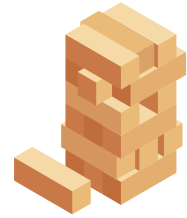




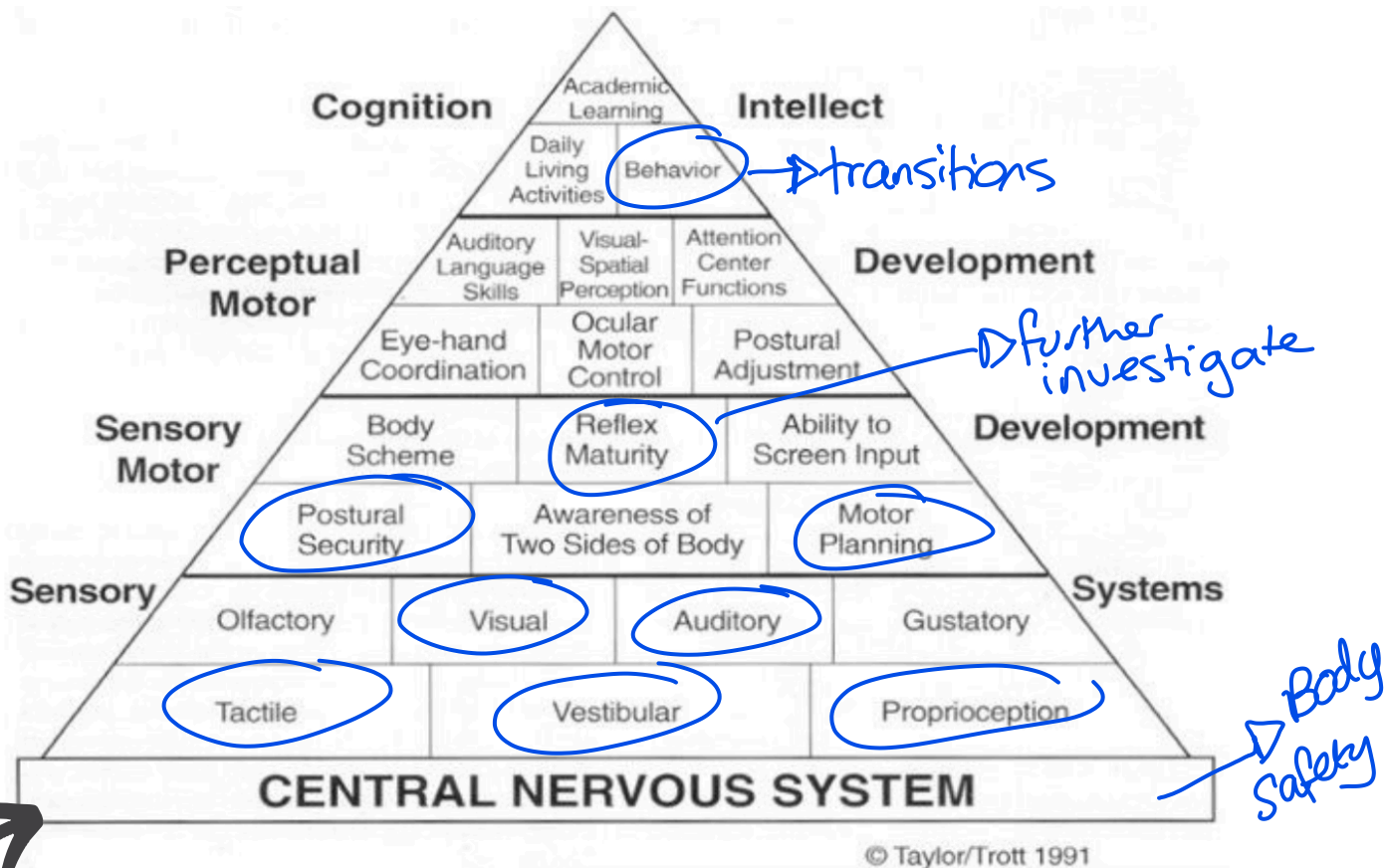
The Pyramid of Learning

WHAT IS THE PYRAMID OF LEARNING?

The Pyramid of Learning illustrates how foundational skills support the development of higher-level skills. When the skills at the base of the pyramid are well-established, the skills on above tiers can be developed more effectively. Conversely, if the foundational skills aren't adequate, it becomes more challenging to achieve the skills or goals at the top.



We like to think of this as a Jenga tower and how wobbly and challenging it can be when there isn't a strong base! Addressing the skills in this order is known as utilising the bottom-up approach.



HOW WILL THE PYRAMID OF LEARNING HELP?

At Calm and Connected, we utilise this approach to promote self-regulation. The base of the pyramid represents the Central Nervous System (CNS), the brain and spinal cord, which forms the foundation for skill building and development. A regulated CNS allows an individual to feel safe, calm, and grounded, enabling them to assess risks, make plans, act on those plans, and modify them as needed. If a person's CNS does not feel safe, they it takes lots of effort and energy to appear calm and meet daily demands, making learning and acquiring new skills more challenging.

