A Stitch Guide to The Sensory System & Strategies

Sensory Systems:

- Proprioception
- Vestibular
- Tactile
- Gustatory
- Auditory
- Olfactory
- Visual
- Interoception



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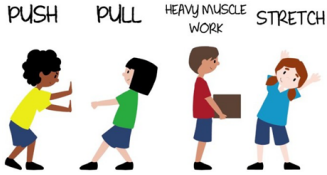
PROPRIOCEPTION

PROPRIOCEPTION IS THE SENSE THAT HELPS A CHILD WITH CONTROL OVER THEIR BODY

Proprioception, helps the body perceive its position in space, crucial for coordinated movements without conscious thought. For a child with intact proprioception, this sense allows control over body position and regulation of movement force. Sensory receptors in joints and muscles detect this sense, stimulated by pressure or movement such as pushing, pulling, lifting, or hanging.
Activities that stimulate proprioceptive input can improve attention and regulate arousal, benefiting learning, playing, socialising, and daily activities.

Proprioception is crucial for motor skills and coordination. Regular proprioceptive activities improve balance and muscle tone, forming a foundation for complex physical activities and sports. Understanding and responding to proprioceptive needs helps children develop self-awareness and self-regulation, adjusting movements and behaviors according to environments and tasks, fostering independence and confidence.

Nurturing proprioception supports not only physical development but also cognitive and emotional growth, essential for holistic child development.



Activities that encourage proprioception input.

- Push a cart or heavy objects
- Carry heavy objects
- Jump up/down on Trampoline
- Play jump rope Bear hugs
- Climbing
- Hanging from monkey bars
- Play hopscotch
- Shovel snow
- Vacuum
- Sweep or rake leaves





- Hike up a hill
- Play tug of war
- Walk backwards
- Play catch with a heavy ball
- Fall into a bean bag chair
- Swimming
- Wheelbarrow walk
- Use therapy putty for hands
- Stacking chairs
- Jumping jacks
- Wear a Weighted vest
- Have fun with a Stitch Sensory Spider/Bodysock

VESTIBULAR

THE VESTIBULAR SENSE DETECTS MOVEMENTTHROUGH SENSORY RECEPTORS IN THE INNER EAR

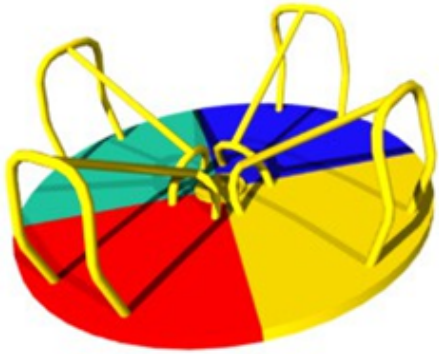
The vestibular sense is crucial for a child's development as it informs them about their movement and the direction and speed of that movement. Engaging in vestibular activities helps children develop their balance, posture, and coordination. This sense also provides a feeling of gravitational security, which is the confidence that we can stand without falling.

Children who have difficulties with their vestibular sense may either constantly move or be fearful of movement due to uncertainty. This can also make it challenging for them to coordinate or plan motor tasks.



Activities that encourage vestibular input:

- Using a scooter
- Swinging on a hammock Swinging on a tree swing
- Trampoline
- Rocking chairs
- Dancing (wiggling, spin, sway, twirl or shake
- Jumping jacks
- Swimming
- Riding a bike Therapy ball
- Rolling on the floor or down a hill Rolling in a barrel
- Ride a rocking horse
- Crawling or creeping
- Somersaults, Cartwheels
- Playing “Heads, Shoulders, Knees and Toes”
- Jumping over obstacles or rope



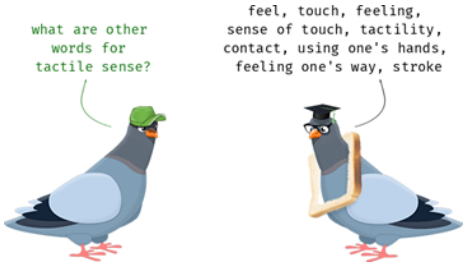
TACTILE

TACTILE SENSE HELPS US TO DETECT LIGHT TOUCH, DEEP PRESSURE, TEXTURE, TEMPERATURE, VIBRATION AND PAIN

This sense is detected through receptors in our skin; information from this sense allows us to feel when we are being touched and the quality of the touch. It also allows the child to determine what they are touching without using vision.

