

Derbyshire Sensory Processing Needs Toolkit Interactive

The Eight Sensory Systems Documents

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Proprioception

The proprioceptive system is located in joints and muscles and carries information to the central nervous system.

Proprioceptive input provides the brain with information about the location and movement of your body in space, rate and speed of force needed to work against gravity and sequencing of movements.

CYP with decreased proprioception may have an inefficient 'body map' and often don't know where their body parts are individually or how to isolate the movements of those body parts.

These CYP will usually present with poor gross and fine motor skills as these require isolated and bilateral movements and sequencing of those movements.

CYP often prefer to be grounded by lying on the floor or leaning against surfaces/adult's bodies.

CYP with decreased proprioception require a higher level of proprioceptive input/stimuli than others in order for the brain to receive/respond to it.

By providing opportunities to access increased proprioceptive input you will be helping the brain to develop a more effective 'body map' and the ability to control joints and muscles more efficiently. (The brain receives adequate sensory information in order to be able to initiate a motor response). Proprioception can often help prepare a child for activity.

Proprioceptive input also balances the central nervous system and promotes a 'just right' state through either satisfying a **seeking** sensory system, alerting an **under responsive** sensory system or calming an **over responsive** sensory system.

Balancing the sensory systems

We can use sensory input to support calming, this can be via the proprioceptive system, the tactile system or a combination of both.

When calming it is important that touch is given with deep or firm touch and that muscle movements are regular rhythmical and predictable. Engaging in 'heavy work' will also provide calming and organising sensory information to the CYP.

'Heavy work' means using the muscles against gravity, engaging in activities that require push/pull against resistance, this can include activities as noted below.

When?

Examples of what you might see... CYP may be:

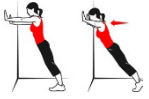






- restless and have difficulty attending
- slow to respond and have difficulty keeping alert levels sufficient for maintaining attention
- using a lot of pressure to engage in a task
- stamping feet, walking on tip toes, looking to pull and push objects- generally wanting more input...
- finding themselves in trouble for playing too rough or breaking items unintentionally
- grinding their teeth
- squeezing into small/tight spaces
- chewing beyond developmentally appropriate









What can I do?

- Offer short activities before the need to concentrate.
- Provide short activities, little and often, to help to organise the sensory systems
- Provide activity following over excitement as a calming tool to settle the CYP

For activities marked with '!' – proceed with caution as some CYP may respond negatively to them or quickly become over stimulated. **Please take careful note of the advice given.**

Activities to help balance the sensory systems

Initial activities	When? /How long for? / techniques	What to be aware of	Image
Pressing into a wall	Use a straight back. Arms at shoulder height		
Hand presses	Palm to palm presses. Long enough to feel the pressure in the body and hands	Check that CYP is not over flexing at the wrist. Look for hyper mobility in joints. (too much flexibility)	
Use of stress balls/ fiddle toys	Little and often. Can help to maintain concentration	Remove if too distracting. Find something with low visual interest	
Weighted cushion	When seated Up to 30 minutes followed by a break of 30 mins.		
Carrying books, washing basket, toy box etc.	Helping with chores can offer short breaks to re-set attention levels	Only use if needed. Do not interrupt if CYP is able to maintain concentration Alter times according to need (do not timetable activity by time but by when need occurs)	
Use of move and sit cushion	During sedentary activities	If there is too much movement CYP can become over excited. Trial for short period and see if it improves concentration	! 
Use of a backpack (Not more than 5-10% of body weight)	Not for longer than 20 mins followed by a break of 20 mins.		! 

Initial activities	When? /How long for? / techniques	What to be aware of	Image
Self-hug	Hold for a few seconds in order to gain impact. Little and often		
Resistive hand play such as tearing catalogues, kneading dough, stretching putty	Short activity option During breaks or before sedentary task	Will need boundaries for use	 
Provide a safe space for heavy falling and rough and tumble		This can overload a CYP and so be aware of too much movement that over excites Limit time and complete a fully calming activity afterwards	
Tie Thera band to chair legs- offers resistance when sitting	Use on class chairs and allow CYP to push against band with calves or feet	Requires supervision. Do not use Thera band as general hand resistive tool	
Small spaces	A quiet space without visual distraction	Always make sure CYP can remove self from small space	 
Chewy foods/ Chew toys (Offers resistance in muscles of mouth)	Short periods Crunchy snacks	Try and use healthy options Chewing gum only if appropriate to age/developmental stage	

Think!

- What times of the day and what activities suit you and your CYP best- when do they need this input?
- Little and often activities can help keep a CYP 'just right' and able to concentrate
- Have a selection of ideas ready to use as some work better than others for individual CYP

Think!

- **Person** What are the CYP's patterns in the day? When do they most need a calming activity?
- **Place** (environment) What is the environment like / is this overloading or just right for them?
- **Activity** What are you asking the CYP to do / is this a reaction to an activity that is too hard, or not offering enough stimulation/ has it gone on too long, or not long enough?
- **Stress factors!** Think about what is happening for the CYP in relation to stress, this can exacerbate all sensory processing needs.

Additional Activity Sheets

These lists are by no means definitive but a good starting point to discover what does and does not work for individuals.

It is important to bear in mind age and appropriateness to setting when choosing activities from the lists. Some activities will be more appropriate for younger children and others for young adults whereas some will be more appropriate for home, nursery, school, outdoors etc.

The use of vibratory equipment should be under supervision to allow for observation around over-stimulation.

Sensory Seeking:

Physical activities/working against resistance

- Kick balls into goals/spot on the wall
- Clapping games
- Rolling down hills/log rolls
- Stretching high to reach for objects
- Squeeze balls/sponges
- Bouncing on trampoline
- Bang flat hands onto drum/therapy ball
- Roll on therapy ball/roll on tummy to touch floor or reach objects in front
- Roll therapy ball/roll over body
- Push with feet into therapy ball/roll against wall/person
- Batting balloons
- Trampoline jumping/crashing
- Crashing on mats/cushions
- Skipping
- Sitting on therapy ball/roll/Wobble cushion/Bilibo
- Swimming
- Row the boat
- Leap frog
- Hopscotch
- Bouncy hopper races
- Seesaw with a friend
- Sliding down slide on tummy
- Hand wash pump paints
- Squeezing water/paint from washing up liquid bottles
- Push against wall/flat surface with hands and feet
- Pushing against adult's feet/hands with feet/hands to push them over
- Parachute games Dance sox/lycra tubing to stretch out limbs against resistance
- Rolling large ball to partner
- Batting balloon to partner
- Archery
- Chin ups
- Monkey bars
- Arm wrestling
- Weight lifting
- Horse riding
- Cycling
- Scootering
- Climbing wall
- Contact sports such as wrestling/rugby/martial arts
- Kayaking
- scuba diving
- Therapy putty or stress ball
- Clay modelling
- Walking, especially on treadmill. Can use weighted backpack (no more than 10% of body weight, no longer than 20 minutes).
- Wall or floor push ups (can be on knees or toes)
- Plank exercise
- Access to fitness suite (fixed or free weights)
- Gymnastics exercise, for example, vault over box, handstand, etc.
- Access to trim trail
- Use of a fitness tracker or app for motivation (e.g. 30-day plank challenge app.)

Chewing

- Chewy jewellery
- Chew sticks/toys
- Chewing gum
- Crunchy/chewy snacks
- Sucking from a straw/sports bottle

Vibratory Stimuli

- Vibrating cushion
- Vibrating massage tube/snake
- Body massager
- Vibrating light spinner touching body/face
- Vibrating foot massager
- Electric/battery toothbrush
- Vibrating hairbrush
- Vibrating chew toy/teether

Deep Pressure

- Patting own legs/arms/tummy etc.
- Firm deep pressure /squeezing
- Swaddling and rocking/rolling
- Lycra clothing
- Tight fitting under clothing/base layers
- Pillow fight
- Carrying backpack filled to no heavier than 10% of person body weight
- Hiding under balls in ball pit, weighted blanket, duvet cover filled with soft play balls, sofa cushions etc.
- Person 'Sandwich' between cushions/mats
- Weighted shoulder, lap, wrist, ankle resources
- Rough and tumble
- Wrestling
- Pushing hands together or onto top of head
- Vibratory resources
- Teach use of a blanket for self-hugs
- Teach self-hugs
- Chair pull ups
- Weighted lap support for seated activities.
- Small weights carried in pockets (wear clothes with large pockets to support this)
- Access to a hat or headband
- Access to a bean bag

Heavy work

- Pushing heavy truck/cart loaded with blocks
- Ripping pages from catalogues
- Tug of war
- Passing heavy objects between hands
- Wipe white boards
- Push car along the floor with one hand while weight bearing on the other in quadruped
- Wash the cars/bikes in playground
- Digging flower beds/vegetable garden
- Throwing bean bags, sand bottles
- Wheelbarrows
- Pushing friend on swing
- Pulling Velcro strips apart
- Rolling play dough sausages/pastry
- Pushing trucks in the sand box
- Hammer toys
- Hammer pins/nails into boards
- Loading boxes, wagon, buckets with heavy objects
- Swinging dog ball toys
- Welly wanging
- Setting out benches for assembly or chairs and tables in classroom/ dining room
- A regular job involving the above skills, for example, carrying and delivering fruit to different classrooms.
- Carry a pile of books on an errand to the office
- Circular/arc mark making on large paper while on hands and knees
- Large mark making on an easel or wall
- Potato printing
- Handprints
- Footprints
- Plant watering with large cans
- Playing in large boxes filled with polystyrene, pasta, rice, dried peas etc.
- Mark making in deep trays of paint, corn flour, sand, rice etc.
- Wall painting with large brushes/rollers
- Digging, raking, sweeping
- Crushing biscuits/boiled sweets with rolling pin
- Walking a dog
- Emptying rubbish bins
- Moving furniture/ tidying up tables and chairs at the end of the day
- Vacuum cleaning
- Gardening or groundwork, for example, digging, pushing a hand trolley or wheelbarrow.
- Every day or curricular activities involving the above, for example, kneading dough in food technology, working with clay in art
- Use of a fitness tracker for motivation
- Library work: stacking and shelving books

Under Responsive

Motor planning

- Sitting astride physio roll and gently moving to encourage weight adjustment and stability
- Crawling up steps
- Commando crawling
- Crawling through tunnels/tight spaces
- Obstacle courses
- Rolling
- Hand/feet musical mats
- Dancing
- Dance mat
- Gymnastics floor work
- Zumba
- Aerobics
- Step exercises
- Use of console games for the above (e.g. Wii fit)
- Walking/ running on treadmill
- Yoga or Pilates, especially in front of a mirror
- Balancing activities, e.g. walking on beam or bar
- Hand clap exercises, e.g. 'A sailor went to sea, sea, sea...'
- Use of a fitness tracker for motivation
- Large splashing in water trough
- Touch body part alongside verbal instruction such as "lift your leg"
- 'Animal walks'
- Physical literacy activities
- Simon says game

Graded movement

- Pouring between containers in water trough
- Scooping and pouring in sand tray
- Placing rings on poles of varying distance and lengths
- Stacking cups
- Building towers of blocks
- Throwing bean bags into buckets/rings at varying distances
- Mark making with resources which need varying amounts of pressure to achieve least pressure: touch screen and white board pens to most pressure: light crayons/pencils
- Heavy and light resources to practice grading movement against gravity needed to place on a table/ into a bowl and throw to catch etc.
- Musical instrument play to grade effort needed to make quiet and loud sounds
- Inset puzzles, posting activities, peg boards etc.
- Everyday activities or curricular activities involving pouring and measuring, for example, food technology, science, art, resistant materials, carrying a tray of objects, etc.
- Instrumental lessons
- Animal care
- Regularly collect or hand out books or equipment
- Various sports or activities involving precision, e.g. shooting hoops, putting, bowling, pool or snooker, table tennis

Interoception

Interoception is the sensory system that informs us of internal bodily changes.

It allows us to feel our internal organs and is responsible for maintaining homeostasis '*regulation of basic body functions designed to maintain life*' using the least amount of energy possible.

There are interoceptive nerve receptors all over our bodies including our internal organs, bones, muscles, and skin. These receptors send information to the brain which help us to determine how we feel. The area of the brain that receives most of the information regarding interoception is called the insular cortex, or insula for short.

Interoceptive awareness is the ability to feel what is happening inside our body. It is recognising hunger, needing to use the bathroom, changes in temperature, blood sugar levels, heart rate, swallow, breathing rate for example and knowing what to do about it.

If the body needs energy, you feel hungry, so you eat. If the body is fatigued, you feel tired so you sleep. Hunger, thirst, the need for the bathroom, body temperature, pain, sexual arousal..... all of these are conditions and many more are sensed by the interoceptive system. The insula is constantly monitoring interoceptive signals and uses the information sent from areas such as the heart, bladder and stomach and translates the incoming signals into a message that we can identify and respond to on a conscious level.

The interoceptive system is also responsible for allowing us to feel our emotions and manage these effectively. It is how emotional states such as anger, calmness, distraction, or fear reach our consciousness.

A feeling comes from inside: however, many children and adults will often externalise the emotion: for example, the dinner hall makes me feel frustrated; a spelling test makes me feel nervous. This results in feeling out of control. If we can recognise that the emotion is internal, then we can gain more control.

Interoception helps us to understand how we are feeling and enables us to respond to that feeling in an adaptive way.

What is Self-Regulation?

Self-regulation is our ability to control the way we feel and act accordingly. When self-regulation is successful it can help us to maintain attention on a task, match energy levels to the situation and maintain a feeling of contentment, for example.

