



KidsAbility™
Centre for Child Development

Understanding The Sensory World Around You

Presenter: Lori Hill, Occupational Therapist

Location: The Family Centre-Kitchener

Dates: February 24, 2015

Time: 1-2:30 pm

Overview of Entire Workshop: Sensory Processing

- What is an OT anyway
- Sensory Needs Survey
- The Seven Senses- What, How and Why?
- What kind of observable behaviours do we see as a result of sensory processing difficulties with FASD.
- Tips and tools – The Strategies

What do Occupational Therapists do?

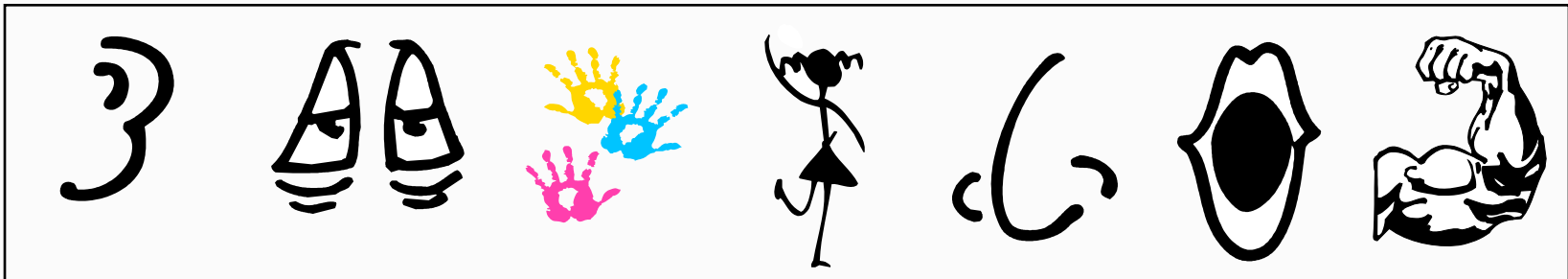
In a nut shell...

Occupational Therapists (OT's) help children do everyday things and follow everyday routines.

Common Areas of Focus: Sensory Processing, Fine Motor Skills, Play Skills, Self Care Skills, Daily Routines.

What are your Sensory Needs?

- Sensory needs survey



Picture yourself walking on ice...



What is Sensory Processing?

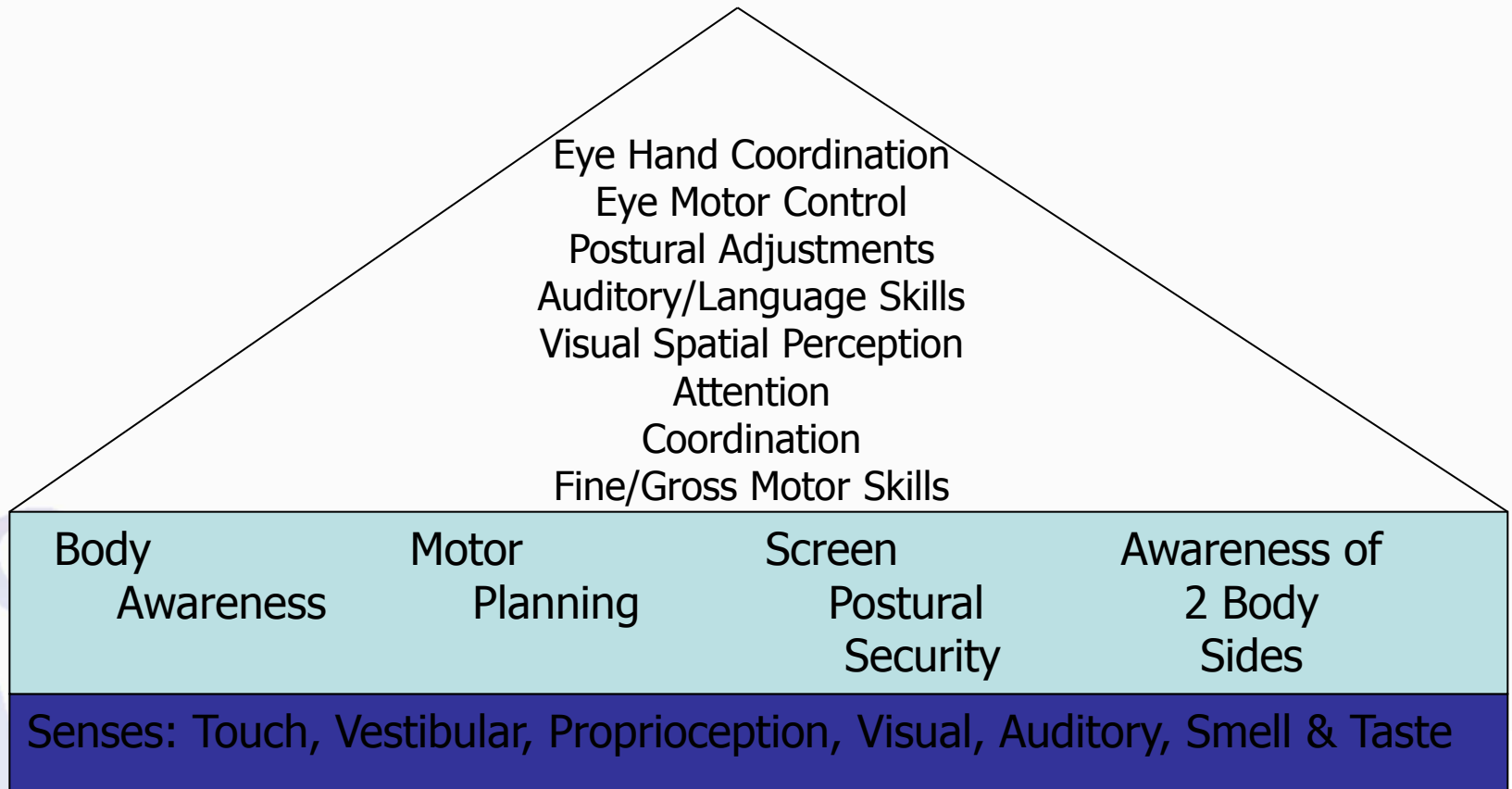
Our bodies and the environment send our brains information through our senses. This information is processed and organized so that we feel

