Course Objectives

- Participants will realize that behavior and anxiety are forms of communication when a child is dysregulated.

- Participants will identify fun and functional sensory-motor experiences to build new sensory pathways and improve comfort for learning in home, clinic, & school settings.

- Participants will understand and learn strategies to address problem behaviors such as fidgeting, transitions, and temper outbursts.

About Cara

- Mother to two children with autism & SPD.

- Advisor for OT and contributing author for Autism Asperger’s Digest Magazine, Asperkids, Autism Parent

- Speaker across the US for Universities, Future Horizons, state AOTA

- Co-Founder of Aspire Pediatric Therapy, Founder of Route2Greatness, LLC, & Owner of The Pocket Occupational Therapist, and OTxOT Program
How do I answer parent's questions about sensory vs. behavior?

I do not want to get 'beat up' or hit as a well-intentioned therapist, is this OK since it's a 'sensory' issue?

Is it a big deal if a child comes into my clinic and destroys the room?

How do I tell parents that their child biting or swinging at me during therapy is NOT sensory seeking, it's a behavior issue?

HELP! I've been in courses before and I still do not know the difference. ......
Think about it........

• How many times daily do you simply try to SURVIVE a difficult behavior from your child?

• Close your eyes and imagine your favorite childhood memory.

• How do you like someone to respond when you’re upset?

Do NOT Go to Disney World!

It rained and my clothes got all wet.

I do not like the feeling of wet clothes.

My clothes stick to me.

My mom got upset because we could not get out of the castle to find daddy.

Mommy got upset with me because I was screaming.

The security officer touched my shoulder.

Every time there is a cloud, it might rain.

Rain is TERRIBLE.
When Students Become Overwhelmed by BIG EMOTIONS it is our job to SHARE OUR CALM not to JOIN THEIR CHAOS

Clients We See Overview:

- Deficits in nonverbal communicative behaviors used for social interaction including poorly integrated verbal and nonverbal communication
- Difficulties with sensory processing causing hyper and/or hypo arousal
- Trouble regulating their body for optimal learning
- Motor limitations in fine, gross, optical, posture, oral, and other body systems
- Frustration over everyday life tasks

 Occupation is the ‘job of living.’

Children learn through playing:
- Cause and Effect
- Natural Consequences
- Fine and Gross Motor Skills
- Sensory Development

EVERY Person Wants to Succeed!
How Do Kids Learn?

- Watching and imitating others
- Trying and succeeding vs. trying and failing
- Use of senses and exploration

Guess what’s difficult for your kids with special needs?

Is it SENSORY?

- External environment interacting with child’s internal environment
- Sensory triggered by body’s needs
- Becomes learned & established

Behavior may be LEARNED and not due to specific sensory issue

- Many reasons such as behavior AND sensory AND psychological AND physiological AND environmental AND………..
Dyspraxia

- Trouble processing sensory information properly
- Resulting in problems planning and carrying out new motor actions
- Difficulty in forming a goal or idea, planning a sequence of actions or performing new motor tasks
- Clumsy, awkward, and accident-prone
- They may break toys, have poor skill in ball activities or other sports, or have trouble with fine motor activities
- They may prefer sedentary activities or try to hide their motor planning problem with verbalization or with fantasy play

Postural Disorder

- Difficulty stabilizing his/her body during movement or at rest in order to meet the demands of the environment or of a motor task.
- When postural control is good, the person can reach, push, pull, etc. and has good resistance against force.
- Individuals with poor postural control often do not have the body control to maintain a good standing or sitting position
- MAY be sensory cravers but lack the support of posture
- Prefer to be sedentary
- Fear challenging positions
- Averse response to movement
**Limbic System**

- Structures in brain that play a critical role in managing emotion

- Hypothalamus
- Amygdala
- Thalamus
- Hippocampus
Amygdala

- Role in associative learning
- Emotional behavior such as social rules, impulsivity
- Stimulation creates feelings of anger, fear, worry, and violence
- Destroy it = mellowing effect
- Benzodiazepine...commonly given to relieve anxiety act on receptors in the amygdala

Klüver-Bucy Syndrome
- Bilateral destruction of amygdala causes sexual behaviors, need to explore things orally, increased appetite

Thalamus

- Thalamus is the relay system for sensory
- Go through it to move to various lobes of the cortex
- All senses go through EXCEPT smell!!
- It bypasses the thalamus........powerful direct connection to the brain
- Two walnut-sized parts made of GRAY matter containing nucleus and body of cells
- Affects our sleep-wake cycles, arousal

