‘Sensory Integration sorts, orders and eventually puts all the sensory inputs together into whole brain function.’
Ayres (1979)

Sensory Integration is something we all need to be able to do. When we can’t register, process and respond to sensory information, life gets very hard. Research tells us up to 16% of young people, 90% of children and adults with autism and up to 60% of people with ADHD have difficulties processing sensory input.

We all need to be able to process sensory input in the right way. When this happens, we can:

• grow and learn well
• participate in play as children
• be able to work as adults
• join in and enjoy leisure activities
• care for ourselves and others

Processing of sensory information helps us to develop, learn and be able to go about daily life. Sensory information drives our development and helps us to cope and live in the world around us.
About my child | Week 1: Introduction to Sensory Integration

**THE WALL MODEL ADAPTED VERSION**

Sensory Integration is all about Science?

Getting the right early sensory input is important and without this, life becomes impossible. Psychologists studied baby monkeys and have shown that the baby monkeys starved of sensory input don’t survive. Those who only get small amounts of sensory information don’t develop well and they become anxious adult monkeys.

What we are born with and what happens to us next (nature and nurture) makes our brains grow, develop and work the way that they do. When we don’t get enough of the right sensory input in early life, or even as an adult, our brains cannot function properly.

Past studies on orphaned infants show how children can be damaged by not getting enough chances to move or participate in ‘sensory play’. The studies also explain how this stops healthy brain development.

Children who are born into unsafe environments or can’t explore and move in the same way as other babies and toddlers, are at risk of not developing normally. Teens and adults who can’t get the right sensory input, or feel ‘tortured’ by too much sensory input, that their bodies can manage and cope with become very unwell and are unable to do the things in a calm and alert way like their friends.
Without sensory input, we wouldn’t know anything about the world around us or how we feel from within our own bodies. The world around us is full of sensory information - nerves carry sensory information to our brain, where we will absorb it, interpret and make sense of it, before deciding what to do or how to respond.

The senses work together, along with other parts of our brain – including our memory centre to provide the brain the important information we need to be able to know what we are doing now and what we need to do next. The senses and our brain work together to help us be at the right level of alertness to make the right decisions because we are at the right level of alertness, in the right place to do the right thing.

As young children get older they should get better at fine tuning how they respond to the sensory world, become better at selecting what information to focus on and what to ignore. This helps them to improve how they respond to, get feedback from and develop more complex behaviours.

Most of us are aware of the 5 senses that give us information about the world around us:
- see (vision)
- hear (auditory)
- touch (tactile)
- smell (olfactory)
- taste (gustatory)

There are 2 senses that provide the brain with information from inside our own bodies:
- balance (vestibular system - it tells us about how our head is moving in space)
- body awareness (proprioception - it gives us a map of where our body is and then helps us move it about)

Our genes and life experiences shape our brain pathways and connections; what the brain builds and prunes away; this is called neural plasticity and it helps us to develop skills, shapes our personality, have emotional and motor control and to be able to think and communicate.
Sensory processing and integration helps us to develop and be curious, learn, manage feelings, get along with others, stay safe and get things done.
(Adapted from Allen and Smith 2011)

All of these senses get combined to help us to have a constantly updated picture of the world around us, which helps us to know what to do, when and how to do it.

What my child does that might mean they have sensory processing and integration difficulties: