OCCUPATIONAL THERAPY IN THE PRE-K AND KINDERGARTEN CLASSROOMS

Molly Tellone MA, OTR/L

Casey Seedall MS, OTR/L, C/NDT

Gwen Drolet, MOT, OTR/L

WHAT DO OCCUPATIONAL THERAPISTS DO?

FINE MOTOR SKILLS
(INCLUDING SELF-CARE)

SENSORY PROCESSING

EMOTIONAL
REGULATION

EXECTUTIVE
FUNCTIONING

HOW DO WE DO IT?

- MOTOR SDI: Specially Designed Instruction
- RS: Related Service
- SAS: Supplementary Aids and Services
- SFSP: Support for School Personnel

DEVELOPMENTAL PROGRESSION OF FINE MOTOR SKILLS

0-2 Years

6 Months
- Reaches for and grasps objects
- Begins transferring items from one hand to the other

1 Year
- Pincer grasp emerges (thumb and forefinger)
- Can bang two objects together
- Feeds self finger foods

2 Years
- Builds tower of 4–6 blocks
- Scribbles spontaneously
- Can turn pages of a book
- Uses a digital pronate grasp

3-4 Years

3 Years
- Imitates horizontal and/or vertical lines
- Strings large beads

3.5 Years
- Copies a circle
- Snips with scissors
- Uses a spoon, fork, and open cup

4 Years
- Copies a cross
- Uses a static tripod grasp
- Uses scissors to cut across a thick straight line
- Can dress self with minimal help
- Draws a person with 2–4 body parts (e.g. head + body)