Hippocampus

- Horseshoe shaped structure
- Key role in forming new memories
- Converts STM to LTM
- Affected first in Alzheimer's
- Plays a significant role in depression and schizophrenia......can shrink
- Attaches memories to emotions and senses that go with them and sends them off for storage into the cortex
Hypothalamus

- Hypothalamus = below the thalamus
- Above the pituitary gland
- Tiny <1% of brain and the size of a pea
- Controls HOMEOSTASIS!
- Regulation of the body systems so we can see its importance in our interception (what makes YOU, YOU)

Autonomic Nervous System

Sympathetic NS
- Fight or flight
- Release glucose from sugar to produce bursts of energy
- Adrenal glands above each kidney
- Release epinephrine AKA adrenaline
- Dilate pupils

Parasympathetic NS
- Rest and digest
- Constrict pupils
- Increase in salivation
- Increased glucose storage
- Decrease in adrenaline release

Both released consistently but one can take over at any time.

Pre-Frontal Cortex

- Right behind forehead
- Norms and expectations of social rules
- Stop primal reactions and ability to think through our emotions and how they might affect others and ourselves.
- Manage behavior

- Phineas Gage (railroad worker) had an iron rod penetrate his skull and destroy his pre-frontal cortex.
  - Was hard working and well-liked then rescued, was mean and socially inappropriate

(c) The Pocket Occupational Therapist, 2018
Upstairs vs Downstairs Brain

Tantrum:
- Conscious choice
- Strategic and manipulative
- Can reason, make choices
- Emotions under conscious control
- STOP when demands are met

Sensory:
- Flood of hormones
- Over-ride conscious choice
- Loss of body control
- Can NOT be reasoned with
- Not capable of choices

Auditory Learning

- The auditory learner MUST HEAR things for them to have the best chance of learning.
- Only 30% of the general school-age population is auditory.
- Generally, the auditory learner will remember 75% of what they hear in a lecture.
- Using the auditory modality is the most difficult way to learn new material.
- Remember what they hear and say.
- Enjoys classroom and small-group discussion.
- Can remember oral instructions well.
- Understands information best when they HEAR it.

Kinesthetic Learning:

“Tell me and I forget.

Teach me and I remember.

Involve me and I learn.”

-Benjamin Franklin
• Images, colors, pictures
• Good with maps and directions
• Learns well using diagrams, taking notes
• Would rather read than listen
• Can recall what they have seen

Creating a visual system for working through challenging situations can be considered a strength based approach since most individuals with autism tend to learn most effectively through concrete, predictable systems (Baron-Cohen).

**Picture Shows Attention Shifting Slowness**

Ami Klin, PhD Researcher at Marcus Autism Center (NIH)

Research by (Cozzarelli, et al. 2012), summarizes that according to EM a child may look at a situation in the terms of what is immediately essential for a social interaction. So, the social knowledge of his world is built on his own repeated responses and results of these actions driven by his perception.

Eye tracking searching for meaning

Cognition as our experiences with others are derailed early on, especially in children with autism.
Signs of Visual Processing Problems

- Eye exams may be normal and show 20/20 vision.
- Bothers by sun and fluorescent lights.
- Gets close to objects, tilts head, or other unusual motions with head.
- Moving walkways and escalators are upsetting.
- Difficulty catching a ball seems un-coordinated.
- Flicking fingers and items in front of eyes.

Learning by using many senses. It's more effective when we use more than one sense.

- Auditory
- Vision
- Taste
- Olfactory (smell)
- Touch
- Vestibular
- Proprioceptive
- Interoception

Common Types of Learning Disabilities

<table>
<thead>
<tr>
<th>Disability</th>
<th>Difficulty reading</th>
<th>Problems reading, writing, spelling, speaking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyslexia</td>
<td>Difficulty with math</td>
<td>Problems doing math problems, understanding time, using money</td>
</tr>
<tr>
<td>Dysgraphia</td>
<td>Difficulty with writing</td>
<td>Problems with handwriting, spelling, organizing ideas</td>
</tr>
<tr>
<td>Dyspraxia (Sensory Integration Disorder)</td>
<td>Difficulty with fine motor skills</td>
<td>Problems with hand-eye coordination, balance, visual motor</td>
</tr>
<tr>
<td>Aphasia/Aphasias</td>
<td>Difficulty with language</td>
<td>Problems understanding spoken language, poor reading comprehension</td>
</tr>
<tr>
<td>Auditory Processing Disorder</td>
<td>Difficulty hearing differences between sounds</td>
<td>Problems with reading comprehension, language</td>
</tr>
<tr>
<td>Visual Processing Disorder</td>
<td>Difficulty interpreting visual information</td>
<td>Problems with reading, math, maps, charts, symbols, pictures</td>
</tr>
</tbody>
</table>
Vestibular

