Is It Sensory Or Is It Behavior?

That's The Question!

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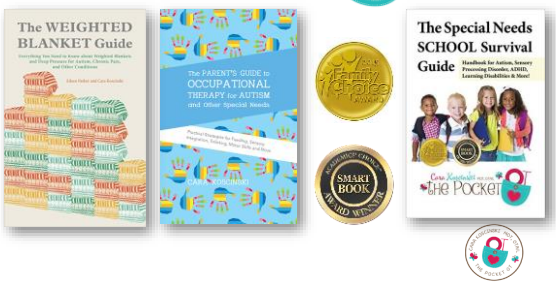
Course Objectives

- 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 OT2OT Program

Cara Koscinski MOT, OTR/L the Pocket OT



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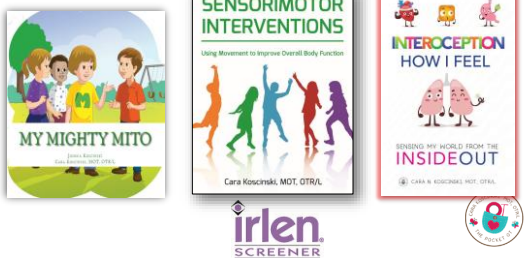


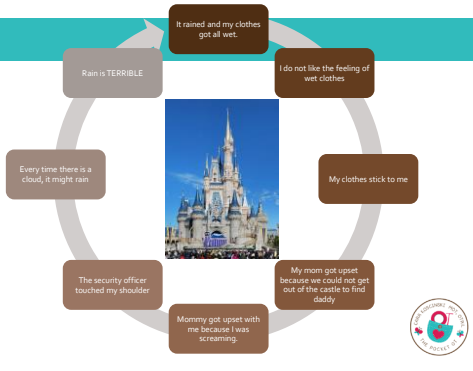
You might be wondering.....

- 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.....

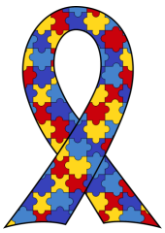
- How many times daily do you simply try to SURVIVE a difficult behavior from your child?
- Close your eyes and imagine your favorite childhood memory.
- How do you like someone to respond when you're upset?

Left brain vs. Right brain



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.'

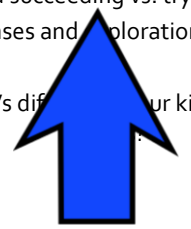
Children learn through playing:
-Cause and Effect
-Natural Consequences
-Fine and Gross Motor Skills
-Sensory Development

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

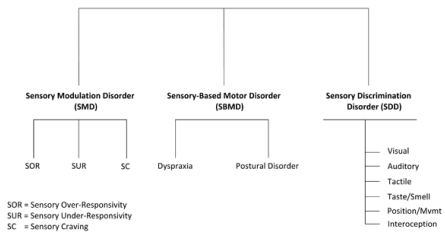
Guess what's different about our kids with special needs?



Is it SENSORY?

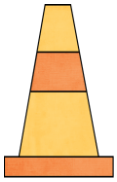
- External environment interacting with child's internal environment
- Sensory triggered by body's needs
- Becomes learned & established
- Behavior may be LEARNED and not due to specific sensory issue
- Many reasons such as behavior AND sensory AND psychological AND psysiological AND environmental AND.....

Sensory Processing Disorder (SPD)



Miller LJ et al.,2012

Dyspraxia

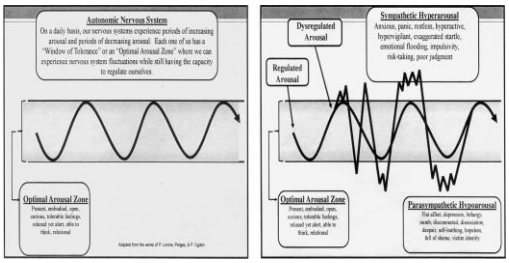


- Trouble processing sensory information properly
- Resulting in problems planning and carrying out new motor actions
- Difficulty in forming a goal or idea, planning a sequence of actions or performing new motor tasks
- Clumsy, awkward, and accident-prone
- They may break toys, have poor skill in ball 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

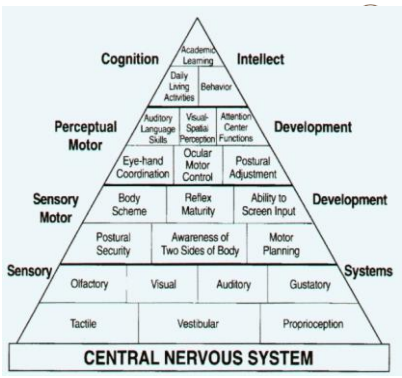
Postural Disorder

- 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
- Aversive response to movement