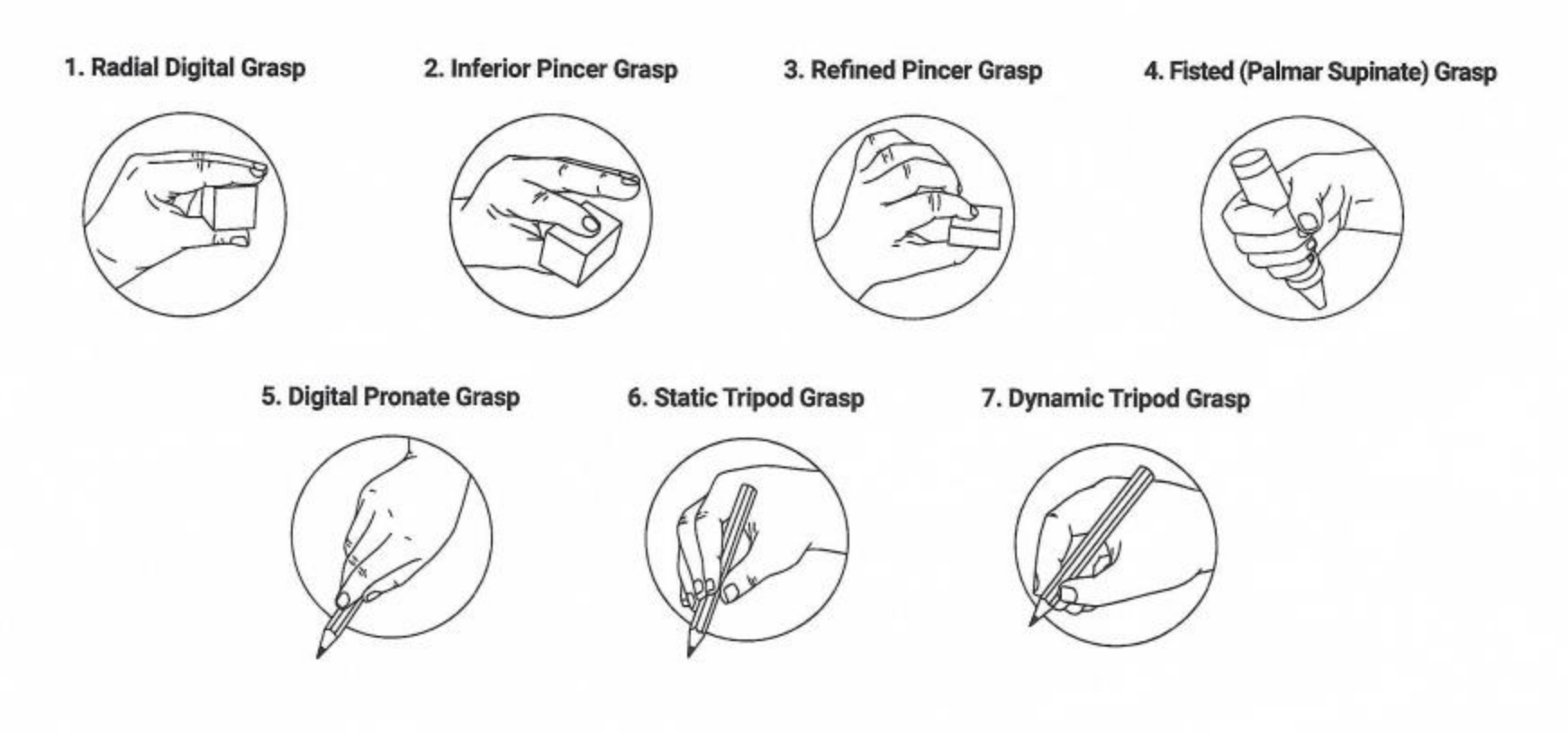
5-6 Years

5 Years
- Can print some letters
- Copies a square
- Cuts simple shapes
- Colors within lines
- Uses a dynamic tripod grasp

5.5 Years
- Copies a triangle
- Can draw a person with 6–8 body parts
- Buttons and zips clothing independently

6 Years
- Can write simple sentences
- Ties shoes
- Demonstrates refined hand-eye coordination for writing and drawing

GRASP DEVELOPMENT



REGULATION - WHAT IS IT AND HOW DO WE FOSTER IT IN OUR CLASSROOMS?

- Developmental progression of regulation
- Fostering regulation in the classroom
- Why heavy work?
- What is regulation?
- What is co-regulation?
- What are some strategies we can use to support all learners?

Age Ranges	DIR FEDC Level	How Regulation Develops
Newborn – 3 Months	Level 1: Regulation & Interest in the World	Maintains calm states with caregiver support; regulates through **co-regulation** (rocking, soothing, feeding). Early sensory preferences (e.g. sound, touch) shape comfort.
2-7 Months	Level 2: Engagement & Relating	Begins to **use caregiver relationship** to regulation; smiles, eye contact, gestures, signal needs; seeks comfort from familiar adults; uses sensory-motor soothing (thumb sucking, movement).
3-10 Months	Level 3: Purposeful Two-Way Communication	Expresses needs with actions/words; tantrums when dysregulated; **depends on caregiver scaffolding;** uses simple strategies (blanket, hug, pacifier)
9-18 Months	Level 4: Shared Problem Solving	Uses back-and-forth play and early problem solving; begins to negotiate (e.g. 'one more turn'); **adults help expand coping strategies;** starting to delay gratification briefly
1.5-4 Years	Level 5: Using Symbols and Creating Emotional Ideas	Pretend play provides safe practice for emotional control; can talk about feelings; uses play to master fears; **adults co-regulate** by joining and expanding ideas
3-4.5 Years	Level 6: Logical Thinking	Links feelings to causes (I'm mad because…"); develops empathy; uses self-talk, reasoning, planning; increasingly independent but **still needs adult/peer support** during stress.
4-6 Years	Level 7: Multiple Perspectives	Beginning to understand multiple causes for behavior and engage in flexible problem solving; continue to **need adult/peer support** during stress.

FOSTERING REGULATION IN THE CLASSROOM

- Building connection and relationship with children; sense of safety
- Focus on proactive strategies
  - Heavy work / deep pressure regularly throughout the day (animal walks during transitions, deep breaths and squeezes before re-entering the classroom after recess)
  - Butterfly taps, box breathing, 54321 grounding as a call to attention
- Exploring various sensory based activities and teaching children how to use them outside of the moment
- Focus on interoception (more to come on this)

WHY HEAVY WORK?