By focusing on regulation through the CNS, we can help individuals achieve successful outcomes in the skills at the top of the pyramid.



Behaviour Iceberg

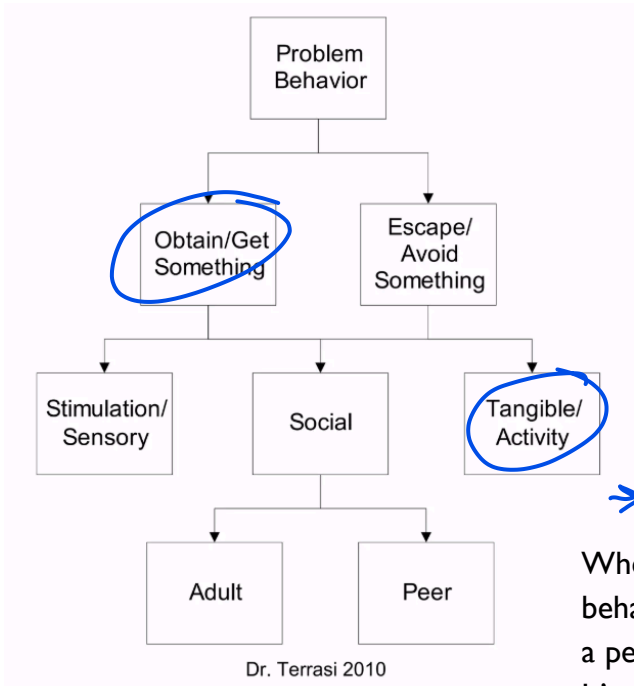
WHAT IS THE BEHAVIOUR ICEBERG?

The iceberg is an ideal representation of the complexities of human behaviour. Keeping this visual on hand reminds us that in order to be effective supports to our children, we must meet the needs that lie under challenging behaviours.

Behaviour is communicating an unmet need.



WHAT ARE THE FUNCTIONS OF BEHAVIOUR?



to do MAS

When we say the “function” of a behaviour we mean “why” the behaviour is occurring. While it might be difficult to understand why a person does something, there will always be an underlying function. It’s worth noting that a behaviour can serve more than one function.

The reason for a behaviour occurring can be described in terms of the function it serves or the reinforcement that is maintaining it. When a behaviour gets a person something this is called positive reinforcement and when a behaviour gets a person away from something or results in an item being taken away from them this is called negative reinforcement.

If we can begin to understand the why behind the behaviour, it will become easier for us to problem solve or understand when we see undesirable behaviour/s. We may then be able to see what they were trying to obtain or escape from, and show them more appropriate ways of meeting this need.





Sensory Processing

WHAT IS SENSORY PROCESSING

Sensory processing is the neurological process in which our body registers, interprets, understands and responds to incoming sensory input. It is important to understand as it impacts a persons everyday function, thoughts, behaviour and actions.



Sensory input from the environment and our internal body receptors are detected by our sensory receptors and this information travels to our brain through our central nervous system (CNS). The brain is then responsible for processing and organising the information. After processing (sorting through the relevant and unnecessary sensory input) the brain can determine the response and the way we then interact with our environment.

For some people, they may also experience “Sensory Defensiveness” which is an overreaction of our normal protective senses. Sensory defensiveness occurs due to dysfunction of the brains evaluation pathway and causes the body to perceive different sensory inputs as a threat and unsafe.

It is important to remember that everyone interprets and processes sensory input slightly differently.

WHAT DOES SENSORY PROCESSING LOOK LIKE

At Calm and Connected, we like to use the model developed by Winnie Dunn. Dunn’s model presents four patterns of sensory processing, that are derived from the interaction of our sensory threshold (down the left of the table) and our self-regulation capabilities (across the top of the table).

Some people need more input to register that sense (high sensory threshold), others need less (low sensory threshold). For example, if someone likes spicy foods, they would need a lot of chilli to be able to taste spice, other people may need just a pinch to taste the spice.