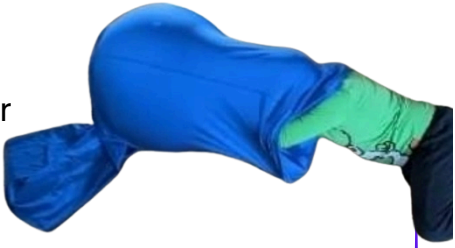
Difficulty in tactile perception can have impact on a child's emotional well-being. Tactile activities and input help children to develop body awareness, hand, eye coordination skills, and motor planning.





Activities that encourage tactile input:

- Fidget with a Stitch ISpy
- Finger painting Craft projects
- Foam soap or shaving cream Sand play
- Relaxing in a bean bag chair Play dough or clay
- Popping bubbles with fingers
- Crawling through a Stitch tunnel
- Baking
- Jumping in leaves
- Water Play
- “Touch and Feel” books
- Playing in a sink/tub of water
- Electric tooth brush
- Using a hand massager
- Vibrating pen
- Kinetic Sand
- Heavy rub down with towel
- Jumping on a crash mat
- Weighted Blanket
- Making a sandwich or burrito- roll child up in a blanket keeping head and face exposed. Firmly yet gently, roll a ball up the child’s leg and back or Press with you hands



GUSTATORY

THE GUSTATORY SENSE HELPS A CHILD DETECT AND PRECIEVE TASTE

Gustatory sense allows a child to distinguish between food flavours and tastes, such as sweet, sour, spicy, bitter and savoury. Taste is received through taste buds and receptor cells on the tongue.

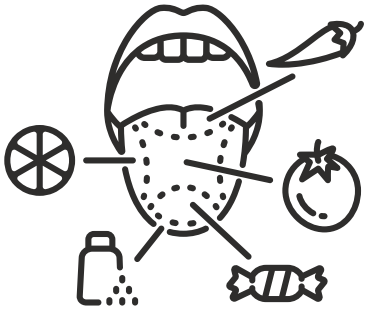
Difficulty in gustatory processing might cause a child to be a picky eater or crave oral input, therefore, demonstrating challenging behaviour during meal times. Gustatory activities and input help children to acquire eating and drinking habits as well as further categories or identify foods based on their respective taste, texture, temperature or smell.



Activities to encourage gustatory input:

- Explore textures- smooth, lumpy, crunchy, chewy
- Explore tastes - sweet, sour, spicy, bitter and savoury.
- Explore temperatures - ice lollies, hot & cold drinks
- Chew gum
- Suck on an orange Lick/suck a lemon
- Lick a lollipop
- Crunch on a cold pickle
- Crunch on a pretzel
- Suck juice through a straw
- Suck a milkshake through a narrow straw
- Use cookie cutters to make cheese slice creations and eat
- Make funny shaped sandwich
- Use flavoured lip balms
- Scratch and Sniff stickers





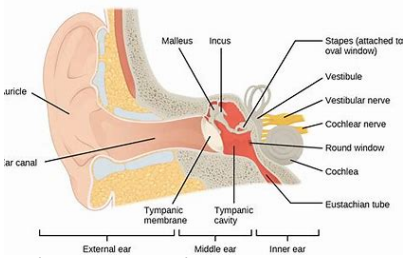
AUDITORY

THE AUDIOTORY SENSE IS RESPONSIBLE FOR HEARING

This sense helps a child to detect the pitch, loudness, and timbre of a noise. This sense also allows us to take in sound information, process it and generate an appropriate response.
It determines if a sound is dangerous and alerting or quiet and calm. This sense is important for listening skills, communication and social skills.

Difficulties with auditory systems can result in misinterpreting information or missing parts of sentences. It can also result in being overwhelmed or frightened by certain sounds. When these sounds occur, a child may duck or cover their ears. Other children may not hear the sounds around them which may result in them always making noises, humming or singing.

Activities that can encourage auditory input:



- Singing
- Blowing whistles
- Playing a kazoo
- Listening to music
- Banging a drum
- Musical instruments
- Playing sound bingo game
- Listen and name – identifying things by their sound
- Rain stick
- White noise machine
- Water Fountain
- BOP it
- Sound Puzzles
- Quiet retreats



OLFACTORY

The olfactory sense helps to differentiate between different smells and determine if they are dangerous, foul, pleasurable, strong or faint.

Sensory receptors in the nose pick up information about the smells around us and send the information to our brain. This system also helps to create the flavours we taste in food. Our sense of smell is linked to our memoires and can affect our moods.
Difficulty in processing may result in children who crave smells and may not understand safe vs dangerous smells.
Other children may gag from smells that most people don't notice or consider unpleasant. Children with an aversion to smells may have trouble at mealtimes.