- In an overwhelmed brain, too many gates are open allowing too much information to pass through the gates and go where it shouldn't go resulting in irritation and agitation

- Heavy work triggers the release of dopamine and serotonin

- Deep pressure triggers the release of serotonin

REGULATION - WHAT IT IS AND ISN'T?

What it is:	What it isn't:
- The dynamic process of maintaining balance in one's body, emotions, and thinking, in response to internal states and external experiences - Feeling your feelings while being connected to yourself and the environment or another person	- Being calm - Having a still body - Using coping strategies without any adult support

- Regulation develops first through **co-regulation** with **trusted** caregivers and evolves into **self-regulation**, supported by relationships, the nervous system, and **individual sensory/emotional capacities**

COREGULATION? HOW? WHY?

How

- Bookends of coregulation: validation, holding of space, boundary and clarity.
- To be a regulator, you must have your mind in you and in the child – you must track **yourself** as well as the child ("what is mine and what is not mine")
- Over 90% of coregulation is nonverbal and nothing to do with words

Why

- We need to practice how to regulate ourselves through regulating with another
- Cannot access cognition in regulation process until after 25 in females and 30 in males
- Left brain does not have one neuron that goes to the amygdala.

VALIDATION. HOLDING SPACE. BOUNDARIES.

- Validation
  - Narrate the experience "This is so hard!" or "This is so frustrating!"
  - Contextually observing feelings and narrating them back as opposed to 'teaching feelings' (i.e., this is what people look like when they're mad)
  - Very big difference between validating the action and the emotion.
- Holding Space
  - When you are there with the child and stay present
  - Helping child contain the intensity of the emotion the child is feeling without stopping them from having the feeling
- Boundaries and Clarity
  - This is where you hold the boundary around safety for self and others; the clarity around what is okay and what is not
  - Your energy is important; modeling how you are feeling about the experience then helps to negate their ability to fill that in themselves with the worst case scenario (i.e., they are bad, everything is their fault, etc.)

CONSIDERATIONS FOR NEURODIVERGENT LEARNERS

- When there is too much activation the only thing to do is STOP TALKING. Just use your being to create the shift. We always recognize the one who has the most regulation
  - If you need to speak for safety reasons, keep it short (3 words max) and direct
- We want to create safety and give cues of safety; this comes from your face, voice, and posture
- Be curious. Curiosity takes you out of judgement (left brain function that is connected to stress)
- When we disengage with neurodivergent learners, this can keep their brain in a stress response. We need to stay connected with this children in order to help them downregulate as well as to learn how to do that themselves by our modeling
- Know when to drop a demand (i.e., "clean up") and focus on regulation - think: what is most important in this moment?

STRATEGIES TO USE WITH NEURODIVERGENT LEARNERS IN THE MOMENT OF DYSREGULATION

Connect

Have known supports available without expectation of use

Model strategies (deep breathing, tight hug) without expectation

Meet them energetically and help them slide back down with you

Avoid asking them questions right away

Decrease language

Drop the demand and focus on regulation

Tap out if you are dysregulated

Another team member removes other children from the area if needed

Understand subtle cues

Narrate experience "it's hard"