- Five vestibular receptors in each ear
- Three semicircular canals
- Linear receptors (utricle and saccule)

**LASTS the longest at 6-8 hours**
- Generally calming in linear fashion
- Rotary or unpredictable is alerting and/or disorienting
- CHILD directed is a MUST
- NO more than 15 minutes

Proprioceptive Input

**Lasts 2-4 hours**
- Deep pressure releases Dopamine and Serotonin. Critical for registering other brain chemistry.
- Input registered by receptors embedded deep in the muscle.
- GENERALLY calming
- Push, pull, lift, carry
### Proprioceptive Input

- Compression garments
- Weighted pads, vests, etc.
- Heavy work to hands with fidgets
- Backpack and classroom helper
- Ace Wraps
- YOGA
- Spio garments

- Flexion pattern is comfortable in the womb and we work toward extension and same in clinic setting.

---

### Interoception

- Receptors internally that detect INTERNAL responses
- Organs, muscles, skin, bones, smooth muscle
- Toileting, sexual drive, hunger, thirst, fatigue, heart rate, deep breathing
- May significantly affect our external responses
- Chemically controlled
- Basic brainstem functions
- Higher level functions and emotions

---

### Interoception

- Intuition
- Perspective-Taking
- Self-Awareness
- Mindfulness
- We feel nervous prior to reading aloud in class and our body responds
- Teach children to 'control' their internal body such as breathing, relaxation, visualization
- Body scans
Allows us to ‘feel’ our skin & body

SUBJECTIVE

Physical Signs of STRESS in children:

- Stomach and headaches
- Sleeping issues
- Anger or aggression toward others
- Dilated pupils
- Sweating
- Flushing of cheeks
- Wide “deer in headlights” eyes

Example: Audience Demonstration for hand model of the brain
Structures in the brain that play a critical role in managing emotion:

- Hypothalamus
- Amygdala
- Thalamus
- Hippocampus

Behavioral Responses:

- **Fight**
  - Tense, Jaw Clenched
  - Anger, Rage

- **Conflict Avoidant**
  - Fear, Anxiety
  - Run away from stimulus/situation

- **Freeze**
  - Over-compliance
  - Shut Down
  - ‘Checking out’ of situation

Mind-Blindness (Simon Baron-Cohen):

- Person’s ability to predict relationships between an internal and an external state.
- Seems unaware that someone else may have a different viewpoint.
- Views the world as ‘black and white’
- Strong desire to control the environment
- Does not realize that the other person has his/her own thoughts and feelings about a situation.
  - Your story is boring
  - You smell bad
- Facial recognition, body language, social rules
- Ambiguity of the walk/don’t walk sign
Reptilian Brain/Basic Brain Functions:

- Brain will do what it takes to *SURVIVE*
- When a child has a stressed system, he is “dysregulated.”
- This dysregulated child cannot focus on higher level brain functions because he’s CONSTANTLY looking for potential threats in the environment.
- Moro reflex = startle

Lacking Skills:

- Skills that would help them better handle situations that cause them frustration, anxiety or anger.
  - Impulse control
  - Problem solving
  - Delaying gratification
  - Negotiating
  - Communicating wishes and needs to adults
  - Knowing what’s appropriate or expected in a given situation
  - Self-soothing

Prioritize Behavior

<table>
<thead>
<tr>
<th>High Priority</th>
<th>Eliminate Problem Causing Behavior AND Quickly Intervene to Ensure Safety and STOP Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Destructive</td>
</tr>
<tr>
<td></td>
<td>Disruptive</td>
</tr>
<tr>
<td></td>
<td>Socially inappropriate</td>
</tr>
<tr>
<td></td>
<td>Required to Self-Stimulate/Calm</td>
</tr>
<tr>
<td>Low Priority</td>
<td></td>
</tr>
</tbody>
</table>

(c) The Pocket Occupational Therapist, 2018
Special Needs Themselves Do Not Cause Challenging Behaviors

- Tourette Syndrome
- Food Intolerances/Allergies
- Sensory Processing Disorder
- GI Disorders
- Other genetic disorders
- Sleep disturbances
- Puberty/hormones
- Depression/Anxiety
- Apraxia, Dyspraxia in speech and motor
- Processing delays

Society’s Influence on Behavior:

- Society’s rules
- Quiet and cooperative child is “good.”
- Laughing when someone’s hurt is inappropriate.
- Talking in church is inappropriate.
- Boisterous and kinesthetic child is “bad” or difficult/problem.
- Behavior is contextual (directly depends on environment).