Self-regulation allows us to be more resilient. We're more able to recover from adversity more quickly and even develop more quality relationships with those around us. Self-regulation is essential to promoting positive mental health.

Self-regulation is the ability to manage our emotions. To develop self-regulation skills, you first need to understand where those emotions come from: interoception enables us to answer the question "how do I feel?" at any given moment. This awareness of how we feel leads us to be able to manage or regulate our emotions much more effectively.

Many children and adults are not aware of what may actually be happening inside their bodies, therefore missing vital clues to their emotions and the way they feel in any given moment.

Step 2 Interoception

However, explicitly teaching how their bodies provide vital clues to our emotions, can help CYP understand how to recognise, identify and regulate their emotions.

For many CYP, understanding how their bodies work and how they affect their emotions can be a very complex or complicated task. For example, tense muscles could be a clue that we are irritated or cross: a racing heart could be a clue that we are worried or nervous. Many adults and children are not familiar with these inner body signals and therefore, do not recognise them as potential clues to how they are feeling. Not understanding these vital clues can make their emotional experience unclear, leading to difficulty in identifying, understanding and managing their emotions. This is where interoception can play an essential role in self-regulation.

Self-regulation can have a positive impact on understanding your emotions: as children, we learn primarily through our senses, including interoception. We learn that touching something hot might burn us, that splashing a tap can make our clothes and skin wet, that walking on stones can be uncomfortable, and that certain flavours are pleasant whilst others are not. As children grow and develop, they learn more of these signs from their physical bodies and some of them become unconscious signals which they no longer have to actively think about. Many of these physical signals are also explicitly taught by adults: “don’t touch that, it’s hot”; “the lemon will taste sour”; “there’s a stone in your shoe, I bet that was uncomfortable.” This means that the physical learning that the child is experiencing is reinforced by modelling and conversations with adults. Interoceptive signals are not often taught in such an explicit way, but this can prove useful to learning to use them as clues to our emotions.

Poor interoceptive awareness can affect:

- Self-care and body regulation
- Self-esteem, confidence, and resilience
- Emotional well-being and understanding of self
- Self-regulation
- Learning
- Risk assessment

What you Might See

As described in the ‘What you might see’ overview

If a child or young person is **under responsive** to interoceptive input, they might...

- have an extremely high pain threshold
- have been delayed in toilet training (as they do not sense the need to urinate or empty their bowels)
- not feel when they need the bathroom and always appear to go to the toilet at the last-minute leading to accidents and/or constipation (as they don’t sense they need the bathroom until their internal sensation is extreme)
- not feel when they are hungry or thirsty and require reminders to eat and drink
- not be able to tell when they are full after eating
- have significant health issues or injuries but never complain of symptoms such as broken bones, fever, infections, burns etc as they do not feel the discomfort.

Step 2 Interoception

- not recognise when they are tired and continue to the point of exhaustion as they are not able to read the internal signals
- not react to being hot or cold
- not be able to recognise the early signs of emotion so become over-whelmed resulting in outbursts or meltdowns.
- not be able to use calming strategies effectively as it is too late for them to recognise and react to their emotions.

If a child or young person is **over responsive** to interoceptive input, they might...

- experience intense reactions to hunger feeling like they are starving at the first tummy grumbles. They may even describe hunger as being painful.
- may report to be “starving” or “dying of thirst” all of the time
- complain of lots of aches and pains as the slightest discomfort is painful
- have difficulties with focus and attention (they may be too preoccupied with their internal stimuli)
- refuse to take their coat off when coming in from play or lunch breaks at school as it takes longer for the change in temperature to register
- experience extreme anxiety over minor dilemmas
- panic after a short period of exercise as they are highly sensitive to the changes in their heart rate, body temperature or breathing
- often feel nauseous
- ask to use the bathroom frequently (as they are extra sensitive to the urge to urinate or empty their bowels), unexplained by another medical condition
- report numerous internal sensations but are unable to determine their current emotion (as the signals they receive are too overwhelming)

Discrimination difficulties - the CYP cannot always pinpoint their exact feeling they sense internally. They might have a vague or general feeling but have difficulty identifying exactly what the sensation means, i.e.:

- If asked if they need to use the toilet the CYP may say “I don’t know” or “maybe”. They may feel they might need the toilet but can’t say if this need is imminent or if they can wait.
- A CYP may feel they are hungry or thirsty but when given food or a drink they hardly touch it. This may be because they are misreading the body sensation they recognise.
- The CYP complains of feeling sick but without having any specific symptoms. They may feel ill but the sensations they feel are vague so they say cannot be specific around where or how they feel ill.
- The CYP may insist they are ok when they are visibly angry, upset etc. They could again be misreading the body signals as they identify one sensation in isolation rather than linking them.
- The CYP may identify they are angry but don’t realise how angry.

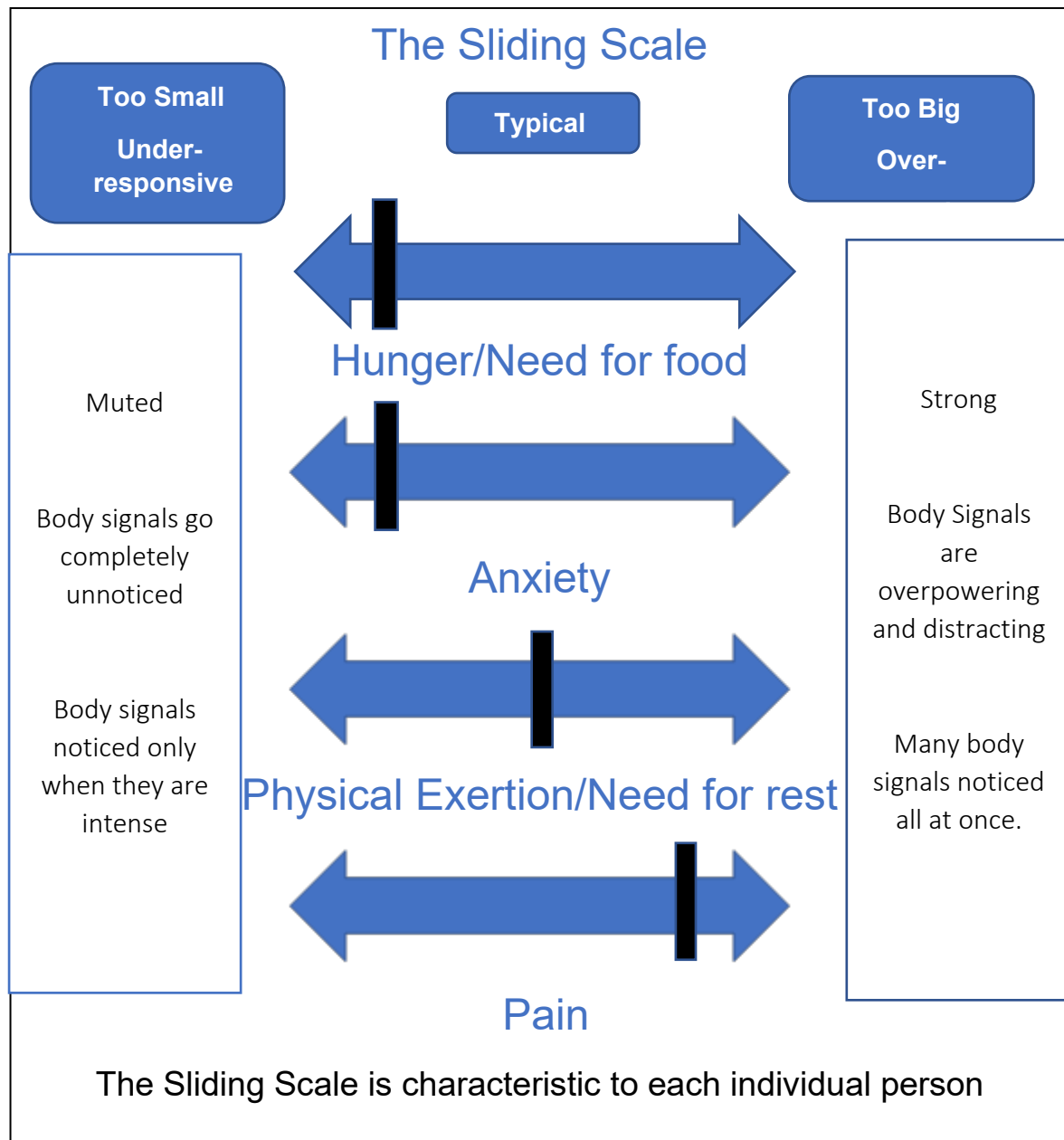
REMEMBER – A CYP will not fit neatly into one category of Interoception difficulties. They could be under-responsive in some areas, over in others and have discrimination difficulties too. They are all individuals and how their Interoception impacts will also be individual. They can result in a CYP becoming overwhelmed by emotions and reacting in inappropriate ways – physical aggression, emotional shut down, or inappropriate laughing or smiling are common.

Step 2 Interoception

Interoception gives us information about how our body feels and what it needs for comfort and regulation.

WE ALL HAVE UNIQUE INTEROCEPTIVE EXPERIENCES

Sometimes these may be too small and sometimes they may be too big.



Step 2 Interoception

Understanding your inner sensations provides you with essential information about what our body needs to feel for:

- Comfort
- Regulation
- Health
- Well-being
- Positive social connection

Each person's response to this is unique.

Interoception based support work SHOULD seek to:

- Invite curiosity about body sensations in a playful manner (*how the body feels*)
- Increase self-understanding of the personal sensations (*what does this feeling mean for me?*)
- Help the CYP to connect to strategies that promote comfort (*what does my body need to feel safe and regulated?*)
- Help to notice the way your body feels in the present moment.

Interoception based support work SHOULD NOT seek to:

- Fix 'deficits'
- Make a CYP more 'typical'
- Modify a CYPs' behaviour
- Teach a CYP to 'feel the right way.'
- Force compliance – or demand that the CYP participates in the work in order to receive a reinforcer.
- Interoceptive Activities should take place at least 2 to 3 times per week for maximum benefit and support to the child or young person. Activities are short, fun, and purposeful. The information presented in this document support and derives from *The Interoceptive Curriculum by Kelly Mahler*.

Observation of needs

The chart below has two useful functions:

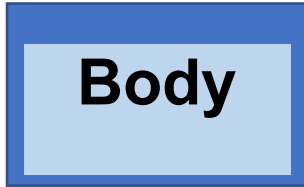
- 1) To observe and consider the CYPs current interoceptive skills before a programme of support commences
- 2) To record and monitor the progress towards developing interoceptive awareness while engaging in an interoception curriculum.

Always ensure that the CYP can identify, describe, and respond to the internal signals for both current and new skills.

Interoception Awareness				
Body Awareness	Date observed	Date achieved	My internal signals tell me.....	How can I respond to this in a helpful way....
I can feel.....				
my muscles tense and relax				
when I am hot				
when I am cold				
I know when I				
need to go to the toilet				
am in pain				
am in pain and know where it hurts				
feel unwell				
feel unwell and know what the problem is				
I know when.....				
I am breathing fast				
I know when my heart is beating fast				
I know when I am.....				
hungry				
thirsty				
tired				
happy				
calm				
I know when I am.....				
starting to get upset				
starting to get anxious				
starting to get bored				
starting to get frustrated				
starting to get angry				
getting overexcited				
getting overwhelmed				

Steps to Improving Interoceptive Awareness

There are three steps to improving interoceptive awareness:



Body

Notice the sensation such as wet hands, or dry mouth.

Emotion

Connect these sensations to emotions and feelings such as thirst, hunger, the need to use the bathroom, overwhelm, anxiety.

Action

Regulate with an action. What the CYP needs to do, for example, get a drink, have a snack, use the bathroom, or take a break.

Each person's experience will be unique to that individual and should be heard, respected, and valued.

Benefits of Teaching Interoception

- To help the CYP to connect to and learn to understand their own bodies and emotions
- To support the development and understanding of emotional and self-regulation
- To develop an understanding and experience of meaningful interactions without others
- To be able to recognise their emotional response to a situation, and act on this therefore reducing the fight, flight or freeze response to a range of scenarios.

Interoception underlies many important skills including:

- 1) Decision making
- 2) Intuition
- 3) Social awareness
- 4) Empathy Perspective taking
- 5) Flexibility of thought
- 6) Self-awareness
- 7) Problem solving
- 8) Self-regulation
- 9) Using coping skills in the moment

Body

The first step in improving and developing interoceptive awareness is to build a knowledge, understanding and vocabulary around the body. Developing an understanding of the body parts, both external and internal and exploring how each of these feels.

Why is this important?

The goals are to:

- Increase the ability to NOTICE body signals during daily activities
- Increase interoception language by matching descriptor words to each of the body signals noticed.

Increasing the use of interoception language gives concept to our body signals and emotions.

Body Check

This is a great introductory activity, and it is recommended that all CYPs create and use a body check chart. Either create a life size body check chart or use a small body outline as shown below.

Focus on **one** body part each session.