Psychology Today



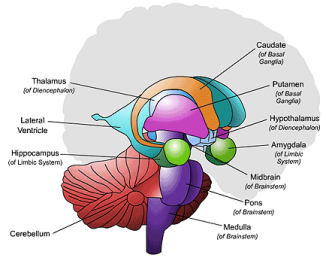
Higher Abstract
Concrete Thought
Affiliation
Attachment
Sexual Behavior
Emotional
Reactivity Motor
Regulation
Arousal
Appetite/Satiety
Sleep
Blood Pressure
Heart Rate



Sits on top of the brainstem

Limbic System

Figure AB-35: Build A Brain, Step 10



Limbic System

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

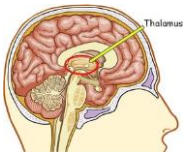
- Hypothalamus
- Amygdala
- Thalamus
- Hippocampus

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

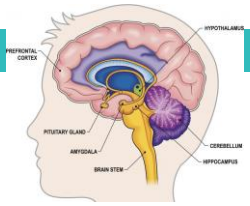
- Klüver-Bucy Syndrome
  - bilateral destruction of amygdala causes sexual behaviors, need to explore things orally, increased appetite

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

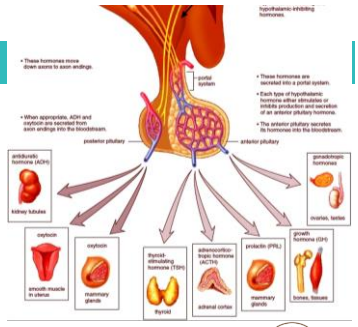
Hippocampus



- 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

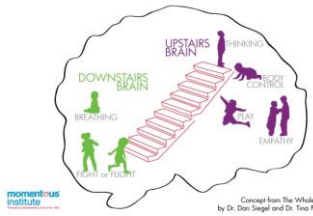
- Right behind forehead
- Norms and expectations of social rules
- Stop primal reactions and ability to think through our emotions and how they might affect others and ourselves.
- Manage behavior

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

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



momentous institute

Concept from The Whole-Brain Child by Dr. Dan Siegel and Dr. Tina Payne Bryson

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.
- Remembers 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:

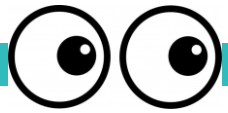
"Tell me and I forget.

Teach me and I remember.

Involve me and I learn."

-Benjamin Franklin

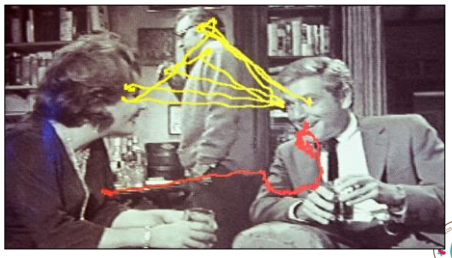
Visual Learning



- 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 learn most effectively through concrete, predictable systems (Baron-Cohen).

Viewer with Autism (Red Line)
Normal Comparison Viewer (Yellow Line)
**Picture Shows Attention Shifting Slowness



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

Behavior Studies/Theories

- 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
- Bothered 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

Common Types of Learning Disabilities

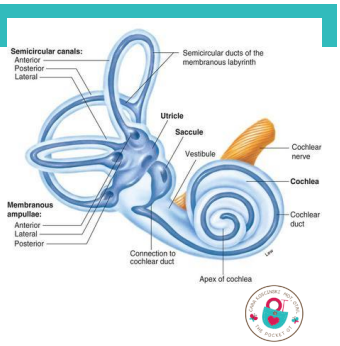
Dyslexia	Difficulty reading	Problems reading, writing, spelling, speaking
Dyscalculia	Difficulty with math	Problems doing math problems, understanding time, using money
Dysgraphia	Difficulty with writing	Problems with handwriting, spelling, organizing ideas
Dyspraxia (Sensory Integration Disorder)	Difficulty with fine motor skills	Problems with hand–eye coordination, balance, manual dexterity
Dysphasia/Aphasia	Difficulty with language	Problems understanding spoken language, poor reading comprehension
Auditory Processing Disorder	Difficulty hearing differences between sounds	Problems with reading, comprehension, language
Visual Processing Disorder	Difficulty interpreting visual information	Problems with reading, math, maps, charts, symbols, pictures

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

Vestibular

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



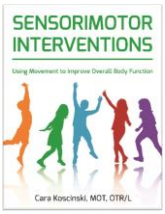
Vestibular

****LASTS the longest at 6-8 hours****

- *Generally* calming in linear fashion
- Rotary or un-predictable is alerting and/or disorienting

- CHILD directed is a MUST
- NO more than 15 minutes

Proprioceptive Input



Lasts 2-4 hours

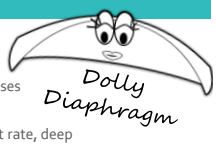
- Deep pressure releases Dopamine and Serotonin. Critical for registering other brain chemistry.
- Input registered by receptors embedded deep in the muscle.
- GENERALLY calming
- Push, pull, lift, carry

Proprioceptive Input

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

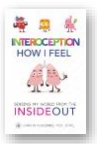
- Flexion pattern is comfortable in the womb and we work toward extension and same in clinic setting.