Child With Poor Regulation:

- Easily frustrated
- Worry and stresses easily
- Impulsive, irrational, aggressive
- Hyper aware of environment
- Poor fine motor skills
- Poor handwriting
- Insists on routine
- Difficulty with organization
- Pesky attitudy
- Difficulty sleeping
- Difficulty toileting
- Poor attention and focus
- Distracted by or bothered by smell, sound, sights, and sensory information
- Un(expected) touch causes anxiety
- Difficulty with organization
- Pesky attitudes
Benefits of Visual Charts

- Reduce Anxiety/See What’s Next
- Ease Transitions
- Set Boundaries & Limits
- Foster Independence
- Help Child to Communicate Needs
- Facilitate Independence
- Ease Transitions
- Reduce Anxiety/See What’s Next
- Foster Independence
- Help Child to Communicate Needs
- Set Boundaries & Limits

Calming Visual for Self-Regulation

- I Need to Get Calm
- 1. Get a comfy seat
- 2. Choose a calm down tool
- 3. Set the timer
- 4. Back to work!
Quick Tips For Classrooms and Parents

- Come down to their level
- Lower the tone of your voice
  Means you’re in control
- You have done ______ which has broken our rules. We know that when you break rules, you have two choices:
  - Two choices YOU as the adult choose
  - Cool down space (three min)
  - Ignore (unless they are harming)
  - Get help

Overall Tips for Behavior Management

- Set expectations and allow children to earn privileges that they choose.
- Transition warnings
- Avoid using “DON’T” but instead use can you stop?
- Use specific phrases when children follow your directions and expectations
- Do not negotiate with children.
  - Arguing back and forth should be avoided
- Use natural consequences (teachable moments)

Use the MAGIC 4

- Verbal
- Physical
- Cue
- Proximal Attention
What to consider when thinking about behavior:

**Behavior**
- Does child understand the situation?
- Positive and negative behaviors both serve a person.
- Are the cognitive demands outweighing the child's capacity to respond adaptively?

**Child**
- What are the family's beliefs/parenting styles?
- Genetics/Heredity
- Personality, views, culture,
- Developmental vs. Chronological age

**Black & White**
- Thinkers
- Stuck in
- A
- GRAY
- World

---

**Tantrums** | **Meltdowns**
---|---
Goal Oriented | No demands are being made
Watches for reactions – depending on reaction the intensity of tantrum may increase or decrease | No interest in reaction of those around him
Avoids getting hurt | May hurt himself
Ends quickly | Slow to end as it's driven by sympathetic nervous system and stress chemicals
Individual is in control | NOT in control
Warning signs: Requests something | Warning Signs: Physiological signs of redness of face, quick breathing, overwhelmed by sensory input, spacing out or distancing from the situation. Medical issues may be linked
Believes outcome can be achieved |
Considerations for Planning Interventions:

- What coping strategies have been successful? Examples: deep breathing, drawing or writing when frustrated.
- Use distraction and re-direction.
- Stress Pass
- ABC Chart
- Whole Class interventions/Brain breaks

Cultural and Social Considerations

- Caregivers may permit certain behaviors based on style and cultural beliefs.
- Always ask caregivers what consequences have been in the past.
- Consider diet and food choices.......
- The SUGAR story
Sensory Ideas To Help With ANXIETY & WORRY

8 Senses to Calm

- Return to Flexion, Linear Swinging, Vestibular
- Music
- Smells (vanilla, lavender)
- Use crunchy snacks, dehydrated fruit, jerky
- Lower lighting/floor lamps
- Decrease Environmental Stimulus
- Proprioceptive Input: PUSH, PULL, LIFT, CARRY
### ABC Plans

An ABC Chart is a direct observation tool that can be used to collect information about the events that are occurring within a student's environment. "A" refers to the antecedent, or the event or activity that immediately precedes a problem behavior. The "B" refers to observed behavior, and "C" refers to the consequence, or the event that immediately follows a response.

<table>
<thead>
<tr>
<th>Date:</th>
<th>Time:</th>
<th>Antecedent:</th>
<th>Behavior:</th>
<th>Consequence:</th>
<th>Function:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/8/13</td>
<td>9:42am</td>
<td>Therapist asks</td>
<td>Joshua</td>
<td>He throws</td>
<td>Therapist asks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>to write his name.</td>
<td></td>
<td>his pencil at</td>
<td>him to pick</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pencil up.</td>
<td></td>
</tr>
</tbody>
</table>

Direct observation is especially important since it is less subjective than interview strategies that rely on memory and a person's perceptions.