Outside

1. Hands & Finger
2. Feet & toes
3. Mouth
4. Eyes
5. Ears
6. Nose
7. Voice
8. Cheeks
9. Skin

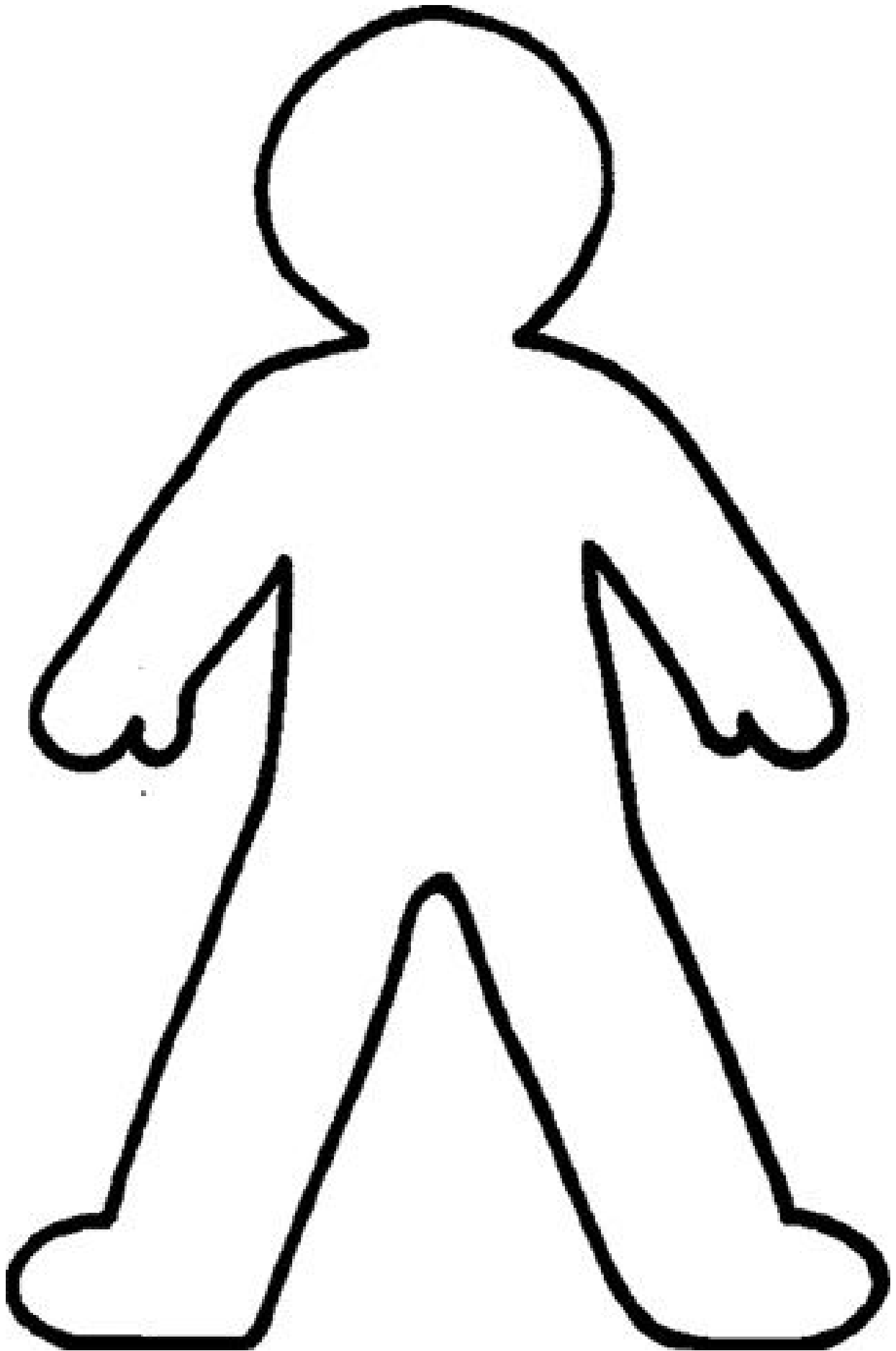
Inside

10. Muscles
11. Lung
12. Heart
13. Brain & heart
14. Stomach
15. Bladder

Begin with the outside of the body as the CYP can see these and they are more concrete. The CYP needs to be able to process and practice the experiences presented. There is no need to cover all 15 body parts listed. Prioritise these for the CYP and consider their needs and goals. The programme should be tailor-made to the needs of the individual.

The body check session will consist of:

1. The focus area word bank
2. Focus area experiments
3. Body check chart
4. Practice on a regular basis.



An example Body Check Activity: Hands and Fingers

Introduce the body part of focus. Use a real or imagined magnifying glass (with younger CYPs) to identify which the focus body part will be. This can be on the individual CYP or on the body check chart.

Then consider the vocabulary linked with the body part. Brainstorm a range of words with the CYP and highlight them on your vocabulary checklist. Add any words the CYP uses to describe their hands to the list and share any not covered in the brainstorm. Acknowledge all answers, question to gain more information and accept action words if they are offered.

The vocabulary list should be reflective of the CYP's individual needs. A symbolised list may be needed or fewer suggestions. The vocabulary list may have as few as two words if this is what the CYP needs. Choose 2-4 priority words to build a range of interoceptive activities linked to these words.

<p style="text-align: center;">Hands and Fingers</p> <p style="text-align: center;">Hands and fingers can feel lots of different things.</p> <p style="text-align: center;">Here are a few words that describe how I might feel. I could also use these words or choose my own.</p>			
Body Part	My hands and fingers can feel.....		
<p>Hands and Fingers</p> 	Still	Wiggly	Fidgety
	Tight	Clenched	Loose
	Warm	Hot	Sweaty
	Cold	Flappy	Fisted
	Sore	Messy	Clean
	Dry	Wet	Squeezy
	Fast	Slow	Shaky
	Want to hit/throw		

Provide concrete meaningful activities to explore the focus words further. Respect the sensory sensitivities of each CYP. DO NOT FORCE anyone to do something or engage in an activity they do not want to participate in.

Step 2 Interoception

Each activity should be designed to evoke an intense feeling in that body part. Practice noticing the sensation and naming the sensation using the vocabulary list for guidance. Write down the answer provided. All answers are accepted and valid. Ensure the experiment matches the word. Make sure the activities are fun and engaging. Repeat to make connections and allow the CYP to create their own experiment. Sessions should be fun and engaging. The table below shows a list of suggested activities for hand and fingers.

FOCUS AREA EXPERIMENTS	
Hands and Fingers	
Experiment	Makes My Hands and Fingers Feel
Put your hands in warm water for 15 seconds	
Put your hands in cold water for 15 seconds	
Shake your hands fast for 15 seconds	
Put cream on your hands for 10 second but do not fully rub it into your hand	
Wash or wipe cream off your skin. Try a range of items to wipe off	
Blow on the back of your hand for 10 seconds	
Hold an ice cube or ice pack on your hand for 10 seconds	
Make a fist and hold it in a tight squeeze for 15 seconds	
Clap your hands firmly 10 times	
Clap your hands together really quickly for 10 seconds	
Keep your hands as still as you can for 30 seconds	

Use the body check chart to support the CYP to make connections between the body and sensation. Match the name of the body part with the sensation described from the vocabulary list and record on the body check chart. This strategy will help the CYP to complete a body scan and self-check as they become familiar with their interoceptive awareness. New body parts are added as they are explored through the interoceptive journey.



Step 2 Interoception

The Body Check Chart will build over time to include a range of information and is used in conjunction with the body outline. This is not an exhaustive list. The list is taken from *Interoception: The Eighth Sensory System* by Kelly Mahler.

The body check chart is individual and will consist of those areas covered within the session and does not have to cover all areas. Some CYPs will benefit from less information, others will benefit from visual information such as symbols or pictures.

BODY CHECK CHART	
My Body Part	What I feel (word bank/vocabulary)
Brain	Focused, distracted, dizzy, light-headed, tense, fast, swirly, heavy, blank, stuck, scattered
Eyes	Heavy, blurry, watery, stinging, itchy, squinty, teary
Nose	Runny, stuffy, tickly, itchy, burning
Cheeks	Warm, neutral, red, hot, tight, loose
Mouth/Jaw	Dry mouth, tight jaw, soft jaw, sore throat
Voice	Shut-off, loud, fast, yelling, content
Ears	Focused, sensitive, bothered, shut-off, itchy, sore, distracted
Skin	Sweaty, itchy, goose bumps, bothered, tight, dry, content, OK
Breathing	Fast, slow, normal, tight, short, panting
Heart	Fast, slow, warm, swelling, full, pounding
Stomach	Content, hungry, full, fluttery, tingly, nauseous, heavy, gurgling
Muscles	Tense, tight, relaxed, normal, loose, heavy, sore, wiggly, antsy, bursting, hot, burning
Hands and Fingers	Still, squeezing, moving, twisting, clenched, sweating, flapping, fidgeting
Feet and Toes	Curling, wiggling, fidgeting, shaking, pacing, clenching, tapping, loose

Finally, begin to include and notice interoceptive awareness within everyday life. Try to include several examples of this each day.

- 1) Include statements that provide observations and bring attention of the focus area.
For example, I can see your hands are wet. Look at your hands. I can see them wet.
- 2) Then build to include questions that call attention to the specific body parts and provide choices for responses. For example, Are your hands wet or dry? Are your hands warm or cold?
- 3) Add details as the CYPs interoceptive awareness has increased.
How do your hands feel right now?

Interoception sessions should happen two to three times per week with daily comments as suggested above to reinforce learning and understanding further.

Emotions

The work on **BODY** has focussed on learning to notice body signals and developing a language to describe these. Next, we focus on **EMOTION**. This phase will guide the CYP to connect body signals to emotion. The aim is to guide the CYP to begin to use body signals as clues to emotions therefore developing firm body-emotion connections. Interoception information helps the brain to gather and translate information into emotions. Interoception helps us to feel a wide range of emotions such as those listed below.

Emotions					
Hunger	Fullness	Thirst	Heartrate	Illness	Pain
Need to use the toilet	Nausea	Body Temperature	Sleepiness	Distraction	Sexual Arousal
Fear	Joy	Safety	Frustration	Calmness	Anxiety

The programme of work to support the development of the body-emotion connection builds on from the work related to the body. It builds on the routine and structure of the previous sessions providing a process which is predictable, a space to learn and reduced anxiety. It focuses on the same 4 areas:

1. The focus area word bank including simple emotion words
2. Focus area experiments
3. Body check chart adding the emotion word bank
4. Practice on a regular basis.

Directly Teach that Body Signals are Clues to Emotions: For example, “You said your muscles are feeling tense, your voice sounds loud, what emotion could that mean?” “You said your eyes are feeling gritty, your muscles are floppy, and your brain is worn out. They could be clues to what emotion?”

The concept of discussing ‘body signals are clues to emotions’ can be introduced through the use of a Social Story, always emphasising there are no right or wrong answers. Every emotion is valid, and every person’s experience is unique. Continue to make the sessions fun, stimulating and interesting.

Directly Teach that Body Signals are Clues to Emotions: For example, “You said your muscles are feeling tense, your voice sounds loud, what emotion could that mean?” “You said your eyes are feeling gritty, your muscles are floppy, and your brain is worn out. They could be clues to what emotion?”

Different types of emotion

Emotions are either homeostatic or affective. We self-regulate a range of emotions all day every day, connecting the body signals to the emotion and regulating with the appropriate action which has a positive outcome. This is interoceptive awareness. Body-Emotion-Action connections are highly unique and personal to each individual.

Homeostatic Emotions

Homeostatic emotions are feelings such as hunger, thirst, the need for the bathroom, sensory overwhelm, pain, illness, body temperature or sexual arousal. At this stage we are teaching the CYP to use body signals to identify their internal emotions.

Why is it important?

Recognising the connection between body signals and emotions helps us to make sense of our needs and to self-regulate. It helps the CYP to consider how they know they are hungry or thirsty, ill or need the bathroom by being able to identify what that signal means to them individually. For example, a dry mouth may mean I am thirsty. Interoception may help someone to know when they have that feeling of fullness so that they know when to stop eating, or to know how it feels to be ill, to identify this emotion and act on it accordingly.

The goal is to be able to recognise, describe and identify the emotion. EVERY emotion is valid, and EVERY response is listened to acknowledged, respected and recorded. The focus emotion will depend on the CYP and their needs.

Interoception and certainty.

Interoception is critical for ensuring stability in a changing environment, in a way that other systems are not. It alerts us to changes in homeostasis and how to go about getting back in balance (allostasis.) Uncertainty and anxiety are a fundamental problem for humans and one that we're seeing increase, particularly so in the pandemic.

"We are not cognitive couch potatoes idly awaiting the next 'input', so much as proactive predictavores – nature's own guessing machines forever trying to stay one step ahead by surfing the incoming waves of sensory stimulation. (Clark, 205 p 52)

The brain's primary purpose is to keep us safe. This requires us to learn about the structure of our environment.

From the point of view of our brain this is not easy, because the brain only has access to sensory input and not the causes of those feelings.

In order to keep us safe our brain tries to predict what might happen and proactively act rather than react – the brain does not like surprises! This is achieved through the building of a series of predictive models, however in order to build effective models we need to learn about and understand our environment.

We see the world by guessing the world. That guess is based on the model of the world we've built using sensory information that came into our system the last time we came across something the same or similar.

For example:

If you are sitting alone at night and you hear a sound, your brain will remember a situation when you heard a similar sound and make a prediction based on that sound. Now, if the last time you heard it was when you were next to the window and you saw that the wind was making the window creak,

Step 2 Interoception

your brain will predict that the sound is a creaking window. However, if you heard a similar sound in a film about zombies, your brain would predict that it is a zombie at the window.