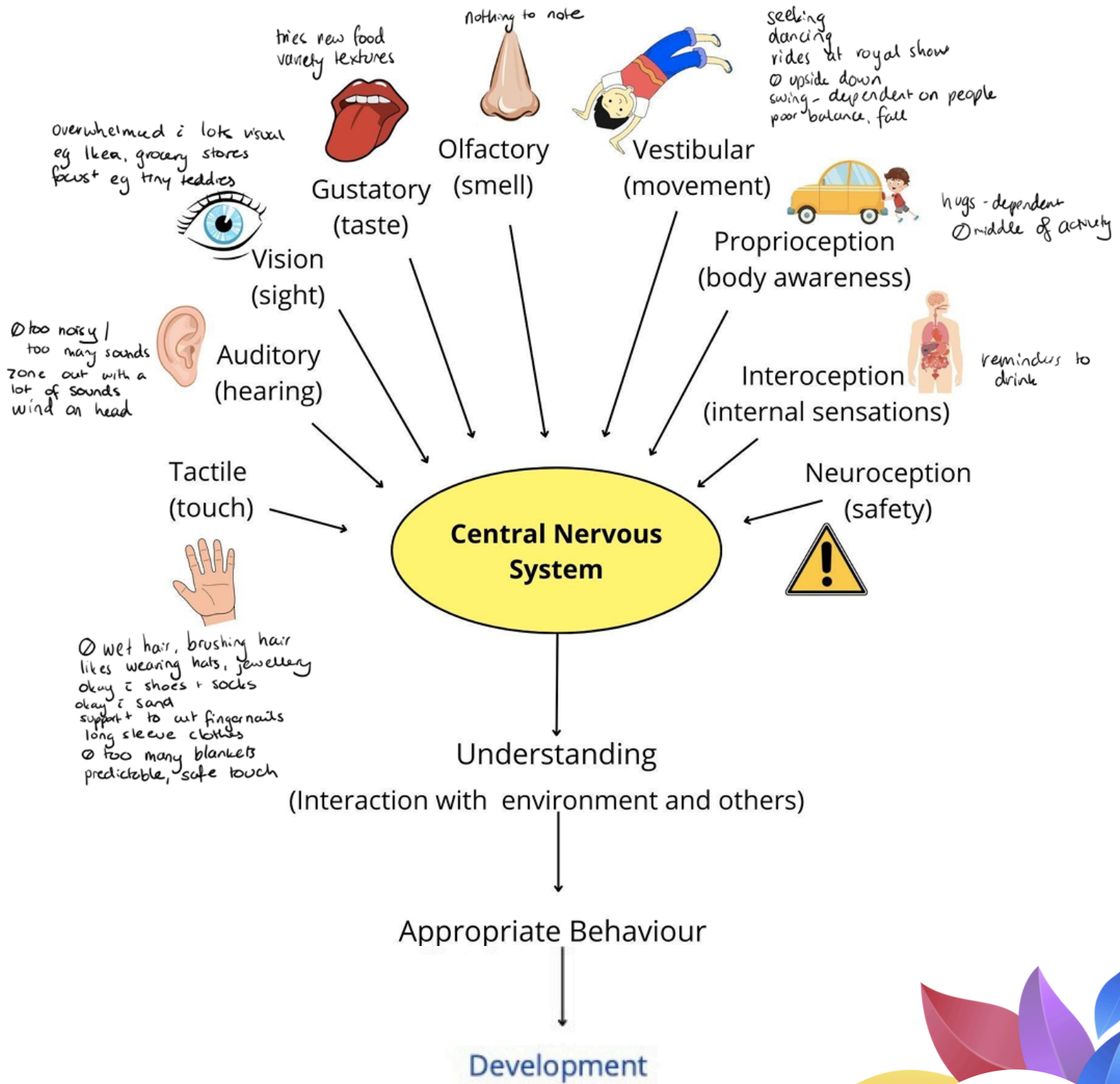
Some people are passive about input (not responsive) while others actively seek or avoid the sensation. For example, some people may seek lots of different textures in their clothes and others may actively avoid certain clothing because of the material. It is important to remember each sensory input can be responded to differently, just because someone seeks movment they aren’t a ‘sensory seeker’ becuae they can also be a ‘sensory avoider’ to avoid auditory input!

Sensory threshold	Self-regulation	
	PASSIVE ←	→ ACTIVE
HIGH ↑	poor registration <ul style="list-style-type: none"> • missing stimuli • responding slowly 	sensory seeking <ul style="list-style-type: none"> • pursuit of stimuli • associated with intelligence and creativity
LOW ↓	<ul style="list-style-type: none"> • distractability • discomfort with sensory stimuli sensory sensitivity	<ul style="list-style-type: none"> • acting to reduce/prevent exposure to stimuli • efforts to make exposure more predictable sensory avoiding