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

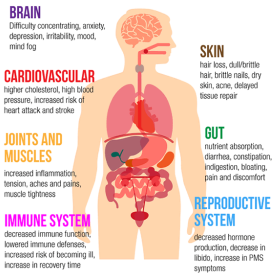


- Intuition
- Perspective-Taking
- Self-Awareness
- Mindfulness
- We feel nervous prior to reading aloud in class and our body responds
- Teach children to 'control' their internal body such as breathing, relaxation, visualization
- Body scans

Allows us to 'feel' our skin & body

SUBJECTIVE

HOW STRESS & ANXIETY AFFECTS YOUR BODY



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

Remember Our Limbic System?

- tha
  role
  emot
- Hypot
- Amygd
- Thalam
- Hippoca

Behavioral Responses

Fight
- Tense, Jaw Clenched
- Anger, Rage

Fight
- 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 un-aware 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

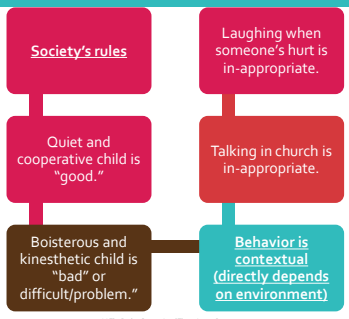
Prioritize Behavior

High Priority	Eliminate Problem Causing Behavior AND Quickly Intervene to Ensure Safety and STOP Behavior
	Destructive
	Disruptive
	Distracting
Low Priority	Socially Inappropriate
	Required to Self-Stimulate/Calm

Special Needs Themselves Do Not Cause Challenging Behaviors

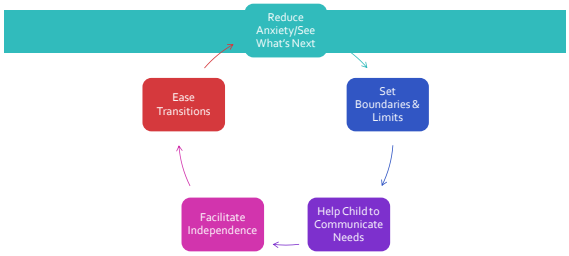
- ✓ Tourette Syndrome
- ✓ Food Intolerances/Allergies
- ✓ Sensory Processing Disorder
- ✓ GI Disorders
- ✓ Other genetic disorders
- ✓ Sleep disturbances
- ✓ Puberty/hormones
- ✓ Depression/Anxiety
- ✓ Apraxia, Dyspraxia in speech and motor
- ✓ Processing delays

Society's Influence on Behavior:

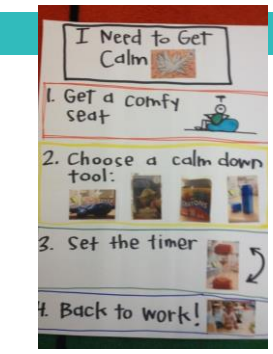


Child With Poor Regulation:

- 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
- Panic attacks
- Difficulty sleeping
- Difficulty toileting
- Poor attention and focus
- Distracted by or bothered by smell, sound, sights, and sensory information
- Un-expected touch causes anxiety



Benefits of Visual Charts



(c) The Pocket Occupational Therapist, 2018

Calming Visual for Self-Regulation

(c) The Pocket Occupational Therapist, 2017

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 chooses
- Cool down space (three min)
- Ignore (unless they are harming)
- Get help

Use the MAGIC 4

- Verbal
- Physical
- Cue
- Proximal Attention

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)

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?

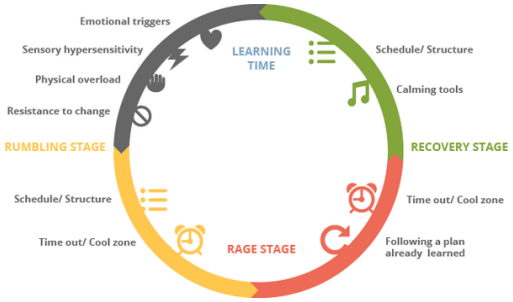
Child

- ☐ 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 Acting on primal level!
Ends quickly	Slow to end as it's driven by sympathetic nervous system and stress chemicals
Individual is in control	NOT in control In basic survival mode and acting instinctively
Warning signs: Requests something Desires a certain outcome Believes outcome can be achieved	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