For CYP, this is particularly important as their brain and body will react very quickly to a sound without them being able to think rationally about it, so they will go straight to being scared. They think 'I am feeling afraid, so therefore, there must be something to be afraid of'

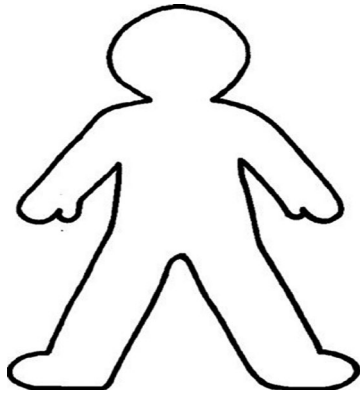
We need to model and teach them what is happening in their body – your pulse is fast, your palms are sweaty, you have butterflies in your tummy, etc.

Then put in place the calming strategies that will help them. ([activities that balance the sensory systems.](#))

Emotion Words

We are going to begin by introducing the emotion vocabulary just as we did with the focus area for the body. Keep the routine of the sessions the same. The example will focus on the homeostatic emotion of hunger. Before eating a meal, especially if it is a while since having eaten, ask the CYP to consider how the various body parts feel. Brainstorm a range of words used to describe the body part and make a note of all of these. Accept all words provided, question and be curious to find out more information. Use your word bank to support this. Record your answers on a chart, such as the one below.

BODY CHECK CHART - Hunger	
My Body Part (BODY)	What I feel (word bank/vocabulary) Sensations felt
Stomach	
Muscles	
Energy	
Brain	



Ask the same questions once the CYP has eaten. Are there any new or different sensations? Record these on a chart. Use the body chart (outline as shown) to support the CYP to think about what hungry feels like. Add the sensation words into the relevant body parts on the body outline. Build in regular opportunities to talk about, notice and action the hunger emotion throughout the day. Building regular reminders and guidance before snack time or lunch time during the school day. Questions to direct the CYP to think about and notice the body sensations at this time. How does your stomach feel now? How does your brain feel? Do you notice anything different about your energy? Continue to build interoceptive language into everyday life.

The same routine and structure can be used to explore other homeostatic emotions such as thirst, temperature control, feeling ill and needing to use the toilet.

Affective Emotions

Once a young person is able to interpret different body signals in relation to homeostatic emotions, we can begin to introduce more complex emotions. Some CYPs may only work on a couple of different affective emotions, e.g., happy and sad. Others may need a more nuanced approach, for example, to understand the difference between excited and anxious or to look at different degrees of emotion, such as nervous, afraid, terrified.

Why is it important?

In the same way that the body signals the homeostatic emotions, it also communicates messages about affective emotions. If an individual is not able to link a feeling in the body to an emotion, there is the potential for them to become frequently overwhelmed by emotion and unable to communicate effectively their experiences to others. This will impact on their well-being and responses to others and to the environment.

Remember, the goal is not to change the emotion but to be able to identify it and describe it. All emotions are equal: there are no good or bad emotions.

Which emotions to focus on?

Be led by the CYP. Your previous work on understanding the body and on homeostatic emotions may have already given you some ideas about emotions that will be most relevant to the individual.

An example Body Check Activity: Happy

Introduce the emotion to be discussed. Beginning with a positive emotion will set a positive tone for the sessions and support the CYP to engage. It might be helpful to introduce this with a stimulus, for example, a story, video, pictures from magazines or the internet.

Create a body check chart to brainstorm how this emotion feels in the body. Acknowledge all answers, question to gain more information and accept action words if they are offered.

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For example, 'So what is happening in your hands when you are happy? What about your tummy? Is anything happening with your feet?'

Refer to the body check chart vocabulary collected previously, for example, offer a word bank or related images.

BODY CHECK CHART - HAPPY	
My Body Part (BODY)	What I feel (word bank/vocabulary)
Brain	Fast,
Eyes	Hot, moving around
Nose	Nothing
Cheeks	Warm, smiling
Mouth/Jaw	Smiling
Voice	Loud or Quiet, Humming, Singing
Ears	Nothing
Skin	Warm
Breathing	Middle speed
Heart	Nothing
Stomach	Soft, contented
Muscles	Loose, relaxed
Hands and Fingers	Open hands, relaxed fingers
Feet and Toes	Jumping

The vocabulary list should be reflective of the CYP's individual needs. A symbolised list may be needed or fewer suggestions. The vocabulary list may not introduce all of the different parts of the body: focus on those parts covered in the earlier sessions.

Begin to include and notice interoceptive awareness within everyday life. Try to include several examples of this each day.

- 1) Carry out the same activity in relation to everyday situations as well as specific sessions. For example, during Wake and Shake, talk about what the children are doing with their bodies, what their faces look like, what their voices sound like and what emotions they might be feeling.

As before, ensure any new vocabulary is added to the body check chart.

- 2) Include statements that provide observations and bring attention of the focus area. For example, I can see you smiling. Your eyes are open wide. You look like you are having fun!
- 3) Then build to include questions that call attention to the specific body parts and provide choices for responses. For example, what are your eyebrows doing? Have a look in the mirror. Are your hands warm or cold? Can you feel what your heart is doing?
- 4) Add details as the CYPs interoceptive awareness has increased. How do your hands feel right now?

Step 2 Interoception

As before, ensure any new vocabulary is added to the body check chart.

As with the homeostatic emotions, it is important to accept all of the CYP's ideas and do not try to encourage them to change the point that they put forward.

Once a CYP has identified the main sensations linked to a number of different emotions, these can be collated into chart for each emotion being explored to be used alongside the body check chart: see example below:

Sensation 1	Sensation 2	Sensation 3	Sensation 4	Emotion/ Body State
Face hot	Hands clenched	Feet stamping		Angry
Sensation 1	Sensation 2	Sensation 3	Sensation 4	Emotion/ Body State
Mouth smiling	Eyes wide open	Light feet	Fingers tingling	Happy
Sensation 1	Sensation 2	Sensation 3	Sensation 4	Emotion/ Body State

Action

The final step of developing interoceptive awareness is to be able to take action to regulate. The goal is not to fix emotions but to encourage the CYP to understand that they can choose to take actions that help them to feel good, and this will support their overall regulation. We want CYPs to be able to identify activities and experiences that will support their overall wellbeing and enable them to experience more of the emotions that feel good.

I CAN TAKE FEEL-GOOD ACTIONS TO CHANGE THE WAY THAT I FEEL

The first concept to teach is the idea that we can change the way that we feel. Start with basic body sensations covered in the earlier sessions, for example, hot and cold, and design a number of experiments to illustrate changing the way the body feels.

<p>FOCUS AREA EXPERIMENTS</p> <p>Hot and cold</p>	
Experiment	How does this change the way my body feels?
Put your hands in warm water for 15 seconds	
Put your hands in cold water for 15 seconds	
Blow on the back of your hand for 10 seconds	
Hold an ice cube or ice pack on your hand for 10 seconds	
Put your hands on the back of your neck for a minute.	
Go outside without your coat/ sweater on (in winter)	
Put on layers of clothing (gloves, hats, sweaters, coats, etc.)	
Hug a hot water bottle	

Begin to include and notice interoceptive awareness within everyday life. Try to include several examples of this each day.

1. Before lunch, talk about how the body feels when it is hungry, referring to the body map. After eating, talk about what feels different in the body.
2. In a PE session, encourage the CYP to feel their heartbeat and, if possible, count the number of beats in a given time. Then encourage them to run up and down on the spot, do star jumps, etc. Measure the pulse again and talk about what has changed.

Remember, for all of the above activities, add any new vocabulary or feelings to the body check chart.

Step 2 Interoception

IMPORTANT: Never coerce or force a CYP to take part in the experiments if they are unsure or anxious. Often allowing them to watch others take part will give them the confidence to try for themselves on another occasion.

Once you have spent a little time looking at changing body sensations and homeostatic emotions, you can then look at what feel good actions they might take. Refer back to the body check chart, for example, if a CYP has identified that they feel hot when they are worried, think about actions that might change how this feels.

FEEL-GOOD ACTIONS Worried	
What I can do?	How does this change the way my body feels?
Ask my teacher for help	Brain less full.
Use my time out card	Brain less full. Ears quieter.
Have a cold drink	Feel less hot
Go for a walk around outside	Feel less hot
Cuddle my teddy	Muscles relax
Cuddle with my daddy	Muscles relax. Breathing slows down.
Pick a fiddle toy to keep my hands busy	Stops hands clenching.

The ideas for this document were developed with inspiration from *The Interoception Curriculum* by Kelly Mahler.

References

Best practice and approaches to developing interoception Kelly Mahler

Lessons From Our Interoception Journey. Kelly Mahler

Vestibular

The movement and balance sense

The vestibular sense allows us to understand our own movement and position against gravity and to recognise the movement of others and objects within our environment. It senses if we are moving, when we speed up or slow down and influences how awake/ alert we feel.

This sensory system is a unifying system that uses our eyes to track, allowing us to develop smooth coordinated physical movements.

It's our balance system that is important in all postures and positions. It informs us of our head position/ our body's position in relation to other things and gives us our internalised sense of gravity.

It can help with:

- Organisational skills
- Visual tracking skills
- Posture and tone
- Co-Ordination
- Eye-hand coordination skills
- Self-regulation

Types of movement that use the vestibular system:

- **Linear** is one plane e.g. up and down, side to side and backwards and forwards. This can be calming and organising
- Smooth regular movements such as slow rocking and tapping are calming.
- **Rotational** – spinning, travelling around in tight circles. This can be exciting and alerting, it can be disorganising e.g. causing dizziness
- Irregular movement is stimulating and alerting

Think!

'Movement breaks' not 'stopping breaks': - CYP who need to move in order to maintain the 'just right' level of alertness need more movement breaks than their peers. They might not finish work in the set timescales, it is not of benefit to stop them going out at break time in order to catch-up on their work as what they really need to do is to move to become more focused. For these CYP expectations of shorter periods of focused activity might be more realistic and more productive.

Time out area - an allocated space where the CYP can go where it is quiet or away from the busy environment. This space will offer opportunities for the CYP to regroup and refocus. 'Time out' should not be viewed as a punishment. Use a card to allow the CYP to discretely indicate the need to withdraw, have agreed time scales e.g. 2/5 minutes in time out **but allow the CYP to extend this if they need to**. It is rare for a CYP to overuse this kind of time out once they are confident with their ability to access it but the simple use of a visual timer will help give parameters to this strategy. 'Time out' can also be a movement break opportunity allowing the CYP to take the register back to the office or engage in 'heavy work' activity such as to taking something heavy to another room and bringing something back can help the CYP to regulate and become reorganised if the environment is becoming challenging or they need to raise their alertness levels.

What you Might See As described in the 'What you might see' overview

If a CYP is **seeking** more vestibular stimulus they may:

- struggle to sit still for developmentally appropriate amounts of time
- like to jump excessively
- climb excessively
- enjoy changes head position
- dangle upside down
- run/pace when watching TV or watching other children play etc.
- spin without getting dizzy
- rock their head or body repetitively
- enjoy being thrown in the air
- love fairground rides

If a CYP is **under responsive** to vestibular sensory stimulus they may:

- not notice changes in position when they are moved
- not get dizzy when spun around
- be unable to distinguish between slow and fast movements and/or direction of movements

If you think a CYP has had too much vestibular movement - use some deep pressure activities and/or 'heavy work' (refer to ['activities to balance sensory systems'](#))

Quick examples:

- Head presses
- Therapy ball squashes
- Press ups
- Pushing against a wall with hands
- Carrying objects / moving equipment







The vestibular system needs to be treated with care, as if overused, it can cause distress for the CYP with over stimulation.

Sometimes a CYP that is seeking more vestibular based movements can be excitable. You will need to think about ways to calm the system using deep pressure and weight bearing activities ([refer to the 'activities to help balance the sensory systems'](#))

Be aware that the effects of over-stimulation can happen hours after a vestibular rich activity.

The activity will usually have had an irregular and/or rotational element to it

You can support these **under-responsive vestibular** sensory processing needs by using some of the following activities:

What you see	Initial activities	When?/How long for?/ techniques	What to be aware of!	Image
CYP struggles to sit still for focussed sessions	Playground breaks Swings, slides, climbing, self-propelling roundabouts where there are combinations of movements and planning needed	Always try and combine movement with resistance so that both vestibular and proprioceptive systems are engaged	Some CYP can become over stimulated by extended play on swings and roundabouts	
CYP needs more movement within the session/day than their peers Unable to sit for developmentally appropriate periods of time	Activities that plan and use visual tracking to challenge the CYP Moving and catching, tracking a ball, swinging to catch a ball	As part of timetabled movement breaks and when CYP needs movement input		
CYP needs more movement within the session/day than their peers Unable to sit for developmentally appropriate periods of time	Activities providing fast linear movement Supervised trampoline use	Short bursts as part of timetabled movement breaks and when CYP needs movement input	Limit use! CYP can over stimulate on an activity that has opportunity for irregular movements	! 
CYP needs more movement within the session/day than their peers Unable to sit for developmentally appropriate periods of time	Therapy ball work Rolling over a peanut ball on tummy touching floor with hands and then feet	May require a programme devised by therapy staff As part of timetabled movement breaks and when CYP needs movement input	Can over stimulate, so limit time and be specific with planned activities	
CYP wobbles on seat, rocks on chair legs	Use a move and sit or wobble cushion	During seated times when CYP is unable to sit for developmentally appropriate periods of time	If there is too much movement CYP can become over excited. Trial for short period and see if concentration improves	! 
CYP seems to be constantly on the go	Slow linear movements which are calming such as: Slow swings, slow rocking movements, row the boat etc	When CYP requires movement in order to self-regulate Use this as a calming option	Avoid rotary and irregular movements	

What you Might See

As described in the 'What you might see' overview

When a CYP has an **over responsive** vestibular system or needs to calm from over stimulus they may:





- have a change in pallor following movement-based activity
- become sweaty/cold clammy to touch following movement-based activity
- have an abrupt change in mood following movement-based activity
- become distressed/unwell by regular amounts of movements
- suffer with nausea/motion sickness
- avoid movement-based activities preferring static activities
- startle if moved by someone else
- have a fear of heights, even very small ones

Think!