Activities to encourage olfactory input:

- Use scented markers and crayons
- Use herbs and spices in craft projects
- Smell essential oils - Calming- vanilla or lavender
- Alerting- Peppermint or citrus Diffuser Oils,
- Smell flowers
- Blindfold smelling games
- Flavoured lip balms
- Scented bubbles
- Scented dough
- Scented lotions

VISUAL

THE VISUAL SENSE HELPS A CHILD TO SEE AND IDENTIFY OBJECTS

This sense of vision uses the eyes to collect information in which the brain then interprets. The visual system works closely with other senses to help us safely navigate and locate objects in our environment.
Visual activities and input can help children develop visual perception skills, engage in visual tracking and improve visual attention and eye muscle control. Difficulties in visual processing may significantly impact a child's academic achievement.



Activities to encourage visual input:



- Huberman Sphere = collapsing and expanding
- Finger lights, Glow sticks
- Liquid timer
- Lava lamps - Avoid fluorescent bulbs
- Fish tank
- Light projector
- Playing "I Spy"
- Dot-to-dot
- Bubbles,
- High quality sunglasses outdoors
- Tinted lenses for indoor if sensitive to glare
- Leave out 5-10 toys at a time to avoid visual overload
- "Safe space" with minimal visuals
- Dim lights for calming and relaxation

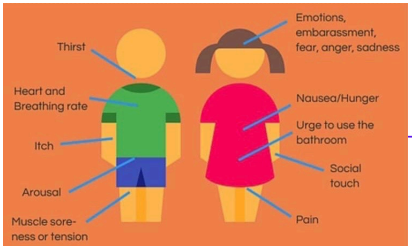
INTEROCEPTION

INTEROCEPTION IS A LESSER-KNOWN SENSE THAT HELPS YOU UNDERSTAND AND FEEL WHAT'S GOING ON INSIDE YOUR BODY

IInteroception is similar to proprioception. Just as receptors in muscles and joints provide vital sensory input, receptors within organs, including the skin, relay information about internal bodily states to the brain. This sensory feedback is crucial for regulating vital functions such as body temperature, hunger, thirst, digestion, and heart rate. Interoception enables individuals to perceive and comprehend internal bodily sensations. For example, it allows one to discern when their heart is racing or when they are short of breath. It also provides awareness of other bodily needs and conditions, such as the necessity to use the restroom, hunger, fullness, temperature variations, thirst, nausea, itchiness, or ticklishness.

Children who experience difficulties with interoception may struggle to recognize when they are hungry, full, hot, cold, or thirsty. Impairments in this sensory system can also complicate self-regulation.

While research into interoception is still developing, there is a need for further investigation to fully understand this sensory system. One of the most effective ways to support interoception is to identify specific challenges a child may face, such as in emotional regulation, and to employ evidence-based strategies to address these difficulties.



Here are few general activity ideas that may help with interoception issues

- Yoga's focus on listening to your body and providing good vestibular and proprioceptive input is helpful for interoception. It encourages children to slow down, pay attention to the present, and how their body is feeling.



- Emotion Matching Game-Have your child or student look through a magazine or print out a variety of pictures and clip-art for common emotions. Maybe have your child match the emotions to the picture. Continue by talking about how they might feel physically and mentally with each emotion.



- Breathing Exercises, breathing techniques and exercises may be helpful for calming as well as paying attention to what is going on inside our bodies.

- Social stories are a great way to talk about concepts that may be hard for a child to grasp, understand, or remember. This would be particularly helpful for toilet training, temperature regulation, and feeling hungry or thirsty.

- Visual prompts may be helpful. This includes prompts for using the bathroom, how often to get drinks, when
- it is time to eat, needing a coat or jacket for outside,



A few more general activity ideas that may help with interoception issues

- Temperature activities Children who struggle with interoception input often have difficulty with temperature regulation. They may not realize they need a coat outside in the cold because they just don't feel cold. Or the slightest temperature change may cause negative behaviours and physical responses. You can talk about temperature using hot vs. cold activities and social stories for when it is appropriate to wear a coat.

- Mindfulness itself is not something new, but it is new from an educational benefit standpoint. With the increase of student anxiety and stress, mindfulness activities may be beneficial.



- Heavy work activities may help by using the large muscle groups of the body and activate the proprioceptive receptors. Proprioception is responsible for body awareness, which is also a big part of interoception.

- Alerting activities are a great way to talk about heart rate and breathing rate. How do you feel after exercising? Is your heart racing? How do your muscles feel? Are you breathing hard and fast or slow and steady?



Disclaimer

Everyone is unique & has different needs this guide is not intended to replace information or advice given to you by a medical practitioner.

A Stitch Different CIC take no responsibility for any injury or harm caused as a result of this guide or the strategies suggested. If you have any concerns about your child, please contact your health care provider.

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