly developed Vestibular system:**

Avoid movement	Avoid head movement
Motion sickness	Avoid merry-go-rounds
Excessive spinning of self	Dizziness or nausea caused by watching things move
Hearing problems	Balance problems
Difficulty walking on uneven ground	Wiggler, fidgeter, can't sit still

Under 5's vestibular system is still developing so they do struggle to sit still. If children get older and some of the symptoms above are still evident, there may be some trouble.

Some reasons for poorly developed vestibular systems may include:

- premature birth – or long period spent in an incubator;
- lack of movement – child has not experienced tipping, spinning rotating etc
- medication taken during birth
- breeched babies
- repeat ear infections/grommets/tubes in ears/excess fluid in ears/inner ear problems or glue ear. 1 in 3 children get glue ear. More opportunities to develop the vestibular system will reduce the risk of getting glue ear.

Balance skills are helped by having a lower centre of gravity and a wider base of support, holding your arms out (aero plane arms), keeping your head up and focusing your eyes on an object, and tightening your muscles.