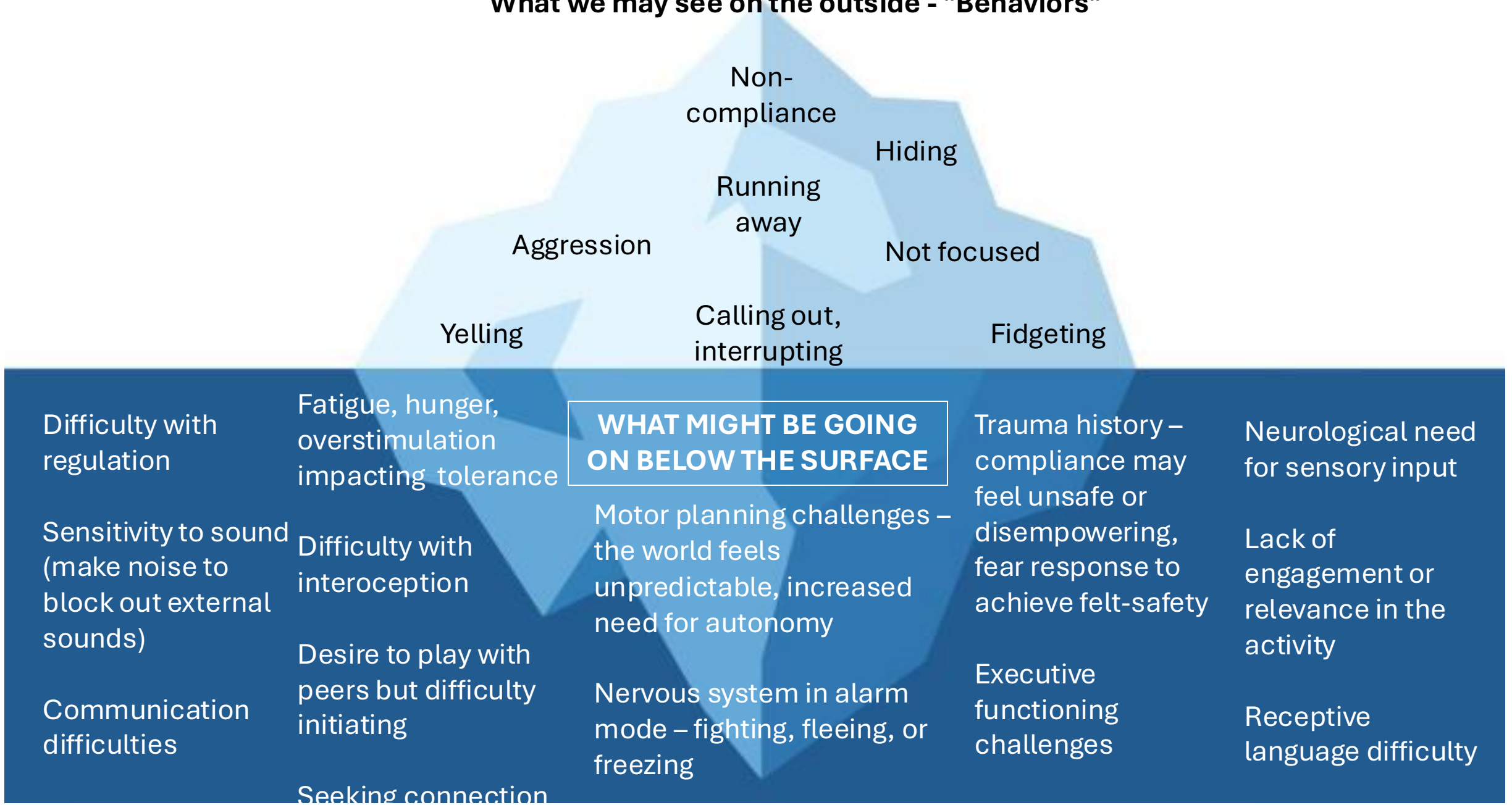
STRATEGIES TO USE WITH NEURODIVERGENT LEARNERS OUTSIDE OF THE MOMENT OF DYSREGULATION

- Teach them various coping strategies and take note of which ones make their bodies feel good
- Create a visual of these strategies for them to use
- Practice the visual of strategies first while calm and outside of stressful moments
- Practice visual during unexpected times during their day and prior to times that are particularly stressful
- **if the child is very upset, it is not likely that they will be able to access these strategies, it's most effective as they are starting to get upset and when they are coming down. During the moment, keep them and others safe and model strategies without language. Engage them in these strategies when they are able to access them
- Incorporate heavy work into your daily classroom schedules and/or prior to more challenging times of the day for the child