Behavior Chart

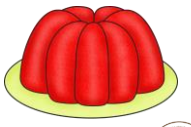


Considerations for Planning Interventions:

- 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

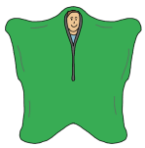
- Caregivers may permit certain behaviors based on style and cultural beliefs.
- Always ask caregivers what consequences have been in the past.
- Consider diet and food choices.....
- The SUGAR story



Sensory Ideas To Help With ANXIETY & WORRY

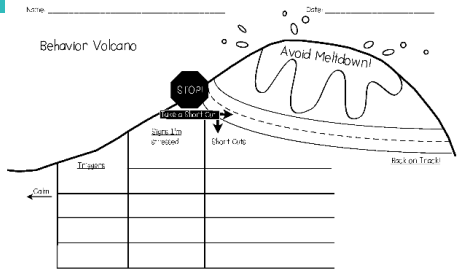
8 Senses to Calm

- 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



Name _____ Date _____

Behavior Volcano



Sample ABC Analysis Chart:

ABC Analysis

Date___/___/___ Name of Person Observed: _____ Observer: _____

Behavior(s): _____

Date	Time	Antecedent	Behavior	Consequence	Possible Function

*Document can be printed and used Freely from the following website: http://www.specialconnections.ku.edu/?q=behavior_plans/functional_behavior_assessment/teacher_tools/antecedent_behavior_consequence_chart

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.

Date:	Time:	Antecedent:	Behavior:	Consequence:	Function:
9/8/13	9:42am	Therapist asks *Joshua to write his name.*	*He throws his pencil at therapist.*	*Therapist asks him to pick pencil up.*	*Difficult task/ escape*

- 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
- Flapping

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

Proactive Interventions

- 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

Proactive Intervention

A → B → C

Reactive Intervention

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

Changing Behavior

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)

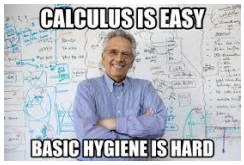
- Carol Gray developed the Social Story(tm) in 1991
- Gray's intended target for this intervention is high-functioning individuals with autism.

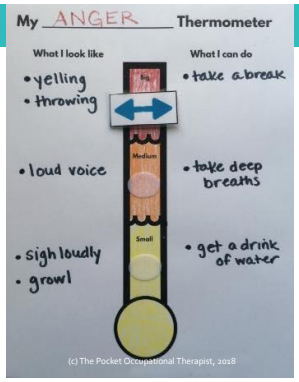
✓ Requires research about the "why"
✓ Uses 10 points to create a story
✓ Is written in first person language
✓ Is meaningful to the child.

- http://www.thegraycenter.org/social-stories/what-are-social-stories

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.

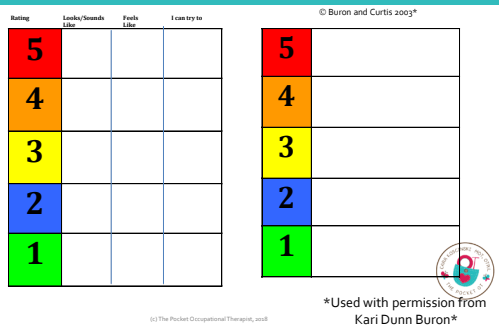
4 =I feel my body getting upset and I am very worried.

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.

The Incredible 5 Point Scale



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Questions?

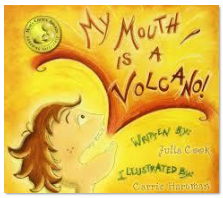
www.PocketOT.com for newsletter

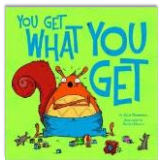
E-mail Cara: ThePocketOT@gmail.com

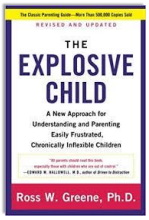
www.facebook.com/PocketOT

http://www.pinterest.com/pocketot/boards/

My favorite books







Additional Resources:

1) Parent's guide to Functional Behavior Assessments. http://pages.uoregon.edu/ttobin/Tobin-par-3.pdf
2) *Functional Behavioral Assessment and Positive Interventions: What Parents Need to Know* www.wrightslaw.com/info/discipl.fba.jordan.pdf
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_4.pdf
4) Howlin, Baron-Cohen and Hadwin (1999) Teaching Children with Autism to Mind-Read: A Practical Guide. The Guide provides information on how to teach theory of mind skills to individuals across the autism spectrum while taking into consideration the developmental stages of theory of mind acquisition.
5) Behavioral Consequence Chart www.specialconnections.ku.edu/?q=behavior_plans/functional_behavior_assessment/teacher_tools/antecedent_behavior_consequence_chart

Additional Resources:

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

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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