Sensory Processing

ALL THE DIFFERENT SENSES





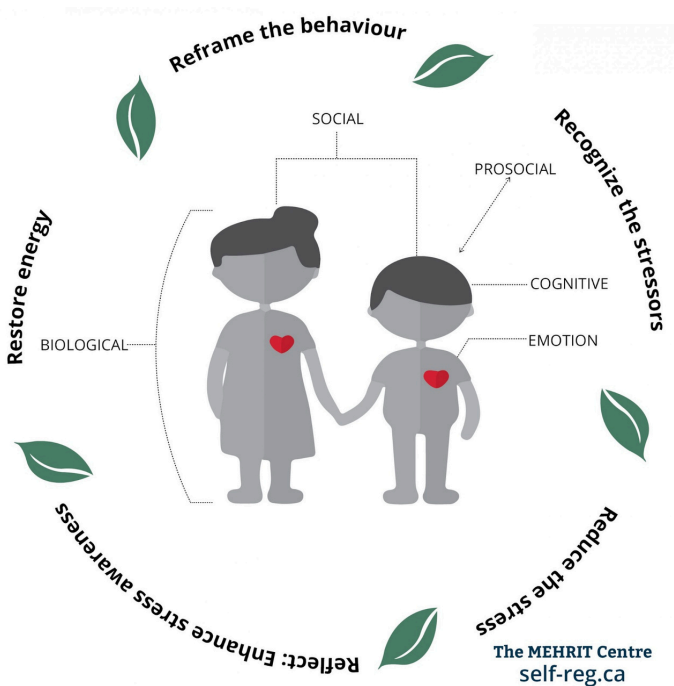
Self Regulation

WHAT IS SELF REGULATION?

Self regulation is a broad term, with many different factors and components. Self-regulation goes beyond self control, it is the way we recognise and respond to stressors (across five domains: biological, social, pro-social, emotion and cognitive) so that we can manage our energy across different contexts to do the things we want, and need to do. For example being able to be energetic and playful to be able to play with friends but then being able to have lower energy chill out moments, or being able to adjust our energy levels to learn at school. Emotion regulation, our thinking skills (executive functioning /cognitive regulation skills) and being able to monitor and adjust how we are reacting and acting (behaviour regulation) are all different components of self-regulation.

Self-regulation is something that impacts right throughout our days and lives. It is a process, and a lifelong journey filled with continual learning about ourselves, our stressors and how we manage and respond to these. While we never stop developing our self-regulation, there are times when we are under excessive stress and we aren't able to effectively manage our self-regulation to do the things we want and need to do.

ABOUT DR SHANKER'S 5 STEPS OF SELF REGULATION



These domains help us in breaking down what is contributing to how we react and act in situations across our lives. The MEHRIT centre which Dr. Shanker is a part of has some great resources further explaining these domains, and other information on self-regulation:

<https://self-reg.ca/online/>

<https://www.youtube.com/c/TheMEHRITCentre>

5 Steps of Self-Reg:

Reframe: Reframing to see what is underlying the behaviour and identifying stress behaviour

Recognise stressors: (across the five domains)

Reduce stressors: Reducing the stressors we can (there are stressors that we can't reduce but recognising them and reducing the ones we can still can increase our capacity) across the five domains

Reflect: Building stress awareness- awareness of our signs and cues for different stress states and levels, and to know when something is a negative or positive stressor for us.

Restore: Personalised supports for restoration of energy and resilience

WHAT IS THE DIFFERENCE BETWEEN SELF AND EMOTION REGULATION?

Self-regulation is a broad term which is made up of different components. Emotion regulation is one of the components of self-regulation. Emotion regulation is the emotion processing part of self-regulation. It involves identifying, monitoring, adjusting and evaluating our emotions and emotional reactions (Thompson, 1999, Gross, 2015)





Self Regulation

WHAT IS STRESS?

Not all stress is bad stress! Positive stress (creating more energy than is being used) helps us to get things done, to learn and ultimately thrive. Negative stress is where we have too much stress (excessive stress). Walter Bradford Cannon viewed stress as anything that disrupts homeostasis, that we need to burn energy for to get back to base again (homeostasis). Self-reg is managing this stress- to be able to restore energy, but use it to thrive also.

ABOUT DR SHANKER'S 5 DOMAINS OF SELF REGULATION

More information on each domain can be found at: <https://self-reg.ca/self-reg-framework-5-domains-stress/>

+

cold drinks/ice
organised movement
Oral motor

cognitive
brain breaks
details

reading
safety
cues

initiating
games/
activities
sensory activities

Co-regulation
Empathy

biological

sleep
digestion
toileting
sensory
breath
temperature
immune system
motor skills

cognitive

attention
concentration
memory
impulsivity
distraction
learning
decisions
organising thoughts

emotion

trauma
grief
motivation
change
fears
support
understanding in others
understanding in self

social

friends
events
body language
social cues
conversation
conflict
compromise
inclusion