- Look for over stimulation
- Mix vestibular with muscle-based work to reduce over-stimulation
- Let the CYP lead especially when you are overcoming vestibular overload or movement insecurity
- Little and often and in response to the CYP needing a movement break
- The activities must be safe and supervised

For more activities refer to the additional vestibular activities sheet.

You can support these **over responsive vestibular** sensory processing needs by using some of the following activities:

What you see	Initial activities	When? how long for?/techniques	What to be aware of!	Image
CYP demonstrates levels of anxiety	Provide a 'safe haven' within a larger space, so the CYP feels secure	This needs to be used when needed, not as a set routine		
CYP is distracted/distressed by movement of others in close proximity	CYP may need a specific place within the room for their seat where they can see everyone and be confident no one is going to move behind them and 'threaten' their stability	At all times		
CYP is not aware of/engaged in physical activity presented	Prepare for movement and help to organise/ desensitise to movement using proprioception 'heavy work' activities with push and pull first	To be used before a movement activity if CYP needs to 'wake up'/alert the body	Never force movement upon a CYP who does not want it...move at the CYPs pace	
CYP showing signs of over stimulation e.g. dizziness, sweaty, clammy	Use an activity that engages core muscles and has high level of proprioceptive input	Until CYP recovers See calming ideas sheet	Try to encourage CYP to choose options they enjoy	
CYP finds imitating movements difficult	Plan movement before starting Allow the CYP time to process and complete the movement			

You can support these **over responsive vestibular** sensory processing needs by using some of the following activities:

What you see	Initial activities	When? how long for?/techniques	What to be aware of!	Image
CYP has difficulties with motor planning and coordination	Obstacle courses – under/ over/ through	Regular timetabled opportunities to plan and move	Must be at CYP's level of skill and CYP led	
CYP is using vision to support their balance and negotiate environments with care e.g. struggling to negotiate obstacles in their path/changes to furniture layout	Plan and demonstrate/practice how CYP is going to move around their space	Encourage CYP to do one process at a time and learn to avoid distractions	Safety awareness: Make sure this CYP is not trying to carry hot/sharp or heavy items in situations where they may not be able to avoid being distracted	
CYP seems 'clumsy' and uncoordinated in their movements CYP has poor core strength/skills	Physical literacy activities to support core skills development	Break the movement into smaller steps Practice in a quiet environment avoiding busy spaces	Slow down and look for quality of movements rather than speed	

Vestibular additional activities sheet

These lists are by no means definitive but a good starting point to discover what does and does not work for individuals. It is important to bear in mind age and appropriateness to setting when choosing activities from the lists. Some activities will be more appropriate for younger children and others for young adults whereas some will be more appropriate for home, nursery, school, outdoors etc.

Sensory Seeking and Under Responsive

- Trim Trail
- Ropes and bars (PE equipment)
- Bang flat hands onto drum/therapy ball
- Crashing on mats/cushions
- Skipping
- Swimming
- Row the boat
- Leap frog
- Hopscotch
- Bouncy hopper races
- Seesaw with a friend
- Sliding down slide on tummy
- Parachute games
- Batting balloon to partner
- Monkey bars
- Horse riding
- Cycling
- Scootering
- Climbing wall
- Sitting on gym ball and throwing beanbags at a target
- Power walking
- Crawling - this uses the same reciprocal movement and core strength as climbing walls.
- Bilateral movements
- Sitting to standing games
- Marching
- Eye-hand activities – threading; rolling; pressing; sewing; model making; jigsaws; weaving; painting (with fingers; glue spreaders; sticks; straws; etc.) making bead jewellery; moving objects with tweezers; moving objects with spoons; painting with water; pushing pipe cleaners through the holes in a colander; etc.

Over Responsive

- Slow down movements
- Provide touch screen IT rather than mouse and keyboard (reducing amount of stimuli received from looking between screen and desk)
- Avoid unnecessary movement and never move from behind without notice
- Avoid lifts, escalators and hoists where possible and provide warning, calming resources and extra time when unavoidable

Gentle desensitisation program

CYP should be offered access to desensitisation activities at their own pace with open access to disengage as they feel appropriate.

On floor:

- Pulling along a rope while lying on tummy on the floor or on scooter board. This requires the same reciprocal movement and upper body strength as climbing vertical ropes
- Crawling e.g. set up an obstacle course to crawl under, over and through obstacles
- Carrying beanbag on back while crawling from one end of room to target at other end
- Lying on tummy on a bench and pulling self along
- Scooter board – this improves core strength, upper limb strength and motor planning. Begin by pulling along a rope course to limit amount of unexpected movement on route
- Activities lying on tummy and propping up on elbows e.g. rolling a ball to a partner, rolling a ball to skittles
- Commando crawling i.e. pulling self along floor on tummy under nets etc. for added fun
- Lying on tummy over gym ball and maintaining balance through arms. Start with a smaller ball which enables them to touch the floor with both hands and feet

Sitting:

- Row the boat
- Reaching up, to sides and in front while sitting on floor
- Reaching to pick up item and move to another position e.g. pick up ball from side and place in box at feet
- Dancing on bottom
- Bottom shuffling to travel
- Balancing on a gym ball. Start by sitting on a gym ball with feet on the ground and work towards lifting feet to achieve greater balance
- Reaching to each side whilst sat on gym ball (e.g. to throw beanbag to a target)
- Scooter board in sitting, again pull along a rope pathway initially

Kneeling:

- Activities in half kneeling position e.g. throwing and catching a ball, throwing a ball to a target
- Activities in tall kneeling position e.g. throwing and catching a ball, throwing a ball to a target
- Clapping games in kneeling
- Tug of war in kneeling
- Reaching and transferring items as above in kneeling
- Scooter board in kneeling

Standing:

- Balance activities on the ground to provide a firm base of support e.g. standing on one leg, hopping, walking tiptoe along a line taped to the ground
- Once more confident walking along lower equipment with a wide surface e.g. a PE bench
- Jumping on a small trampette or trampoline, initially may need to hold onto a bar or hand for support
- Couples dancing
- Ring games

To work towards tolerating travel in buggy/car seat/wheelchair:

- 'Pack in' to reduce unnecessary movement, use weighted/heavy teddy/blanket to provide calming stimuli.
- Reduce visual/vestibular stimuli by using pram hood / rain cover / parasol / sun blind / peaked cap etc.
- Gradually increase travel time on smooth surface and build in change of surfaces as appropriate

Tactile

It is common for CYP to experience periods of time when they are sensitive to tactile stimulation. The tactile system is also prone to being affected by environments, stress levels and can be impacted upon by lack of experiences

If a CYP is **seeking** more tactile stimulation the basic approach is to allow this need to be fed but in ways that are appropriate for the setting and the CYP's level of development.

If what the CYP is doing works for them, does not disturb their work and is appropriate to the setting, let it happen. If it is not, try and find a way that this can be channelled but still allow tactile system to be fed.

It is important that activities are also CYP led.

What you Might See

As described in the 'What you might see' overview, **Appendix 3**

If a CYP is **seeking** more tactile stimulation, they may:






- Explore their environment by licking, mouthing and touching beyond that which is developmentally appropriate
- Seek out messy experiences
- Fiddle and fidget excessively
- Prefer bare feet
- Touch people and their clothes, hair etc. excessively
- Seek out vibratory, hot or cold resources for extreme sensory feedback

If a CYP is **under responsive** to tactile stimulation, they may:

- Not be able to feel touch in the same way as others do
- Have a limited response to pain and changes in temperature
- Have difficulty with tactile discrimination
- Self-harm (bite, scratch, pull out own hair etc.)
- Struggle with getting dressed, toileting etc.
- Struggle with practical lessons/eye-hand coordination
- Not be aware of having dirty hands and face
- Not notice or cry when bumped, scraped or cut self








Step 2 Tactile

You can support these **under-responsive tactile** sensory processing needs by using some of the following activities:






What you see	Initial activities	When/how long for? techniques	What to be aware of?	Images/ examples
CYP is touching people/ objects more than usual	Have tactile rich options to offer (see list in additional tactile activities)	Timetabled sensory break Talk about what is ok and what is not ok for touch	Make sure tactile items are safe for CYP who are still mouthing	
CYP is excessively mouthing items	Offer chew toy and tactile rich toys Create box of items that CYP can explore with mouth	Timetabled sensory break	Limit use so that experience remains interesting. Set boundaries to use e.g. CYP can only mouth items in the basket not Lego on the table	Chew toys 
CYP is distracted from activities by looking for messy play	Offer additional opportunities for messy Hand massage is a quick and easy access to tactile input may help	Timetabled sensory break		
CYP is pinching, biting, picking at self /others	Use of stress balls, fiddle toys, chew toys, tactile rich play opportunities	Timetabled sensory breaks	Is this a way of controlling the environment? Is there behaviour attached to this?	
CYP is pressing parts of body into particular surfaces e.g. bare tummy onto cold floor or ridged cord carpet	Offer other deep pressure options See sensory balancing activities tools		Offering deep pressure can help to give some input to the tactile system, and be calming for CYP	

Step 2 Tactile

You can support these **under-responsive tactile** sensory processing needs by using some of the following activities:
continued

What you see	Initial activities	When/how long for? techniques	What to be aware of?	Images/ examples
CYP is distracted by fiddling with clothing, resources, fabrics	Offer tactile rich play experiences such as textural treasure baskets	During focussed activities to support concentration	Offer to support concentration rather than as distraction.	
CYP wants to be outside in extreme weather	Offer play times outside but establish patterns of behaviour linked to weather as CYP will not register cold as easily		Remember to teach appropriate responses to cold weather e.g. 'we wear a coat when it's raining'	
CYP is seeking vibration or extreme tactile experiences	Offer time limited access to toys/resources with vibration element		Be aware that use of vibration can over stimulate.	! 
CYP is exploring by placing inedible items into mouth	Offer messy food play	Timetabled sensory breaks	Be aware of and avoid substances in the environment that are unsafe to be mouthed/eaten	
CYP refuses to wear shoes/clothes preferring to have bare feet or to undress	Offer play that allows texture rich experiences e.g. stepping stones and bare foot walks	Timetabled sensory breaks	Limit use and try to encourage when ok and when not	
CYP rubs bites or scratches skin	Use alternative tactile input- tactile rich play baskets with textures they will enjoy exploring	Timetabled sensory breaks		
CYP is seeking extreme temperatures e.g. licking freezer, touching hot radiator repeatedly	Access to safe hot/ cold items e.g. Heated wheat bags, hand warmers	Timetabled sensory breaks Teach behavioural strategies to avoid extreme temperatures	! Be aware that CYP may not register extremes and will require close supervision to ensure their safety	! 

Tactile Discrimination (**under responsive**)

What you see	Initial activities	When/how long for/ techniques	What to be aware of?	Images
CYP has difficulty regulating their temperature control	Offer tactile rich play to encourage discrimination skills	Use cognitive strategies to teach CYP what to wear	Safety and teaching to rely more on behavioural checks rather than sensory discrimination	
CYP has a difficulty feeling differences in objects/dressing self	Offer feely games to encourage identification of objects e.g. in dry pasta/feely bags Practice buttons and zips use away from expectations to dress selves		Remember impact this may have on practical skills such as use of buttons and zips, and dressing skills. Encourage breakdown of these activities to practice components	
CYP not noticing that they have minor injuries such as bumped, or grazed skin	Help CYP to check and see if injured following a fall Offer tactile rich play	Use activities that are rich in tactile experience to encourage tactile registration		
CYP is not registering when nappy is soiled/wet	Keep toileting to a routine	Refer to continence team for support strategies (where appropriate)	Are they ready for a toileting programme? Are they able to retain fluids? May require support for toilet training routines	
CYP does not respond appropriately to hot radiator etc.	Engage in tactile rich play to increase registration	Use cognitive techniques to teach danger	Think about safety in the environment	!
CYP does not notice that they have dropped something (This may also relate to motor co-ordination)	Try using heavier versions of everyday items such as cutlery, to increase registration	During routine activities	May need referral to OT	
CYP does not respond to physical prompts given	Offer visual and verbal prompts also	Give more processing time		
When CYP is slow to register a tactile experience	Increase sensory richness in daily activities	Give more processing time	Sometimes this is about learning levels and exposure to a new experience	

Step 2 Tactile

The Tactile system is closely linked to the fight, flight or freeze reaction. It is important that you look carefully at your CYP's responses and be led in your introduction of new activities.

If a CYP has an over-responsive reaction - do not force tactile experiences, remember the fight or flight response!

If a CYP is displaying a defensive response to tactile input (over-responsive), these are the elements of behaviour that need to be addressed first. Think about how this is affecting the CYP's experiences. Think about what the causes of this might be? Person/ environment/ learning/ exposure - past experiences.

An over-responsive experience can lead to an overload of the sensory systems and a fight, flight or freeze response

Always be gentle with your handling of an over-responsive reaction. If a CYP is challenged to the point of overload this may result in an increased defensive response and in turn an increased reaction to the same event occurring next time.

What you Might See

As described in the 'What you might see' overview

A CYP who is **over responsive** to tactile stimulation may:

- Be tactile defensive
- Dislike various body parts touching surfaces
- Be oversensitive to clothes, labels and seams etc.
- Have a low pain threshold
- Become distressed around self-care routines
- Avoid certain foods/textures
- Dislike changes in weather conditions

Addressing Defensive Responses

Use deep pressure and calming tools to dampen an over-reaction to tactile stimulation.