Intervention strategies to focus on the causes (antecedents) of behavior is where treatment focus should be.

### Giving Directions:

- Say less and make the direction short.
- Use key words and exaggerate them.
- Talk slowly and in a neutral tone.
- Use visual supports.
We are each composed of genetic material.
Each experience builds new pathways in the brain.
'Boys don't cry'
We buy toys for boys vs. girls
Feral children lack socialization and values called en-culturalization

What are considered behaviors?
- Running off
- Biting
- Hitting
- Kicking
- Destroying property
- Screaming
- Closing eyes
- Holding breath
- Spitting
- Rocking

Positive Behavior Support Goals
- Understanding that people (including caregivers) do not control others.
- Belief that there is a reason behind difficult behavior.
- Application, we will try what we know and change what we do.
- Conviction to move away from punishment and unpleasant events to manage behavior.
Proactive Intervention

A  B  C

Reactive Intervention

- Come BEFORE the behavior........this is where your planning pays off!
- Setting up the area/environment for success
- I Need a BREAK card
- Sensory breaks for heavy work and calming activities
- Visual cues, schedules
- Calm-down areas
- Time-out areas
- Reinforcement of desired behavior

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Reactive Interventions

- Come AFTER the behavior occurs
- Goal is SAFETY
- Keep voice calm
- Do NOT match the child's level of excitement
- Visual supports
- Remove from dangerous situation
- Give physical space

What is the reason?

What can we replace the behavior with?

How do we teach and reinforce a replacement/new behavior?

What was the level of the behavior?

Who can best teach behavior?

Social Stories (tm)

- Carol Gray developed the Social Story(tm) in 1991
- Gray's intended target for this intervention is high-functioning individuals with autism.
- Requires research about the "why"
- Uses 10 points to create a story
- Is written in first person language
- Is meaningful to the child

For BOTH Parents and Teachers

- Discuss natural consequences (consequential learning) such as:
  - refusing to eat = hunger
  - not bringing homework to school = poor grade
  - not bathing = stinky body
  - not grooming = dirty appearance.
- You MUST follow through with the consequences every time. So, do not make a consequence that you cannot follow.
- **EVERYONE needs to be consistent when intervening**. If not, interventions can be confusing to the child.

Tune In and Focus on Mindfulness

- Focus in on and feel breath.
- Mind jar: shaken up represents our chaotic thoughts
- Deep breath = settling of our thoughts
- Breath is the anchor (touch backs to connect)
- Focus on who each student is and slow breath and mind down
- When in pose, think about connection to body.
The Incredible 5-Point Scale

5 = I am going to “freak out” and am panicked.
4 = I feel my body getting upset and I am very worried.
3 = I feel nervous and anxious.
2 = I have some fear but I feel brave enough to face it.
1 = I have no fear or worry.

Questions?

www.PocketOT.com for newsletter
E-mail Cara: ThePocketOT@gmail.com

www.facebook.com/PocketOT
http://www.pinterest.com/pocketot/boards/
My favorite books

[caption image]

Additional Resources:


3) Appendix 2 Common "problem" behaviors and speculations about their causes by Ruth Myers, MD, James Salbenblatt, MD, Melodie Blackridge, MD. www.autismspeaks.org/sites/default/files/section_2.pdf


[caption image]

6) The Incredible 5 Point Scale and Anxiety Curve information, downloads, purchase information is available at: www.5pointscale.com

7) Downloadable for student questionnaires, bullying, and feelings units available at www.pocketoccupationaltherapist.com
References:

- Callenmark, Björn; Kjellin, Lars; Rönnqvist, Louise; and Bölte, Sven. (2013). Explicit Versus Implicit Social Cognition Testing in Autism Spectrum Disorder. Autism. [http://aut.sagepub.com/content/early/2013/11/08/1362361313492393](http://aut.sagepub.com/content/early/2013/11/08/1362361313492393) (c) The Pocket Occupational Therapist, 2018

References:


References:

References:


Web Resources & Clip Art Credit

- http://www.children-special-needs.org/vision_therapy/what_is_vision_therapy.html

- http://synergyclinic.net/retained_neonatal-reflexes

- Bruce D. Perry, M.D., Ph.D. www.ChildTrauma.org Body Temperature
More Books to Read About Severe Sensory Problems

- How Can I Talk if my Lips Don’t Move by Tito Rajarish Muhopadhyay
- Carly’s Voice by Arthur Fleischmann with Carly Fleischmann
- The Reason I Jump by Yoshidat and David Mitchell
- The Out Of Sync Child Series by Carol Stock Kranowitz