prosocial

helping
caring
values
co-regulation
sharing
justice
empathy
sympathy

- shallow
breathing
interoception
primitive
reflexes
poor sleep

impulsivity
seeking
control

masking
changes/
transitions

new places
winning/
losing
reciprocity
unstructured
play

empathy
taking on
others emotions

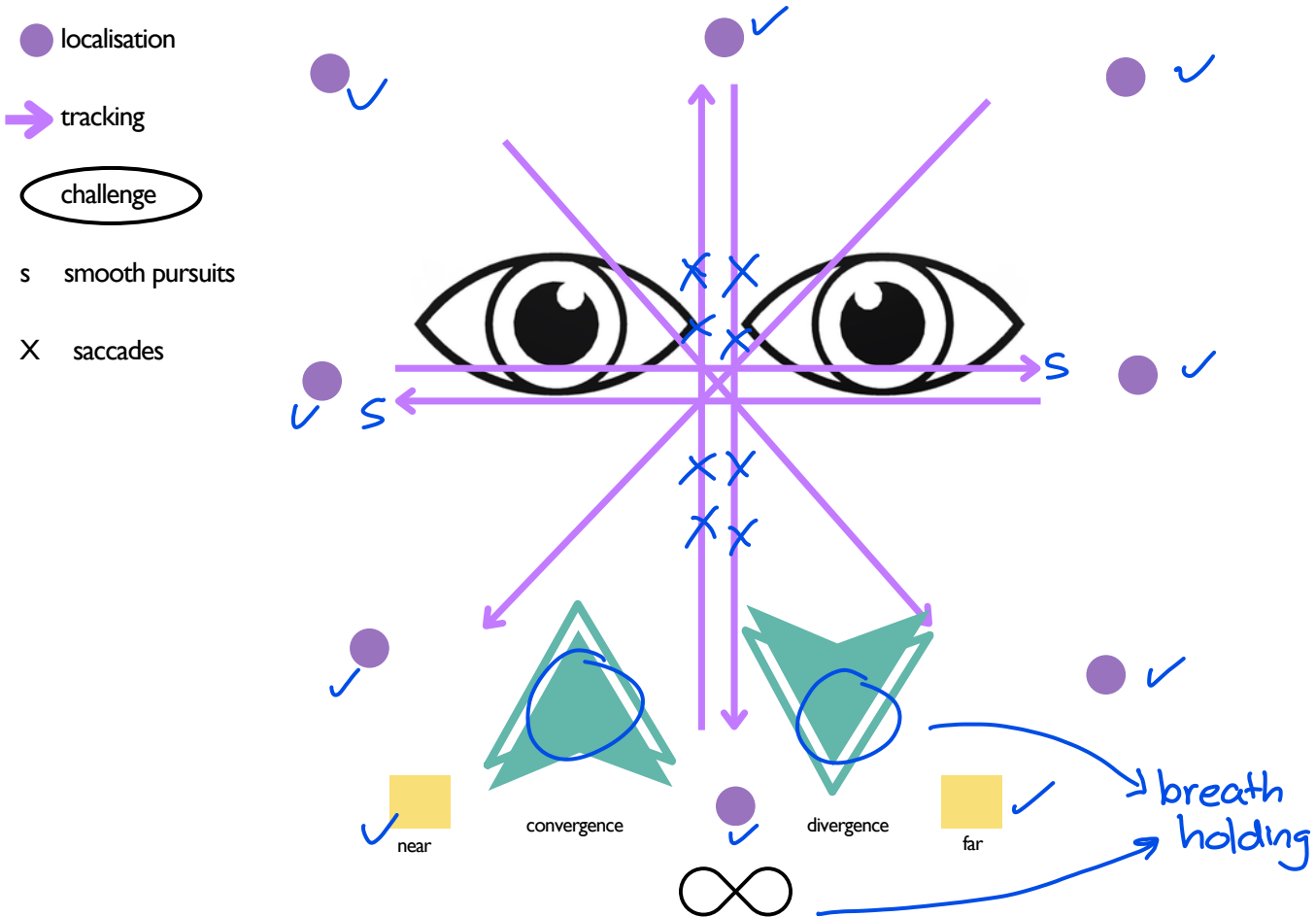




Oculomotor and Visual Processing

WHY IS OCCULOMOTOR CONTROL IMPORTANT?

Our oculomotor nerve helps to coordinate eye positions during movement. If we have difficulty with smooth pursuits, tracking and fixating on objects it can be hard to read, write, attend and do many other functional tasks.



WHAT IS THE DIFFERENCE BETWEEN VISION AND VISUAL PROCESSING?

Vision or eyesight is the ability to see clearly but visual processing or visual perception is how the brain receives, interprets and responds to what the eyes see.

Visual perceptual skills are essential to helping us understand what we see and make sense of the world, they include:

- visual attention: filter important information.
- visual memory: recall visual information.
- visual discrimination: determine similarities and differences.
- visual-spatial relationships: understand how objects are related to each other.
- visual figure ground: find something in a busy visual environment.
- visual form constancy: know a shape is the same if the size and orientation change.
- visual closure: recognise an object when part of it is visually missing.





Reflexes

WHAT ARE REFLEXES?

A reflex is a consistent involuntary response to a specific stimulus. They help us to develop our muscle tone, support our central nervous system to mature and essentially support us to survive. Some are designed to keep us safe, whilst others are designed to help us learn to move in a way that is coordinated and smooth. Reflexes follow a pattern where they emerge, develop, do their 'job' then integrate or transition into another reflex.



WHY DO WE NEED TO INTEGRATE REFLEXES?