If a CYP has a strong reaction to a tactile experience; reactions to clothing, messy play, certain textures... engage in a very gradual process of **desensitisation**. This means very slowly exposing the CYP to the source of the defensive response in a way that is led by the CYP and very gradually breaks down the contact in stages.

This may start with offering the activity in the same room as the CYP but not expecting them to engage with it.

Think of an experience that the CYP enjoys to couple with an activity that they are less sure of.

Be patient with this process.





Think!

- **Person** What are the CYP's patterns in the day? When do they most need a calming option?
- **Place** What is the environment like? Is this overloading, or just right for them?
- **Activity** What are you asking the CYP to do? Is this reaction to an activity that is too hard, or is not offering enough stimulation / has it gone on too long, or not long enough?

Step 2 Tactile

You can support these **over responsive tactile** sensory processing needs by using some of the following activities:

What you see	Initial activities	When/how long for/ techniques	What should I be aware of?	Images
CYP is avoiding holding hands, or cuddles	Use firm touch rather than light CYP may want to hold sleeve rather than hand Remember CYP has the right to say no!	When offering comfort As required for safety purposes	Contact needs to be under CYP's control Use gradual techniques to accept contact	
CYP dislikes standing too close to others	Allow CYP space at beginning or end of Queue Give extended personal space	Think about environments and routines	Child's position in their environment	
CYP struggles with certain clothing on skin	CYP to choose under layer they like Remove labels/ avoid tags and seams Turn base layers inside out to	Think about PE transitions	Adaptations to uniform/dress code may need to be made	
CYP overreacts to minor injuries	Use calming strategies see activities to balance sensory systems table	Use cognitive approaches to calming		
CYP is distressed by nails cuts, haircuts, teeth cleaning etc	Introduce independent self-care skills as soon as possible so CYP has an element of control over stimulation	Use calming / deep pressure strategies before and during the activity	Use de-sensitisation strategies to encourage CYP to tolerate a little more stimulation each time	
CYP avoids messy play/activities	Use tools rather than hands and contain messy play area Offer gloves for washing pots etc.	Offer very gradual exposure- set at CYP's pace	THINK: Person Environment Occupation Is what you are asking reasonable and meaningful?	
CYP overheats easily/ Feels cold more acutely	Offer layers of clothing	Teach cognitive strategies to understanding what clothes to wear for what weathers	Think about environment- is it ok for them?	

What you see	Initial activities	When/how long for/ techniques	What should I be aware of?	Images
CYP avoids certain foods and textures	Games that encourage use of mouth muscle control- such as blowing bubbles, blowing through straw, use of suck and swallow control	Use deep pressure activities before and during mealtimes	<p>This may be a reaction that relates to features of ASD- rigid routines around foods.</p> <p>May require analysis with SLT team for specialist feeding assessment</p>	 
CYP overreacts to contact- sees a light brush of the arm as a painful experience	Grade use of tactile rich experiences on CYP's terms and at their pace	Use firm touch rather than light touch	Use firm touch rather than light touch	 

Tactile - Additional Activities Sheet

These lists are by no means definitive but a good starting point to discover what does and does not work for individuals.

It is important to bear in mind age and appropriateness to setting when choosing activities from the lists. Some activities will be more appropriate for younger children and others for young adults whereas some will be more appropriate for home, nursery, school, outdoors etc.

Sensory Seeking

- Tactile bare foot trail using squares of Astroturf, corrugated card/tin, spikey bathmat, fluffy fleece, cold metal tray, bubble wrap, sticky jelly mat etc.
- Tactile wall display with similar materials as above
- Books/folders made with whole pages of similar materials as above
- Tactile obstacle course using spikey gym ball to roll over, bubble wrap tube to crawl through, roll of sandpaper to walk over, steps covered with different materials to climb, tough spot of jelly to walk through etc
- Sensory chews, chewelry, chewy pencil toppers
- Oral massagers such as Z Vibe
- Electric toothbrush
- Vibrating hairbrush
- Resources to pinch such as stress balls, playdough, Blu tack, thinking putty, pegs, chalk balls etc.
- Resources to pull such as koosh ball, hair bobbles, resistance band, thinking putty, Blu tack
- Hotdog game

Tactile treasure baskets

- Baskets/boxes/bags of items made from similar materials e.g. hairbrush, toothbrush, nail brush, long and short haired make up brushes, body brush, dolls with haircut very short etc.
- Baskets/boxes/bags of items made from a variety of materials such as brushes, scourers, fluffy dusting mitts, sandpaper, rubbery stretch toys, space blanket, wooden beads thread onto lace, metal spoon, bean bags with different fillings, squashy jelly toys etc.
- Baskets/boxes/bags of safe items to be mouthed/licked such as metal spoons/bowls (could be stored in fridge for added stimulation), small jam jars, safety mirrors, sensory chews with a variety of textures, teetherers, toothbrushes, koosh balls, washable fabrics etc.

Under Responsive: Any activities from above list plus

Exaggerated tactile experiences

- Cold resources taken from fridge/freezer such as ice packs, metal bowls/spoons, frozen yogurt pouches, mirrors, chewys/teethers etc.
- Warmed resources such as wheat bags, cherry stone cushions, heated teddies, hand warmers, hot water bottles etc.
- Pan scourers
- Loofahs
- Vibrating toys, massagers, brushes, teethers
- Water play with whisks and bubbles
- Finger/hand/feet painting
- Cold water hose pipe play
- Deep/large container play so more of body receives input e.g. bath of jelly, large box of packing chips, tough spot of foam for snow angels
- Spikey massage rollers
- Gloves made from variety of fabrics including, rubber, silk, hessian, fleece, woollen and exfoliating mitts
- Sensory exploration play mats with fabrics such as ribbons, lengths of leather, threaded beads/buttons, cord and fur etc. sewn into it
- Dressing up clothes made from Lycra, hessian, wool, cord, rubber etc. with deep seams, tags, rough labels and tactile patches sewn in/on
- Sensory umbrellas (search Flo Longhorn 'Sensology' for ideas)
- Rub a dub dub game. Encourage washing using a variety of textures of soaps (foam, cream, bar, grainy exfoliating) and various scrubbers (flannel, sponge, natural sponge, loofah, exfoliating mitt, body brush)
- Bare foot sensory walk through puddles, mud, sand, gravel and grass
- Washing large equipment

Messy play

- | | |
|--|---|
| • Sand wet/dry | • Soil/compost |
| • Hot/cold water | • Leaves |
| • Ice cubes/crushed ice | • Corn flour |
| • Foam | • Pea gravel |
| • Home-made dough with textures incorporated such as rice, sand, beads | • Decorative glass beads (cooled in fridge) |
| • Play snow | • Packing chips |
| • Dry rice | • Water beads |
| • Dry pasta | • Dry lentils, couscous, quinoa, peas and beans |

Messy food play (edible)

- Dry cereal such as rice crispies, cornflakes, crushed shredded wheat etc.
- Popcorn
- Oats/oatmeal
- Cooked rice
- Cooked pasta/spaghetti
- Cooked grains and lentils
- Jelly
- Custard
- Mousse
- Custard powder and water mix
- Gravy
- Cheese sauce
- Sticky jam, chocolate spread, honey etc.
- Vegetable/fruit mash or purees
- Mixing, rolling, patting cookie dough
- Kneading bread dough
- Edible playdough or chocolate modelling clay
- Rolling down grassy hills
- Swimming/hot tub
- Battery operated bubble blowers to blast child/young person with bubbles in face or on body parts

Tactile discrimination activities

- Feely bags with one different item to be found within many the same e.g. lots of packing chips and one koosh ball or lots of wooden blocks with one plastic block
- Feely bags with familiar items of very different textures to be matched with another laid out on a tray e.g. favourite soft toy, koosh ball, plastic car, wooden skittle and body brush. Begin with one pair of items (one to feel one to see) to build the link between tactile input and visual input
- Once child is able to describe item in bag increase the difficulty by adding another item to the table (one to feel two to see) until she/he can identify and match from a selection on the table
- Feely bags as above to be identified by touch alone once above activity is achieved
- Feely bag of matching pairs of fabric squares
- Place familiar items in pockets to be identified by touch alone
- Blind fold game with items to be identified by touch alone
- Similar items made from different materials to be explored and labelled e.g. 'hard' wooden block, 'soft' fabric block, 'sticky' rubber block, 'squashy' plastic block, 'rough' sandpaper block, 'bumpy' textured block and 'scratchy' Velcro block (linking touch to language)

Over Responsive

Tactile desensitisation activities

- Treasure basket/box of favoured tactile items to play with. Add one unfamiliar but similar item at a time until tolerated then another
- Offer non preferred or unfamiliar tactile resources to back of hand or other body parts initially, remove if negative response is given and try again later
- Place tactile items within reach but remove pressure to touch, children are more likely to explore when no one is looking
- Provide gloves to access messy play
- Provide tools to use in messy play
- Introduce messy play materials gently, increasing volume and variety as tolerated e.g. start with spoonful of sand in play tray initially and build up to sand pit. Once tolerated move on to another similar material such as dry rice
- Place favoured items in messy play such as train in sand, favourite character in play snow, favourite chewy in jelly etc.
- Introduce messy materials into favoured play such as water for puddles, Astroturf for fields and sand for driveways in car play
- Introduce small fan at a distance, gradually increase speed of breeze, size of fan and proximity to child as can be tolerated until child can tolerate windy day outside
- Use a mirror and social stories alongside calming deep pressure for personal care routines. This will enable child/young person to anticipate what touch to expect and when it will end

Oral desensitisation activities

- Start with face, cheeks, jaw and lips before attempting tactile
- exploration with mouth
- Provide positive oral/facial stimulation e.g. strokes with favoured fabrics or vibration
- Facial massage
- Z Vibe massage
- Encourage taking favoured toys/items to mouth to explore
- Smear favoured foods such as jam, chocolate spread and cheese spread on items taken to mouth such as chewys, dummy, back of hand, wooden toys etc.
- Incorporate new textures into foods gently starting with those most similar to already tolerated foods

Vision, Hearing, Smell and Taste

CYP may also experience over and under-responsive reactions within any of their other senses, hearing, vision, taste, and smell. Generally, if the foundation sensory systems of proprioception, interoception, vestibular and tactile, are in a calm 'just right' state, the presentation of issues within the other sensory systems is likely to be much less significant. However, if a CYP is experiencing sensory needs within these sensory foundation systems, they are more likely to present with and experience difficulties within the other systems.

If you are seeing a CYP who is displaying anxiety or fear around smells or sounds within the environment some of the core strategies associated with the tactile and proprioceptive systems will help to alleviate these difficulties. Refer to the [‘Activities to help balance the sensory systems’](#) table.

If you are seeing behaviours representing needs with the other sensory systems, the first consideration should be **environment or place**. Check that all the strategies recommended in the Environmental audit have been considered and reasonable adjustments made to support the CYP.

Vision

CYP may demonstrate unusual head postures or eye positions when looking at information. It is important to check with parents when the CYP last had an eye test and if this is more than a year ago and the head/eye postures are new habits for the CYP, suggest to the parents that they get their CYP's eyes tested again.

Some CYP will have visual perceptual disorders this is when the brain interprets visual information in an atypical way, this is **not** a visual acuity difficulty and is not a sensory problem. If a CYP has visual perceptual disorder they will have to learn how to use specific behaviour strategies to support their visual learning. These CYP will need to learn new strategies with all unfamiliar activities that they come across in their learning life.

What you Might See

As described in the 'What you might see' overview

If a CYP is **seeking** more visual stimulus they may:

- Finger flick or flap hands in front of their eyes
- Poke their eyes
- Enjoy busy books/screens/displays/ apps etc.
- Join in with very busy activities/places
- Place screens/pages close to their face
- Love to spend time looking at bubble tubes, flashing lights etc. in the sensory room
- Stare out of the window, at a computer screen or at people


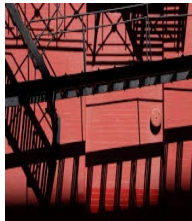



If a CYP is **under responsive** to visual stimuli, they may:

- Find it difficult to see detail in and discriminate between pictures and symbols
- Have difficulties with eye hand coordination tasks
- Have difficulties with depth perception
- Feel anxiety around not being able to interpret their environment appropriately
- Not get enough from visual instructions in order to be able to complete a task

If a CYP is **over responsive** to visual stimuli, they may:

- Be distracted by visual details within the environment such as colours, patterns and movement
- See things that others might not notice
- Feel unsafe/unsure within their environments due to over stimulation
- Appear to over-react to change, for example, a new seating plan

You can support these **visual** sensory processing needs by using some of the following activities:

What you see	Initial activities	When? /How long for? /Techniques	What to be aware of!	Image
CYP becomes distracted in the environment and is unable to focus and attend Over responsive	Think environment. Reduce the clutter. Avoid sitting where the visual field includes varying and unpredictable visual stimulation	Think about the CYP's position within the classroom. Their normal seat needs to be positioned to meet this need	If the CYP has a diagnosis of ADHD follow the guidance and recommendations of professionals involved with the CYP	
Bright light or shadows and light cause disturbance for the CYP Over responsive	Try to avoid the CYP sitting in a position where this is a frequent occurrence		If the CYP demonstrates an anxiety where the boundary between light and shade is a step or change of depth, this might indicate a visual perceptual difficulty and would benefit from a referral in the first instance to an optician and maybe to an Occupational Therapist for assessment	
CYP may seek to push a finger in to the corner of their eye Seeking	Offer light toys as a choice activity but ensure that this does not de-regulate them	Should be short periods of engagement with light toys	If CYP is epileptic check with parents that there is medical agreement that the type of toy and stimulation is not likely to trigger an epileptic seizure An autistic CYP might become stuck in this play and be unable to refocus on the directed class-based activity	
CYP might become over stimulated in high light environments Over responsive	Try using sunglasses and or visors to reduce the impact of the light	When outside in the summer or when artificial lights are strong		
CYP might be fearful in dark spaces (this is more likely a behaviour than a sensory issue)	Social stories about darkness and provide opportunities to practice being in darker and darker spaces		If there are potential safeguarding issues associated with this response. Follow safeguarding procedures if this is the case	

Vision additional activities sheet

These lists are by no means definitive but a good starting point to discover what does and does not work for individuals. It is important to bear in mind age and appropriateness to setting when choosing activities from the lists. Some activities will be more appropriate for younger children and others for young adults whereas some will be more appropriate for home, nursery, school, outdoors etc.