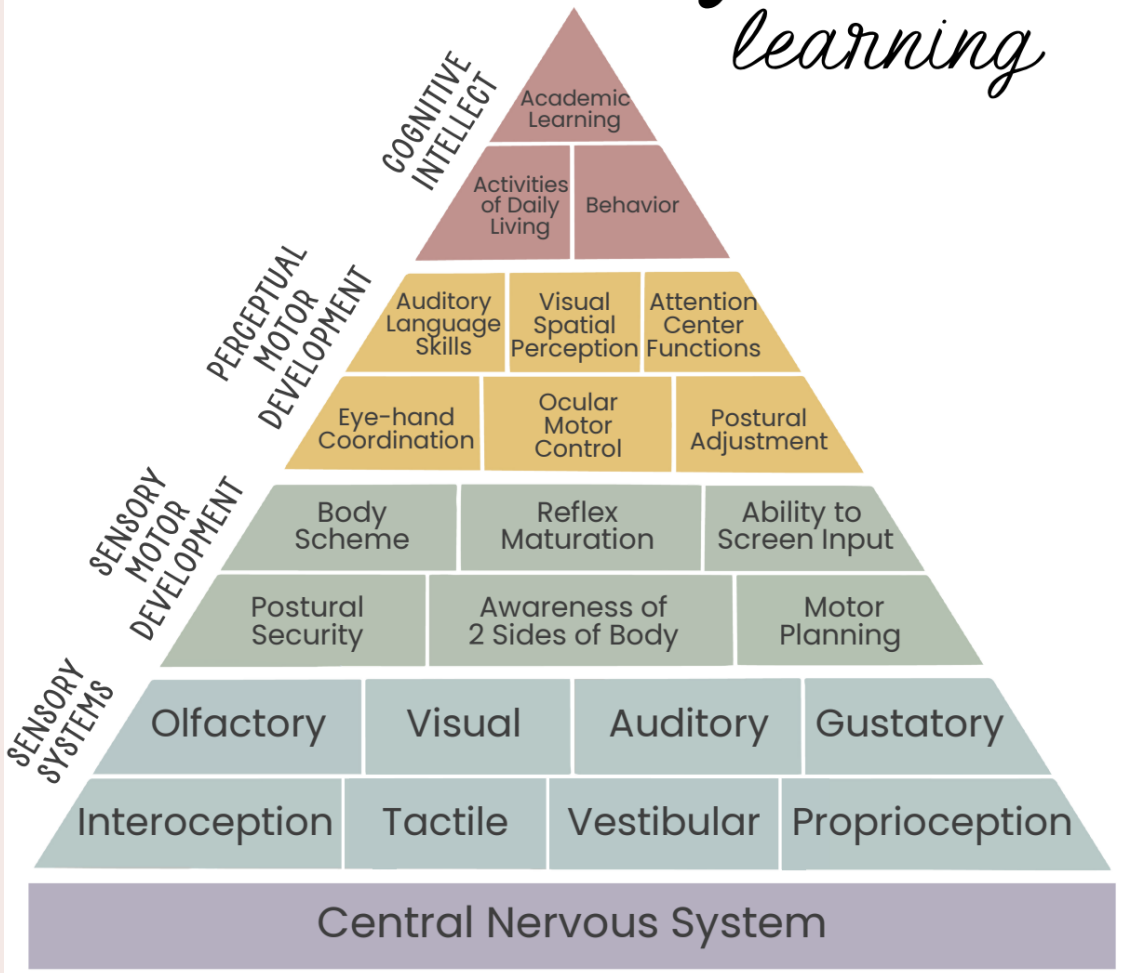
WHAT ABOUT WHEN I'M DYSREGULATED?!

- Breakout sessions will dive into this piece further :)

WHAT WE MAY SEE ON THE OUTSIDE AND WHAT MAY BE GOING ON BELOW THE SURFACE


What we may see on the outside - "Behaviors"
Non-compliance
Hiding
Running away
Aggression
Not focused
Yelling
Calling out, interrupting
Fidgeting
Difficulty with regulation
Sensitivity to sound (make noise to block out external sounds)
Communication difficulties
Fatigue, hunger, overstimulation impacting tolerance
Difficulty with interoception
Desire to play with peers but difficulty initiating
Seeking connection
WHAT MIGHT BE GOING ON BELOW THE SURFACE
Motor planning challenges – the world feels unpredictable, increased need for autonomy
Nervous system in alarm mode – fighting, fleeing, or freezing
Trauma history – compliance may feel unsafe or disempowering, fear response to achieve felt-safety
Executive functioning challenges
Neurological need for sensory input
Lack of engagement or relevance in the activity
Receptive language difficulty