Reflexes are the building blocks for organised and voluntary motor patterns. They are essential for a period of time to underlay and help initiate learning of controlled and coordinated motor behaviours. However, when a reflex is retained or not integrated, it can impact the body's ability to smoothly coordinate movement and respond appropriately to stimuli. This can mean completing everyday tasks such as writing, sitting, reading, attending, walking and even regulating emotions can be extra challenging. Anyone can present with retained reflexes and there is no clear evidence as to why reflexes don't always integrate.

TYPES OF REFLEXES

Intrauterine Reflexes: Develop in the womb in as little as 5 weeks and are whole body responses to a stimulus. They should integrate before the baby is even born.

Primitive Reflexes: Are a physical response to either a change in position or sensory input and they help not only the baby travel through the birth canal, but create the foundation for control against gravity. They integrate as higher level thinking skills develop and we gain voluntary control over our movement.

Transitional Reflexes: Are an 'in-between' reflex that support the body to move between primitive and life-long reflexes.

Life-Long Reflexes: Are designed to 'take over' when we are in immediate danger and will never integrate or diminish.





Reflexes

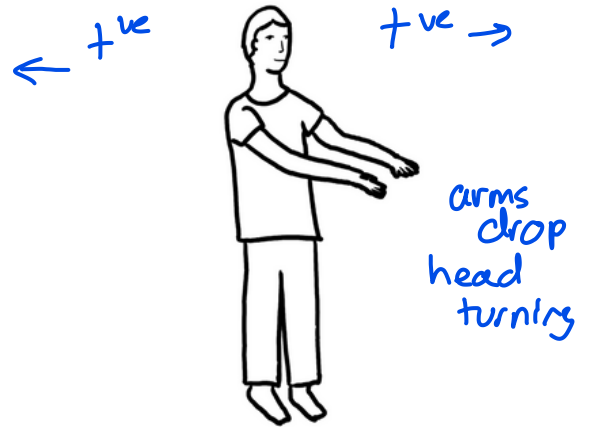
SPECIFIC REFLEXES

Tonic Labyrinthine Reflex



Purpose: head control, muscle tone
 Movement: head/body movement looking up and down
 Supports: posture, balance, using stairs, visual stability, sequencing and organising

Asymmetrical Tonic Neck Reflex



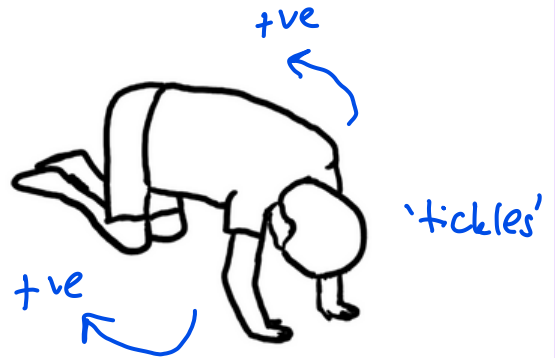
Purpose: birthing process
 Movement: head/body movement looking left and right
 Supports: crossing the midline, reading, writing, bike riding

Moro



Purpose: survival
 Movement: away from midline, into midline
 Supports: balance and coordination, flexibility, change, motion sickness, feeling safe and secure

Spinal Galant



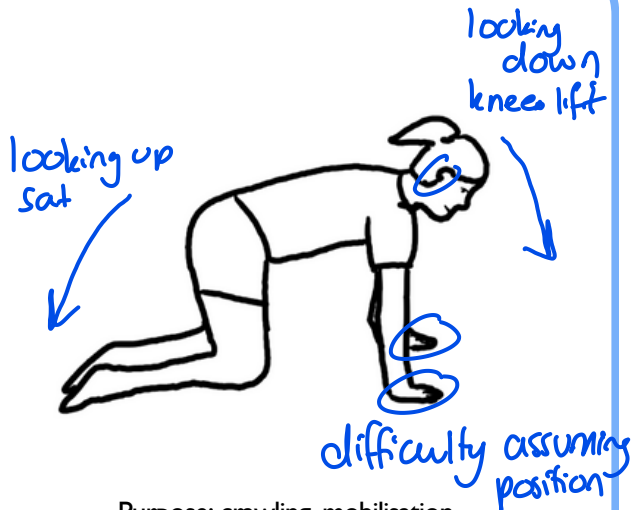
Purpose: birthing process
 Movement: back flexing side to side
 Supports: bladder control, clothing sensitivities, tickling, sitting still