Sensory Seeking

- Sensory room equipment such as bubble tube, fibre optic lights, flashing lights, disco ball etc.
- Colour changing resources
- Dark den and torch play
- Torches and shiny surfaces such as space blanket, tin foil, metal bowls and trays and glitter balls
- Where's wally or similar 'find the...' books
- Spot the difference games
- Access to resources with repetitive moving parts such as Newton's cradle
- Play with sand/water/rice etc. in trays with water wheels and pouring resources
- Bubbles play
- Ribbons and fabrics tied to casing of a desk fan
- Backing visual cues on bright card to attract attention and focus
- Colour coding instructions/visual timetables

Under Responsive

- Sensory room equipment such as bubble tube, fibre optic lights, flashing lights, disco ball etc.
- Colour changing resources
- Dark den and torch play
- Torches and shiny surfaces such as space blanket, tin foil, metal bowls/trays and glitter balls
- White or ultraviolet gloves to focus attention on actions and signs
- Dark den and ultraviolet lamp with ultraviolet resources
- Projector lights/images on walls and ceilings
- Switch/voice activated lights in sensory room
- Mirror play
- Light box activities
- Torch chase game. Adult moves torch light across wall in darkened room and stops, encourage matching the spot on the wall with his/her torch. Later move torch light in a pattern to be followed

Over Responsive

- Dark den/pop up tent for focussed activities
- Screen off area of room for focussed work
- Workstation for focussed work
- Darken room lighting initially and increase as able to cope
- Use black out blinds to reduce day light in dark den/calm down spaces
- Provide items which are of low contrast colours such as blue and black
- Use matt laminating pouches to reduce glare of shiny laminates
- Print work on low contrast coloured paper such as pastel green/blue to reduce glare of black print on white paper
- Provide single picture/word visual cues, increasing with ability to cope
- Provide visual instructions/templates etc. on desk not the wall to reduce visual stimulation involved in shifting gaze
- Reduce brightness on white board/screen settings
- Declutter and organise environment
- Paint walls a single neutral colour such as pastel blues and greens
- Reduce table/soft furniture coverings in environments where focus and attention are required
- Draw thick boxes around pictures/text/number puzzles that require focusing on
- Place a large mat/board over work area to avoid distraction

Vision, Hearing, Smell and Taste

CYP may also experience over and under-responsive reactions within any of their other senses, hearing, vision, taste, and smell. Generally, if the foundation sensory systems of proprioception, interoception, vestibular and tactile, are in a calm 'just right' state, the presentation of issues within the other sensory systems is likely to be much less significant. However, if a CYP is experiencing sensory needs within these sensory foundation systems, they are more likely to present with and experience difficulties within the other systems.

If you are seeing a CYP who is displaying anxiety or fear around smells or sounds within the environment some of the core strategies associated with the tactile and proprioceptive systems will help to alleviate these difficulties. Refer to the '[Activities to help balance the sensory systems](#)' table.

If you are seeing behaviours representing needs with the other sensory systems, the first consideration should be **environment or place**. Check that all the strategies recommended in the Environmental audit have been considered and reasonable adjustments made to support the CYP.

Hearing (auditory)

Some CYP are very fearful of loud and unexpected noise this can elicit a fear response and heighten arousal. For some CYP their journey to school can trigger this difficulty as traffic noise or specific noises such as lorries or motor bikes might cause anxiety or fear responses. See Ear Defenders activity sheet.

CYP sometimes explain that a noise hurts, do not dismiss this as we are not able to feel responses as others experience them and sensory responses can be interpreted by the brain as pain if they are at too high a level for the CYP to organise and regulate them.

What you Might See

As described in the 'What you might see' overview

If a CYP is **seeking** more noise (auditory stimulus) they may:

- Make lots of noise with resources and voice
- Gravitate towards noisy places/activities/people
- Stamp feet when walking
- Sit very close to speakers when listening to music/watching TV
- Play music very loudly into earphones/headphones
- Need to have auditory stimulation in order to concentrate on other tasks such as listen to music through earphones during reading and writing tasks

If a CYP is **under responsive** to noise (auditory stimulus) they may:

- Appear to have a hearing impairment
- Love crowds and busy places
- Not meet verbal requests/follow verbal instructions
- Have delayed reactions to auditory information such as startle later than would be expected following a sudden sound
- 'Zone out' during group activities such as storytelling/seminar where most information is provided verbally



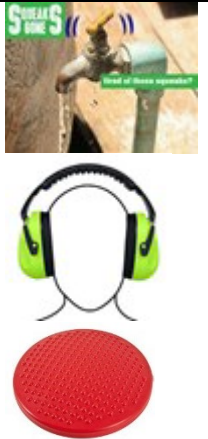
Step 2 Hearing (auditory)

If a CYP is **over responsive** to noise (auditory stimulus) they may:

- Be distressed by high pitched, multiple and /or complex sounds
- Be distracted by sounds others may not notice
- Cover their ears
- Avoid noisy situations/places
- Be anxious before, during and after events
- Hum in order to mask external sounds

Step 2 Hearing (auditory)

You can support these **auditory** sensory processing needs by using some of the following activities:

What you see	Initial activities	When/how long for?/Techniques	What to be aware of	Images
<p>CYP becomes distressed when loud unexpected noises occur.</p> <p>Over responsive</p>	<p>Ear defenders can be worn to reduce the impact of noise levels (see use of ear defenders)</p> <p>Use social stories to talk about the noise and to reduce the fear and anxiety</p> <p>Listen to the sound at very low levels, allowing the CYP to increase the volume</p>	<p>Use specifically for trigger events, like the walk to/from school, OR in preparation for the fire bell etc</p> <p>This is a gradual process, with regular sympathetic exposure, at the CYP's pace of lower volumes and intensity of the noise</p>	<p>Do not let the CYP wear them all of the time, as this might enable the CYP to withdraw and exist in a bubble and will not resolve the issue</p> <p>Do not enforce exposure as this will lead to emotionally tagging the event and increase rather than decrease the issues for the CYP</p>	
<p>CYP might make their own noise, a hum, whistle or teeth grind Indicating they are using to mask environmental sounds</p> <p>Over responsive</p>	<p>Deep proprioceptive and or tactile input from the calming information or 'heavy work' can resolve this</p> <p>Chewing can also help</p>	<p>Observe the frequency of this response and see if there are any environmental links that can be addressed</p>	<p>This might be a behaviour response, if so, a sensory solution will not alter it</p>	
<p>The CYP reports hearing an environmental sound that doesn't bother anyone else</p> <p>Over responsive</p>	<p>Ear defenders can be used if this is impacting on focus and attention</p> <p>Proprioception preparation, 'heavy work' can help to reduce the impact of these situations</p> <p>Using a wobble cushion can provide additional sensory feedback that dampens the response to the noise.</p>	<p>During focussed activities</p>	<p>This can be a very real and incessant irritant for the CYP</p> <p>CYP may become over stimulated whilst sitting on the cushion or stuck with wobbling and unable to focus on the taught activity.</p>	

Hearing: Additional activities sheet

These lists are by no means definitive but a good starting point to discover what does and does not work for individuals.

It is important to bear in mind age and appropriateness to setting when choosing activities from the lists. Some activities will be more appropriate for younger children and others for young adults whereas some will be more appropriate for home, nursery, school, outdoors etc.

Sensory Seeking

- iPad apps to show the level of noise made
- Opportunities to make noise vocally and with resources such as instruments/microphone etc.
- Opportunities to listen to music/sounds
- Use of ear/headphones to listen to music/sounds
- Banging/stamping activities e.g. Bear hunt
- Banging/crashing activities such as drums, symbols, sticks on fence
- Listening to environmental sound cd's and identifying sounds heard using pictures
- Encourage loud clapping to a rhythm
- Make bottle shakers containing bells, pebbles, pasta, rice etc.

Under Responsive

- Make sure eye contact is given before calling name etc.
- Provide visual support for spoken instructions such as signing
- Use gestural cues such as tap to shoulder or hand before interacting to ensure attention is gained
- Use a visual cue (e.g. placing a coloured card on desk; holding up a visual cue) to gain attention before giving new work, instructions or directions
- Use a visual support to aid registration of instruction e.g. typed notes on a handout, pictures, keeping instructions on a board
- Allow a longer time to respond when asking questions. Some people may need extra quiet time to process information before responding to a question.
- Interrupting during this processing time can confuse their thought process
- Break complicated directions into fewer parts and give time to complete the first step before going on to the next part. Use visual reinforcements such as bullet points for them to refer to
- Give demonstrations and written or visual information to support verbal instructions
- Prior to activities such as stories, discussions etc., write down two or three main points to listen out for; then check for memory and understanding of those points
- Active listening activities

Over Responsive

- Minimise verbal instructions
- Use ear defenders/plugs for short periods

Step 2 Hearing (auditory)

- Allow to wear headphones/listen to favourite music
- Provide quiet space to focus/retreat to
- Avoid noisy environments where possible
- Be aware of the acoustics in rooms
- Ask people to talk quietly where possible
- Wear hat with earmuffs etc. when walking by busy roads

Desensitisation

- Introduce 'quiet' song time with lots of actions rather than sounds, generally build upon sounds tolerated in songs with lots of visual cues to allow anticipation
- Introduce 'quiet noise' activities to encourage involvement in types of play child would normally avoid. Gradually swap resources used to increase level of noise generated. Such as exploring cotton wool in tough spot to shredded paper to tinsel to rice to pasta and shaking bottles filled with pom poms to polystyrene chips to cardboard strips to rice to pebbles
- Introduce 'scratchy boards' made from a variety of materials that produce sounds of different levels when scratched. Encourage the child to take control and explore sound production as they feel able to tolerate. Materials could include AstroTurf, corrugated cardboard, scourers, space blanket, metal tray and sandpaper etc.
- Introduce a program around disturbing noise/sounds to include wearing of ear defenders etc. in presence of sound, social stories about why/when sound might occur and what child might do to develop anticipatory skills and opportunities to self-regulate.
- Record sounds and play back initially on low volume, increasing as toleration improves
- Slowly desensitise to new noisy environments such as group/new school/park with social stories, recorded sounds and short regular visits
- Introduce social stories for unexpected sounds such as fire alarms, telephone ring etc.

Easily distracted by background noise:

- Seat student away from classmates who tend to be chatty and noisy
- Move to a quiet area when doing focused work: this could be a quieter area of the classroom, or even another room
- If a quiet room is not available, use ear defenders, headphones or ear plugs. (These should only be worn when there is a high level of auditory distractions, and should be part of an auditory desensitisation programme)
- Visual cues to control the noise in the classroom e.g. a volume control icon or a traffic light system
- Access to a workstation in a quieter area
- Access to music via headphones so child can control background noise

Seems to ignore instructions or is slow to follow instructions:

- Use a visual cue (e.g. placing a coloured card on desk; holding up a visual cue) to gain attention before giving new work, instructions or directions
- Use a visual support to help the understanding of verbal instruction e.g. bullet points, visual work system, typed notes on a handout, pictures, keeping instructions on board etc.

