

Sense and Sensibilities

We are receiving a multitude of sensory inputs at all times. Where are they coming from, and how do we balance them all out, and make sense of them?

Aristotle described us as having five senses: sight, smell, taste, hearing, and touch. These 'exteroceptive' sensors cover feedback from the outside world. They are the easiest to understand because we also associate them with visible organs, namely: eyes, nose, tongue, ears, and skin, respectively. However, these five senses exist alongside our equally important 'interoceptive' sensory systems, including our vestibular and proprioceptive sensors, which provide feedback from our internal systems.

When providing equipment, how can we best prescribe items which accommodate sensory function, or dysfunction, alongside any physical postural needs?

Sensory balance

We all have our sensory preferences, be it loud versus soft music, bright lights versus calming shades, a soft bed versus a firm mattress, simple food versus a highly spiced meal, or vice versa. While writing this article, I have some 1940s Glenn Miller music playing in the background in that it helps me to concentrate on the matter at hand while it blocks out other general potentially distracting sounds. The music also has an interoceptive feedback in that it makes me feel good, since I enjoy the upbeat rhythms and harmonies. Another time I might choose Beethoven's 7th symphony, or Mozart's 21st piano concerto. My wife, on the other hand, finds music in the background a distraction.

For some people their sense preferences are so strong that they will seek out sources of their preference, or, conversely, at the other extreme they will take strong avoidance tactics. Ali Neal specialises in managing sensory in- and output for children with behavioural and physical developmental challenges. She recently hosted a webinar¹ on this topic which I'd strongly recommend. Her key message was that her clients were children who often had a mix of extremes of sensory needs and of avoidances – the high needs were 'elephant' sized and the other extremes were 'mouse' sized. For most people we have a mix of our more elephant vs mouse sized needs, and the

animals are respectively much larger and smaller for some than for others.

Deep pressure

Elephant reactions could be positive responses to making or hearing large noises, strong food flavours, flashing lights, rocking and swinging, etc, whereas the mouse reactions could respectively show a startle reaction to or try to drown out strange noises, be a 'super-taster' preferring a limited diet, looking away from bright lights, avoiding and being anxious when touched.

The interesting element in the latter is that for many where light touch has a negative effect, deep pressure can be reassuring and calming.

In last month's article (No. 74) I mentioned that at the Victoria and Albert Museum there is currently an exhibition called Design and Disability that is open until February 2026, and is well worth visiting. This is both a celebration and a call to action that showcases the radical contributions of Disabled, Deaf, and Neurodivergent people and communities to design history and contemporary culture, from the 1940s to now.

One of the exhibits is a chaise longue sofa with arms which wrap around the sitter, and a pump, controlled by a hand-held switch, which fills air into the arms to stretch the arms to engulf the sitter (Figure 1) and provide deep pressure.



Figure 1. Squeeze Chair by Wendy Jacob

A number of postural support devices (PSDs) – belts and harnesses – if applied tightly, not only position the occupant securely, but they can also provide deep pressure benefits. Note that this can also bring us into the debate as to whether we are adding restraints! Restraints are anyway often there for safety benefits for the occupant and those around them.

One example of a PSD which has great positioning benefits, but also can provide a reassuring support is the leg harness (Figure 2). This can position each thigh more precisely than a pelvic positioning belt, but also can provide a firm and reassuring lower body support.



Figure 2. Leg harness in position

Well over 30 years ago Jon Prout introduced the Breezi™ range of activity chairs. Apart from their benefit of having height adjustability for use with different height table surfaces and for accommodating the user's growth, they have come with optional accessories which help to surround the user's body to make them feel comforted by the broader contact, and this calms many who have behavioural challenges at home or in the classroom. These accessories include padded thigh supports, a padded contour back, and for added deep pressure around the torso, a broad chest strap (Figure 3). This range is still available today and continues to be enhanced².

Getting it right

None of the Aristotle five senses is actually one sense. Our sense of taste goes beyond just sweet and sour, and has sensors that can differentiate 1000 different chemicals – look at how many elements a wine connoisseur can detect in a sip of a specific wine.



Figure 3. The Breezi™ activity chair with support accessories

The sense of 'touch' is also not straightforward in that these are in reality a range of senses: different sensors differentiate our respective senses of pressure, pain, itchiness, hot or cold, etc. These also link in with proprioception, where the feedback from our muscle spindles tells us where parts of our body are positioned in space (providing the means to touch our noses with the end of our fingers, even with our eyes close), so we know what we need to do scratch that itch.

When providing equipment, working with responses to touch is important. Many of our foetal reflexes relate to touch. For example, the suckling reflex encourages a baby to turn its head towards the direction in which its cheek is touched. For most of us, we lose these early reflexes, but for those who have not, we can try to make use of them rather than fight them. When deciding where it might be beneficial to place a support pad, find whether the person responds to touch in that area by leaning into it, or away from it. For a lateral thoracic pad this could lead to the person's reaction leading to an increased or decreased spinal scoliosis. It also predicts the degree to which the client will be comfortable with an intervention.

If you do find a piece of equipment that works, especially in accommodating behavioural challenges, it is important

that the child, for example, has the same equipment at home as at school. The sensory and physical management needs are there all the time, whatever the environment: best results are obtained if the management is consistent. This needs to be addressed in provisions prescribed within EHCP assessments.

Complex challenges

Was it a specific sensory input that triggered a certain behaviour? If this can be identified, then this can ideally be accommodated for, especially if the behaviour occurs either to avoid or, conversely, to feel that sensation. Has a behaviour become a learned behaviour, maybe to get attention? Has it reached the point where the response is so established that the perpetrator is doing this automatically? There's a great deal of careful assessment that is often needed, and it all takes time unfortunately.

Let's also not forget various senses which we have not gone into in any depth in this article. 'Gut feelings' from autonomic nervous system are real. Management of vestibular feedback is a need for many – the reason why people rock their chairs, react negatively or positively to vibrations in their seat, get motion sickness, etc. A large enough topic for another time.

It can take multiple inputs from parents, carers, teachers, therapists, etc to collect all the available knowledge of how any one individual reacts to different situations and different stimuli. Which are the elephants and which are the mice for that person, and what brings on the reactions? This is the start of the road to managing and balancing the sensory and the physical needs of an individual.

1. <https://www.youtube.com/watch?v=UIp3FW2iJTU>
2. <https://www.beshealthcare.net/brand/breezi/>



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