Reflexes

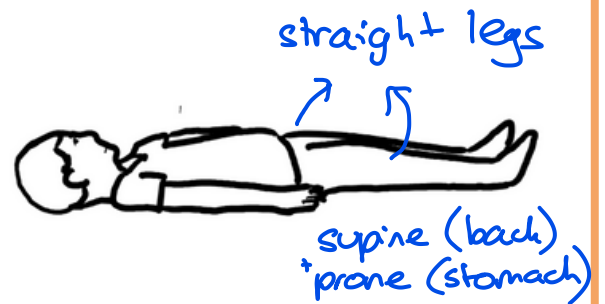
SPECIFIC REFLEXES

Symmetrical Tonic Neck Reflex



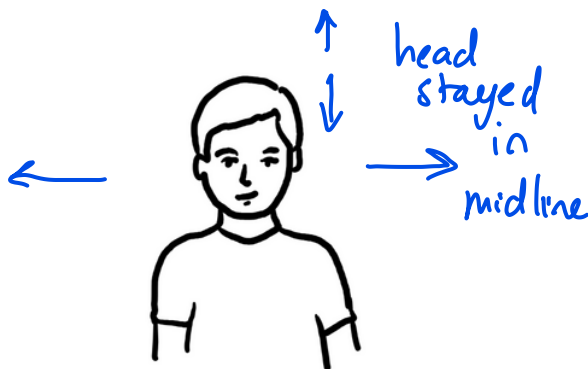
Purpose: crawling, mobilisation
 Movement: head/body movement looking up and down
 Supports: sitting position, hand-eye coordination, swimming, vision

Amphibian



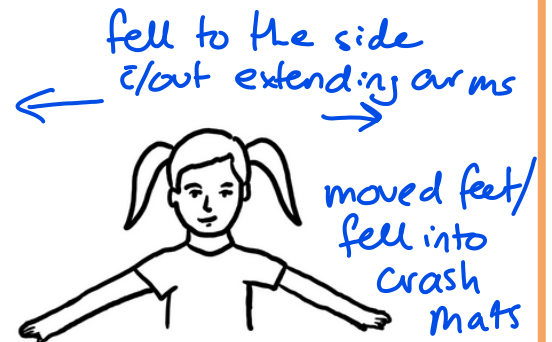
Purpose: crawling, walking, running, jumping
 Movement: flexing the hip
 Supports: rolling, crawling, coordinating lower limbs

Righting Reflex



Purpose: survival
 Movement: head in midline

Protective Extension



Purpose: survival
 Movement: extending arms when falling





Reflexes

SPECIFIC REFLEXES

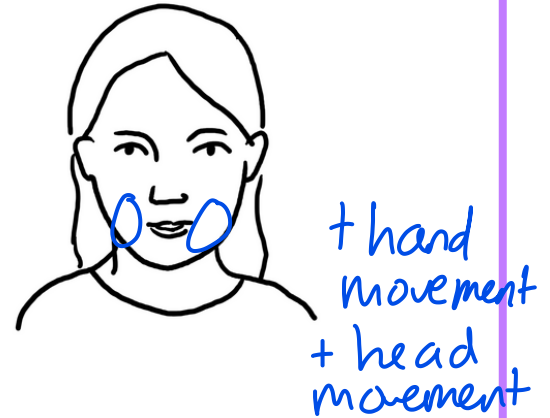
Palmar Reflex



Purpose: grasp, motor control, connection
Movement: fingers flexing

Supports: fine motor control, pencil grip, tactile sensory processing, speech and mouth movements

Rooting Reflex



Purpose: feeding

Movement: turning of the head, opening of the mouth
Supports: swallowing and chewing, connection

Babinski



Purpose: crawl, walk, run
Movement: toes extending

Supports: balance, coordination, midline awareness, spatial orientation, language, tactile sensory processing

Plantar Reflex



Purpose: crawl, walk, run
Movement: toes flexing

Supports: balance, coordination, midline awareness, spatial orientation, language, tactile sensory processing

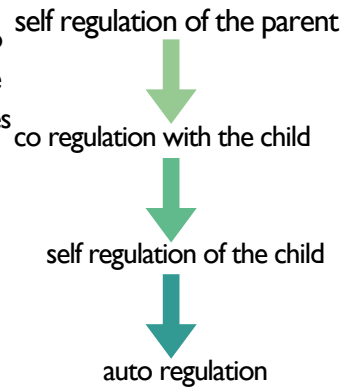




Arousal Mapping

WHAT IS AROUSAL MAPPING?