Step 2 Hearing (auditory)

- Wait for the room to become quiet before giving instructions.
- Keep instructions short and break into separate steps. Wait for each step to be completed before giving the next instruction
- Speak clearly, with a moderate rate, and stand in one place, preferably face to face
- Give additional time and allow longer to respond when answering questions or responding to instructions
- Allow extra quiet time to process information before responding. Interrupting during this processing time can confuse the thought process
- Simplify/explain new vocabulary; visual cues and images may help.
- Encourage asking for help or clarification and provide a tool to do this without drawing attention to themselves e.g. using a help card; a coloured symbol.
- Use of familiar routines and visual cues for everyday activities, e.g. start of the day
- Teach a 'Get, set, go!' routine that can be followed to begin every lesson, with visual support
- Assist in completion of some parts of a task in order to get started on the learning task quickly, for example, provide own box of equipment, stick in lesson objectives rather than writing down, help to log onto computer

Difficulty participating in group work discussions/projects

- Provide a quiet area away from the noise of the rest of the group. They could work in a quiet room, resource area or even in the corridor if safe and appropriate
- Differentiate activities/ tasks and replace with those which do not involve a high level of verbal interaction. For example, researching information on the computer, recording findings provided by a group experiment or actions to imitate rather than sounds.
- Give a specific role and clear objectives to carry out within the group
- Teach 'ground rules of group work' to all (e.g. only one voice at a time).
- Provide visual or written notes to reinforce important content

Dislikes noisy settings:

- Prepare before entering a noisy environment by placing it on the visual schedule or verbally warning about sounds that will be encountered.
- Allow the use of ear defenders to reduce the noise input. These should be used as part of a desensitisation programme working towards gradually becoming used to noise. For example, the ear defenders are removed for the last minute of assembly, and when tolerable they are removed for the last 2 minutes, then the last 3 minutes and so on
- Provide a visual scale, for example: the thermometer scale to indicate when they are becoming distressed and need a calm quiet area
- Designated quiet areas in larger areas such as the dining hall
- Designated quiet areas on the playground
- Access to a quiet classroom, library or activity club over lunch time
- Explicitly teach appropriate phrases to use when feeling distressed by noise e.g. "I am finding it very noisy here". "Could you please speak more quietly?"
- Reduce the volume and amount of speech you use. Use visual strategies instead when giving instructions
- Provide opportunities to leave the room for short breaks to carry out jobs etc.
- Consider having designated quiet areas in larger areas such as the dining hall

Step 2 Hearing (auditory)

- Teach emotional regulation strategies e.g. 5 Point Scale
- Access to time out card or other activity to promote self-regulation
- Sensory diet approaches to maintain optimum regulation
- Social story work to reassure and reinforce agreed management strategies

Dislikes a specific sound:

- Allow to ear defenders during the distressing noise
- If possible, warn when the noise is about to start and use a visual timer to indicate when it will end
- Provide a visual prompt card/ help card to request to leave the room when feeling overwhelmed by the noise
- Teach emotional regulation strategies e.g. 5 Point Scale
- Sensory diet approaches to maintain optimum regulation
- Social story work to reassure and reinforce agreed management strategies

Dislikes a sudden, unexpected noise:

- Explicitly teach about the fire alarm and tests
- Consider allowing opportunities to press the alarm button under supervision to provide control over the noise. This may support understanding of where the noise comes from and the fact that it will end
- Explicitly teach an appropriate way to respond to an unexpected noise by covering ears, putting on ear defenders, humming etc.
- Teach calming strategies to use when there is an unexpected noise e.g. breathing exercises, deep pressure exercises
- Teach emotional regulation strategies e.g. 5 Point Scale
- Access to time out card or other activity to promote self-regulation
- Sensory diet approaches to maintain optimum regulation
- Social story work to reassure and reinforce agreed management strategies

Sensitive to noises not noticed by others (clocks ticking, projector humming, etc.):

- Remove or replace unnecessary noises e.g. use a digital clock instead of a ticking clock, remove buzzing light bulbs and turn off screen projectors when not in use

If it is not possible to remove the distracting noises, allow the use of ear defenders or headphones when particularly distressed by the noise or when completing focussed work. However, it is important to gradually reduce the amount of time the ear defenders are worn to assist the desensitisation to sounds. [See guidance around use of ear defenders](#)

Vision, Hearing, Smell and Taste

CYP may also experience over and under-responsive reactions within any of their other senses, hearing, vision, taste, and smell. Generally, if the foundation sensory systems of proprioception, interoception, vestibular and tactile, are in a calm 'just right' state, the presentation of issues within the other sensory systems is likely to be much less significant. However, if a CYP is experiencing sensory needs within these sensory foundation systems, they are more likely to present with and experience difficulties within the other systems.

If you are seeing a CYP who is displaying anxiety or fear around smells or sounds within the environment some of the core strategies associated with the tactile and proprioceptive systems will help to alleviate these difficulties. Refer to the '[Activities to help balance the sensory systems](#)' table.

If you are seeing behaviours representing needs with the other sensory systems, the first consideration should be **environment or place**. Check that all the strategies recommended in the Environmental audit have been considered and reasonable adjustments made to support the CYP.

Smell (Olfactory)

Smell information goes directly to the emotional centre of the brain, its effects are therefore fast; smells can be reassuring and organising or create anxiety and stress.

Smells in the environment can easily be overlooked by adults whose sensory system is not impacted by them. So **ALWAYS** think what smells are present.

Be mindful of the smells that you add to the environment, it is very easy to layer a number of different smells (shampoo, shower gel, hair spray and scent), that make the environment hostile to the CYP. It is important that if smell is an issue for the CYP we consider how we add-to the smell environment and try to make the smell environment as CYP friendly as possible.

Smell of a parent or favourite food can be used to support the CYP's calming, these can be carried by the CYP using a handkerchief with this smell infused into it. The CYP can access this when and where they need to in a discrete manner.

What you Might See

As described in the 'What you might see' overview

If a CYP is **seeking** more smells (olfactory stimuli) they may:

- Sniff other people
- Sniff foods before eating them
- Sniff items for exploration
- Enjoy 'smelly' places, foods, products and people

If a CYP is **under responsive** to smells (olfactory stimuli) they may:

- Be unable to smell even strong odours
- Be unable to identify items by smell alone
- Have poor personal hygiene awareness



Step 2 Smell and Taste

If a CYP is **over responsive** to smells (olfactory stimuli) they may:

- Have strong dislike/like of people based upon how they smell
- Gag or vomit for 'no reason'
- Struggle in 'smelly' places such as kitchens, bathrooms, perfume counters, restaurants
- Become distracted or distressed seemingly for no reason but due to smells around them that others might not notice

Step 2 Smell and Taste

You can support these **olfactory/smell** sensory processing needs by using some of the following activities:

What you see	Initial activities	When?/How long for?/Techniques	What to be aware of	Images
<p>CYP finds it difficult to go into the Dining room/restaurant etc but it is not the sound that is a trigger</p> <p>Over-responsive</p>	<p>Use a familiar and safe smell to mask the environmental mix of smells, e.g. a familiar and safe perfume on a handkerchief or the cuff of the CYP's clothes</p> <p>CYP to have sandwiches out of the main dining room</p>	<p>Duration of meal</p>	<p>If the CYP has a medical condition such as asthma in response to specific smells</p> <p>If the CYP has a history of asthma related to smells this might become an emotionally tagged response and therefore is a behaviour and not a sensory problem</p>	
<p>Avoidance of a specific environment due to the smells</p> <p>Over-responsive</p>	<p>It might be necessary to adjust the normal plan for the individual CYP.</p> <p>CYP might benefit from going to the disabled access toilet rather than the class toilets</p>		<p>CYP who avoid going to the toilet during the school day can cause themselves more complex medical conditions. They might also limit their food or fluid intake during the day to maintain control in avoiding this space</p>	

See additional smell and taste activities sheet for more ideas

Taste (Gustatory)

Many CYP can be wary of trying new or unfamiliar foods. Generally, it takes up to twenty tastings before new foods are accepted. Mealtimes are always an emotive time when the CYP and their family can become anxious and feel under pressure to eat foods. Sometimes CYP who have autism will try foods in the school setting that they will not tolerate trying at home because it is not part of their routine at home to eat the new foods. Schools can therefore be the perfect place for CYP to try new foods.

What you Might See

As described in the 'What you might see' overview

If a CYP is **seeking** more taste (gustatory stimuli) they may:

- Like spicy/strong flavours
- Regurgitate foods for the acidic feedback
- Like to eat 'inedible' substances
- Cram food until mouth is full

If a CYP is **under responsive** to taste (gustatory stimuli) they may:



- Not be very interested in food as it all tastes very similarly bland

If a CYP is **over responsive** to taste (gustatory stimuli) they may:

- Have a very limited diet
- Have rigid routines and anxiety around mealtimes
- Be able to identify subtle differences in foods
- Gag or vomit if forced to try new foods
- Can only cope with small amounts in mouth

Step 2 Smell and Taste

You can support these **gustatory/taste** sensory processing needs by using some of the following activities:

What you see	Initial activities	When?/How long for?/Techniques	What to be aware of	Image
CYP has a limited diet but will eat a range of food textures (soft/hard or warm/cold)	This is likely to be a behaviour or rigidity, not a sensory problem		In most cases CYP with limited diets will thrive, in this case there is little cause for concern	
CYP has limited diet and eats foods of similar texture, colour and temperature only Over responsive	This might be a sensory issue. Provide opportunities for the CYP to play with and experience the look, touch and smell of the foods without any pressure to taste	Frequent practice with the same foods: up to 20 opportunities with each new food type	Do not force trying DO NOT hide the food amongst other food that the CYP will eat If the CYP tries the new food, adults should avoid a big reaction as this can add to the CYP's stress and anxiety and result in them not repeating the food tasting	
CYP dislikes it when foods touch or blend on the plate Over responsive	Separate the foods so there is space between each taste, this can be done on a standard plate or use a divided plate	Routinely	Do Not force the CYP to eat foods blended together	

See additional taste activities sheet for more ideas

Smell and Taste: Additional Activities Sheet

These lists are by no means definitive but a good starting point to discover what does and does not work for individuals.

It is important to bear in mind age and appropriateness to setting when choosing activities from the lists. Some activities will be more appropriate for younger children and others for young adults whereas some will be more appropriate for home, nursery, school, outdoors etc.

Sensory Seeking

- Introduce frozen fruits, smoothies and yogurt tubes etc. to provide additional stimuli to foods
- Introduce strong flavours to foods such as spices, herbs, sauces, cheeses, seasonings
- Provide a range of salty, sweet, sour, spicy foods
- Messy food play
- Use containers filled with different cotton balls containing essential oils, spices
- Smelly objects to explore e.g. cheese and rubber bands. These could be used as part of a story or science experiment
- Smelly treasure baskets including dried oranges, lavender bag, coffee beans in a mesh bag, cinnamon sticks, bunches of herbs, rubber ball, scented toys/candles, pinecones and soaps etc.
- Scratch and sniff books
- Blindfold games to identify items by smell alone

Under Responsive

- Add strong flavours to meals e.g. chilli flakes, black pepper, sauces
- Discrimination activities to learn to identify edible and non-edible items e.g. place edible items in a green box and non-edible items in a red box. Each time they try to eat a non-edible item, direct them to place it in the red box. A 'No' or 'Stop' sign can be placed on the red box
- Provide strong flavours away from mealtimes such as minty mouth spray, chewing gum, strong toothpaste, flavoured stickers/transfers, herby leaves to chew (mint, basil, mustard cress etc.)
- Strong flavoured ice creams/lollies/ice lollies etc.
- Strong flavoured milk shakes
- Strong flavoured fruit teas/cordials
- Strong flavoured chewing gum
- Mint mouth spray

Exaggerated smelly activities:

- Playing in grass
- Using smelly or scented playdoh
- Cooking with strong smells such as cinnamon, ginger, curry, garlic
- Scented lamp, candle, lotions, liquid soap, markers or stickers
- Provide the student with a scent they prefer and allowing them to sniff and stay alert
- Provide jars of scented oils which can be accessed during the day
- Teach skills to avoid ingesting harmful foods and substances
- Teach to read expiry dates and danger labels as appropriate. A visual reminder page may help with this
- Teach how to spot bad smells using others' reactions (body language and facial expressions)

Over Responsive

- Involve in food shopping and food preparation. This introduces them to the texture and smell of food items without the pressure of eating them. Sensory based play can also be used to introduce different smells and textures
- Keep mealtimes calm
- Allow preferred food items at mealtimes. This will encourage them to eat at mealtimes and establish an eating pattern. New food should be introduced outside mealtimes
- Ensure eating in a calm environment to reduce anxiety. If feeling overwhelmed in a noisy dining hall, they are less likely to eat. It may be appropriate to allow eating in a quiet classroom/room where there are less noises, smells etc.
- Do not persuade or coerce into eating new food as this is likely to increase stress and food refusal
- Use a desensitisation process to introduce new food
- Select a consistent time each day to introduce new food and include this on a schedule or timetable. This may be called 'Trying time'.
- Select an appropriate place to try new food each day. It should be a quiet place with minimal sensory distractions. This will reduce feelings of sensory overload
- Select a new food which is similar to food items which are already eaten. Use the texture of preferred foods e.g. mashed/pureed texture or dry, crunchy texture. Do not introduce a new texture as it is sufficiently challenging to try a new taste. Simultaneously introducing a new taste and texture will be too overwhelming. For example, if they like crunchy textures, introduce raw vegetables rather than mashed vegetables
- Allow time for gradual progress through the steps of desensitisation e.g.
 - Tolerating the new food on a plate in front of them
 - Smelling the food item
 - Touching the food item
 - Holding the food item to lips
 - Touching the food item with tongue
 - Licking the food item
- Eventually biting and swallowing the food item
- Each step in this process may take several days or weeks before progressing to the next step. It is important not to rush or coerce as this increases anxiety
- When the new food item is tolerated, it can be moved to mealtimes and the quantity gradually increased
- Transition to a calming activity after 'Trying time' each day as it is likely to be a challenging activity. Select an activity which is calming e.g. deep pressure input, time on the iPad/computer, listening to music, reading a book
- Some eat better in the company of adults or peers – the student may be more willing to try new foods if they see other people trying the same food and enjoying it
- Use 'Tiny Taste' approaches along with the above, for new foods, e.g. offer a pea sized or even grain of rice sized amount of a new food before offering preferred foods
- Make the environment as fragrance free as possible
- Ask cleaning staff to use fragrance free cleaning products
- Use un-perfumed toiletries
- Seat away from the rubbish bin or other objects that may produce strong odours
- Be aware that if you have a scented object, they may act adversely to that particular smell
- Keep rooms well ventilated, especially when using strong smelling materials
- Allow being seated beside an open window
- Teach appropriate coping strategies such as covering nose with tissue or informing someone that smell is unpleasant, either verbally or using a visual cue
- Provide a preferred scent that could be used to mask unpleasant smells and odours as a coping strategy
- Provide access to bland smelling foods