

Sensory Processing

We all receive information through our senses that help us manage and adapt to our environment. Sensations through touch, movement, body position, sight, sound, smell and taste allow us to manage our behaviour in the required manner. When this information is not processed and integrated effectively this can result in an extreme or inefficient response to the environment. This information also helps us maintain a calm, alert state appropriate for the activity we are trying to engage in.

The three main sensory systems are tactile (touch), proprioception (body awareness) and vestibular (movement). Proprioception overrides other systems and proprioceptive strategies will work across most areas. Proprioceptive activities involve resistance and heavy work and can have a calming effect.

Tactile System

- Located in the skin.
- This sense allows us to perceive light touch, pressure, texture, shape, temperature, pain and vibration.
- Tactile input is very specific to the individual and is most sensitive in the hands, fingers and mouth. It nourishes the brain and depending on individual preferences can cause strong emotional responses.

Tactile Strategies

- Use the front or the back of the line
- Sit in class where you are least likely to be jostled, stay away from main thoroughfares, book trays.
- Use a fidget – stress ball, key ring.
- Chewing gum can also help but check school policy regarding this.
- Adapt messy activities so the child does not have to participate in the messy part.
- Provide heavy work which will calm and organise the young person – carrying heavy books, moving tables.
- Removing tags from clothes.



Proprioceptive System

- This is located in the muscles and joints.
- Provides information about where body parts are and how it is moving.
- Gives us body awareness and position in space.
- Helps us judge force and pressure.
- Stimulated by deep pressure.

Proprioceptive Strategies

- Provide opportunity for resistive physical activity – wall push ups or carrying heavy boxes.
- Encourage outdoor play activities – running/climbing.
- Jumping – up and down, off and on steps.
- Pulling theraband / tubing / putty see websites for information.
- Stress toys / balls.
- Weighted cuffs to help calm and give young person feedback.
- Chair push ups – push through hands while sitting on chair, lifting bottom off chair.
- Palm to palm pushes.
- Tightening and relaxing various groups of muscles.
- Weighted lap pad to put on lap in class.
- Give regular, short movement breaks throughout the lesson – see Top Tips for movement breaks for more information.
- Outdoor time – running, jogging, jumping.
- Walking on uneven surfaces, using gym equipment, climbing bars, ropes.
- Taking errands to the office.
- Moving furniture / resources.
- Walk to school.
- Erasing the board in class.



Vestibular System

- Located in the inner ear
- Provides information about where our body is in space and if we or the environment are moving.
- Also gives us information about speed, direction, posture and muscle tone.
- Difficulty processing movement makes moving around a busy corridor scary for a student.
- Helps us to balance and co-ordinate eye movements.

Vestibular Strategies

- Proprioceptive strategies can be used for difficulties in this area

Visual

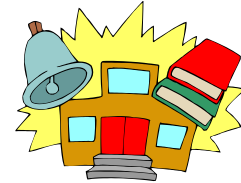
- Visual perception is the ability to interpret and use what we see.
- We rely heavily on our sight for lots of information from our environment.
- It is directly related to our movement system in our ear.
- It helps us process light, colour, shade and tone.
- Discriminate between light, dark areas – stimulate or relax us.
- Busy environments can be over-stimulating to our sight system.
- For example: bright lights, sun through blinds/windows.

Visual Strategies

- Sitting near front of class near board
- Print out of school work/notes
- Working in quiet area if required
- Can alter colour and brightness levels on devices – brighter, dimmer, some have blue light filters

Auditory

- This is the ability to understand and use what is heard.
- We process auditory information from our environment which gives us signals about what behaviour is required. Some young people are challenged by noisy environments. For example: alarms, bells, heating and electrical equipment. Voice /conversations – tone, pitch. Sensitivity to noise may result in the student running out of classroom
- We require auditory discrimination and filtering to zone out what we do not need and to focus on what we need to hear.
- Some tone/pitch of noises can be painful to your ears.
- Processing instructions can be difficult.



Auditory Strategies

- Listening to music between classes/break/lunch/if appropriate in class
- Being prepared for loud noises e.g. school bell
- Working in quiet area if required



Taste

- We all have very individual preferences when it comes to food.
- We all like or dislike certain textures, flavours, colours and combinations of food.
- Food can also be stimulating or calming and chewing can help us concentrate.
- Some children can be unaware of strong tastes or be very sensitive to certain tastes and textures resulting in extreme responses, for example, gagging.

Taste Strategies

- At home, can be involved in meal preparation and gradual exposure to new foods
- If having packed lunch or eating at home, try to involve young person in meal preparation



Smell

- We all have a different sense of smell and very individual choices in relation to smells we like and don't like. We also have strong associations with smells which trigger memories.
- Smells can be subtle or strong. What one person might like, another person may not. Sensitivity to smell means the smell of glue / paint in an art class can result in the student feeling sick and being unable to concentrate.



Smell Strategies

- At home, gradual expose to particular smell in order to desensitise
- Having another smell available to mask one found unpleasant e.g. hanky with essential oils

General Guidelines

Sensory over-responsive (defensiveness)

Sensory avoider – fearful, cautious, defiant, negative behaviour.
Responds to sensations as dangerous or painful – need to get away.
For example, touch, noise, movement.

Sensory under-responsive

Sensory disregarder – difficult to engage, slow, sluggish, day dreamer – needs intense sensory input to get the young person involved.
Reduced perception of pain.

Sensory seeking

Sensory craver – bumps and crashes, impulsive, dare devil.
Constantly seeking intense sensory input.
For example movement, touch, proprioception.
Young people will often seek out extra feedback and sensations. For example bump into things, lean against walls, fidget a lot, use excessive force – push other children.

The sensory systems are complex and variable. It is important to note that a young person's sensory needs may change from on a daily basis and / or throughout the day.

Proprioceptive strategies can be tried with all of the above difficulties to try and regulate systems of calm and alert states.

Guidelines for the student

- Pushing hands down on the top or back of your head.
- Stand at table and push down hands on table top.
- Push palms together/pull hands apart.
- Push down hands on chair when sitting.
- Take an errand to the office.
- Carry heavy books, help at the library.
- Help move tables/chairs – help the janitor.
- Use a hand fidget – stress ball, key ring, and blue tack.
- Think about where you sit in class; make sure you are away from distractions, busy areas.



Throughout the school day:

Morning: Complete extra movement tasks in the morning – try walking to school.

Break times: Make sure you move around at break time, walk around the playground, run – play ball games.

Lunch time: Use water bottles with straws; eat food that is heavy work for your jaw, chew sweets, bagels, bread, crunch apples/carrot sticks, cereal bars.

During school: Use water bottles, chew on sweets (check with teacher or use in between classes). See above strategies.

Guidelines for the teacher

- Time out / quiet area is essential for young people who have sensory issues. This allows them to calm down and remove themselves from a situation before it escalates, resulting in a negative behaviour.
- Allowing the young person to leave class 3 minutes early to avoid busy, loud corridors. This needs to be negotiated between teacher and pupil.
- Think about the young person's position in class:
 - Sit him/her with least visual distraction, away from windows / corridors. Away from traffic.
 - Position at front of class or line.

- Sit them next to other pupils who will not invade their personal space.