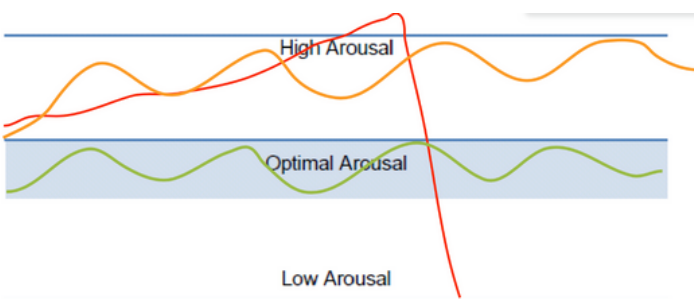
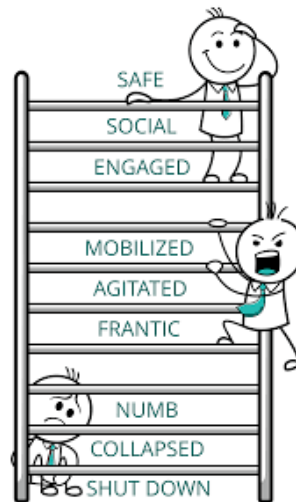
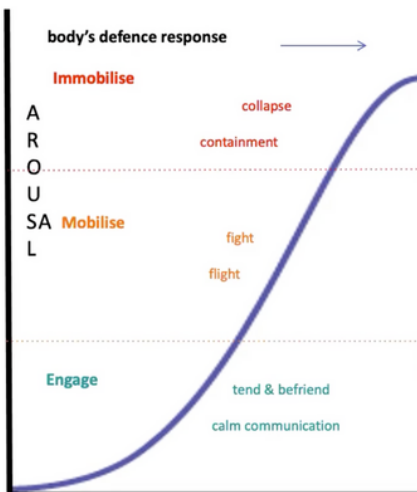
We can map our arousal levels and other's to identify how we regulate and co-regulate across the day. For different times and activities we need different levels of arousal such as a lower level when we are needing to sleep but a higher level when we are playing a sport. Everyone has a different band of tolerance or how wide our 'just right' zone is. OTs can help you understand your arousal levels and implement strategies to reduce stressors so you can spend more time in an engaged 'just right' level.



These are some of different frameworks you can use to map your arousal level:

- The Polyvagal Theory from Stephen Porges identifies 3 main stages: engagement, mobilisation and immobilisation.
- Deb Dayna also talks about Poly Vagal Theory using a ladder
- The Alert Program by Williams and Shellenberger use an engine of: 'too slow' 'just right' and 'too fast'
- Other graphs use low, optimal and high levels of arousal

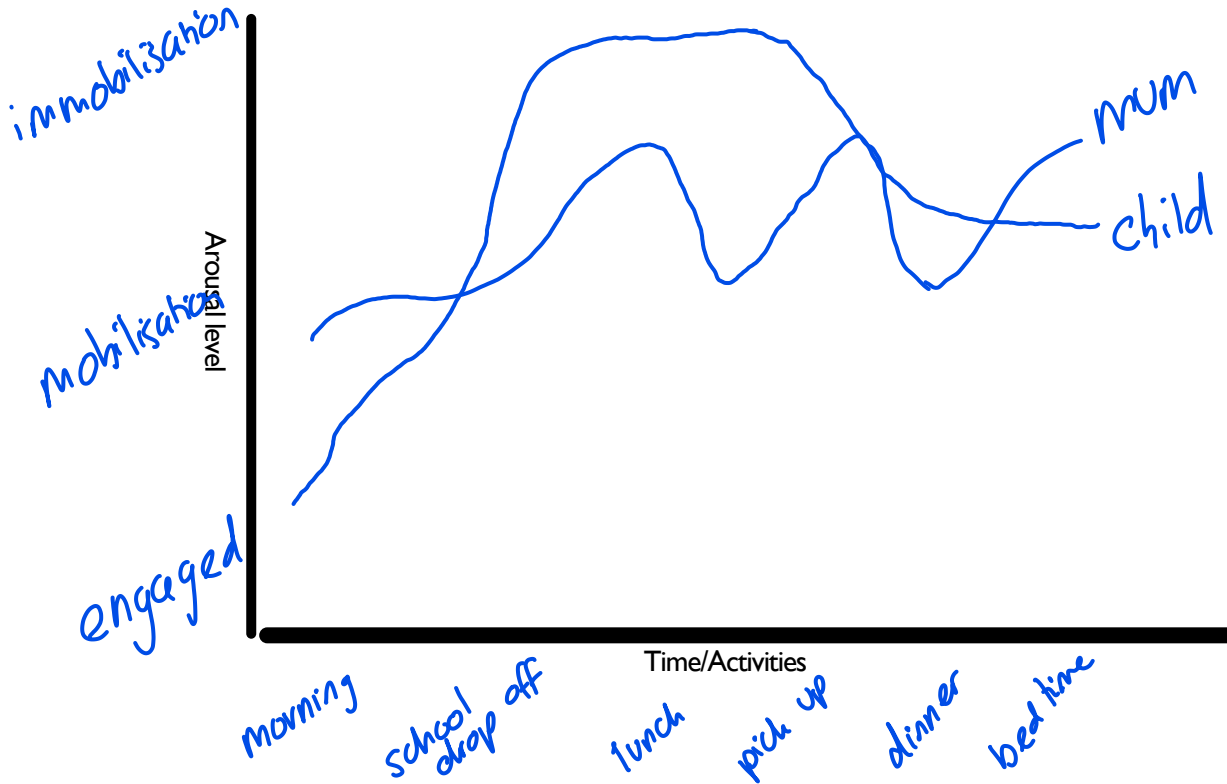
WHAT CAN AROUSAL MAPPING LOOK LIKE





Arousal Mapping

WHAT DOES YOUR AROUSAL LOOK LIKE ACROSS THE DAY?



WHAT ARE THE SIGNS YOUR BODY'S AROUSAL IS TOO HIGH?