Pyramid of *learning*



Graphic: Pyramid of Learning (Taylor, Trott 1991)

play spark

play-spark.com

Our central nervous system is the foundation for all learning. So many behavioral approaches focus only on skill acquisition at the top of the pyramid without considering the whole child and their development. These higher level functions are highly dependent on our regulation and ability to process different motor and sensory inputs in our environment. We can become overly focused on end results and get frustrated when a child can't attend or practice their target skill. If we don't zoom out and look at the whole child, we miss key individual differences that are at the foundation of learning.

INTEROCEPTION: WHAT IS IT AND WHY IS IT IMPORTANT?

- **What is it?**
  - Interoception is the perception of internal bodily sensations, such as hunger, thirst, and heart rate. It helps the brain sense, interpret, and integrate signals from within the body to regulate physical and emotional states.
- **Why is it important to teach interoception and how does it relate to regulation?**
  - "Trying to teach emotions before exploring body signals is like trying to read a book in the dark; you need light to grasp the words, just as you need body signals to comprehend emotions" –Kelly Mahler, Occupational Therapist
  - Teaching interoception supports the development of self-awareness, the awareness of ones unique body signals and how they correspond to emotions.

TEACHING AND SUPPORTING INTEROCEPTION IN THE CLASSROOM

- How can we “teach” interoception skills?
  - Utilize Interoception Curriculum materials and teach when the learner is calm
    - Interoception "On the Fly“
    - Large or small group lessons with hands on experiments
  - Model noticing interoceptive signals throughout the day

EXAMPLES OF RESOURCES FROM KELLY MAHLER'S INTEROCEPTION CURRICULUM

Still	Wiggly	Fidgety	Clenched	Tight	Loose	Warm
Hot	Sweaty	Cold	Flappy	Fisted	Sore	Messy
Clean	Dry	Wet	Squeezing	Fast	Slow	Want to hit or throw
Shaky	_____	_____	_____	_____	_____	_____

In order to be skilled at noticing body signals, practice during everyday life is very important. By using the prompts below, you can help provide this crucial practice. Start at the beginner level prompt and move towards the advanced level only if the learner is successfully responding.

Please note: Only use these prompts when the learner is calm. Also, please acknowledge any response the learner provides. If you feel the response is not a match with your observation, please acknowledge any response the learner provides first (e.g., "Great word!"). Then gently ask the learner if he has any other ideas ("What else do you notice?" or "Tell me more about what that means.").

BEGINNER	Statements that provide observations and prompt attention.	"I see your hands are wiggly. Look at your hands. Do you see them wiggling?" "Your hands feel sweaty. Put your hand right here. Do you feel the sweat?
INTERMEDIATE	Questions that call attention to a specific body part and provide choices for response.	"Are your hands wiggling or still?" "Are your hands sweaty or dry?" "Are your hands cold or warm?"
ADVANCED	Questions that call attention to a specific body part and require students to provide a response without choice options.	"How do your hands feel right now?"
PROFICIENT	Questions that call attention to the entire body.	N/A (focus is on Hands and Fingers only)

DAILY ACTIVITY LIST

Below is a list of everyday activities that can serve as ideal times to use the above prompts. Use these or add your own.

Hand washing	Eating finger foods	Playing with clay or playdough	Playing in a sensory bin	Playing in the snow or rain	Going outside in hot/cold weather	Hanging on monkey bars	Climbing on playground equipment
Catching a ball	Writing on paper	Typing	Washing dishes	Holding a warm/cold drink	Doing a cartwheel or handstand	Carrying a heavy load	Putting on hand lotion

PROVIDING A VISUAL HELPS SUPPORT IDEATION AND BUILDS VOCABULARY

REFERENCES AND RESOURCES

- Interoception
  - https://www.kelly-mahler.com/
- Regulation
  - https://www.kimbarthel.ca/