- comfortable
- secure
- and we are able to respond appropriately to particular situations and environmental demands.

THIS IS SENSORY PROCESSING.

Yack, E., Sutton, S., Aquilla, P. (1998). *Building Bridges through Sensory Integration*. Toronto, ON: Print Three.

Sensory Processing is the Foundation for Learning!!!

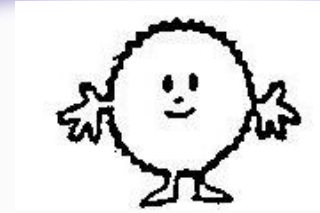


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The 7 Senses

- Touch (Tactile System)
- Sight (Vision)
- Hearing (Auditory)
- Smell (Olfactory)
- Taste (Gustatory)
- Vestibular (Balance/Movement)
- Proprioception (Awareness of Body Position)

Touch



Receptors in skin cells all over our bodies and in our mouths provide us with information about

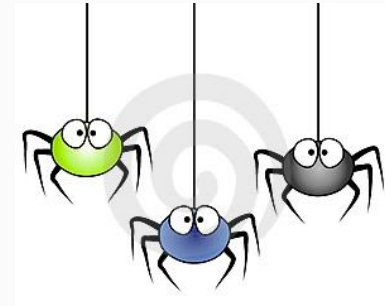
- light touch
- pressure
- vibration
- temperature
- pain

Contributes to the development of body awareness
and motor planning

How does touch affect me? Light touch vs.

Deep touch

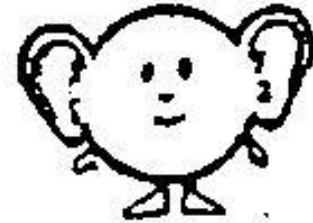
- **Light touch** - creates a fight or flight reaction
(think creepy crawlies)



- **Deep touch** – calms nervous system and stimulates nerve growth factor
(think massage)



Hearing



- Airwaves stimulate receptors in the ears.
- Tuning in and tuning out sounds is essential to the development of communication and listening.

How does 'What I hear' affect me?

- Loud, high pitched sounds tend to wake me (think fire truck siren- they want to get your attention!)
- Soft sounds tend to be relaxing/calming (think soft classical music)

The Vestibular System:

- This is an extremely important system!
- Strongest input we can give the brain with lasting effects.
- This system is linked to several of our other sensory systems and works together with them to help us make sense of our environment...

Vestibular



Receptors are located deep in our ears

Provides us with information about

- movement, gravity and changing head positions

Tells us if we are

- moving, what direction, speed, position we are in and if objects are moving around us.

Allows us to accurately use

- our vision, prepare our posture, maintain balance, plan our actions, move, calm ourselves and regulate our behaviours.

How does how I move in space affect me?

- Personal preferences in this sense can vary greatly. However, typically:
 - Linear and gentle, rhythmic movement (i.e. gently swinging back and forth or side to side) is relaxing and calming.
 - Fast, or spinning movement wakes us up (or can be an overwhelming sensation depending on the individual).



Vestibular System



The vestibular system in action...

An example....

- Tilt your head to the right
- Close your eyes
- Keep them closed and bring your head back to the center
- Vestibular system acts as our level!

Vestibular System and Vision

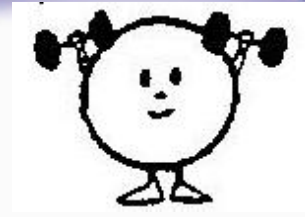


- Vision and vestibular: the vestibular system guides our head position so our eyes can track and follow objects. They need to work together
- A demo...

Speedy



Proprioception



Receptors are located in muscles, joints and tendons.

Tells us:

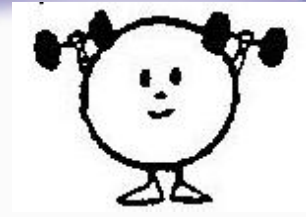
- where our body parts are
- positioned
- their relation to each other, people and objects
- how much strength and force to use

How does how I use and move my muscles affect me?

- Pushing and pulling or running and jumping can help wake me up or calm me down depending on the situation (i.e. going for a brisk jog when I need to get ready to concentrate vs. squeezing a stress ball when upset)



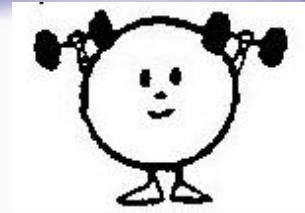
Proprioception in action...



Another demo:

- Hold one hand out in front of your face
- Close your eyes
- Now bring your hands together or touch your nose

Proprioception



- Difficulties with this system greatly impact our body awareness.

A child's View of Sensory Processing

- <http://www.youtube.com/watch?v=D1G5sZlVUw>

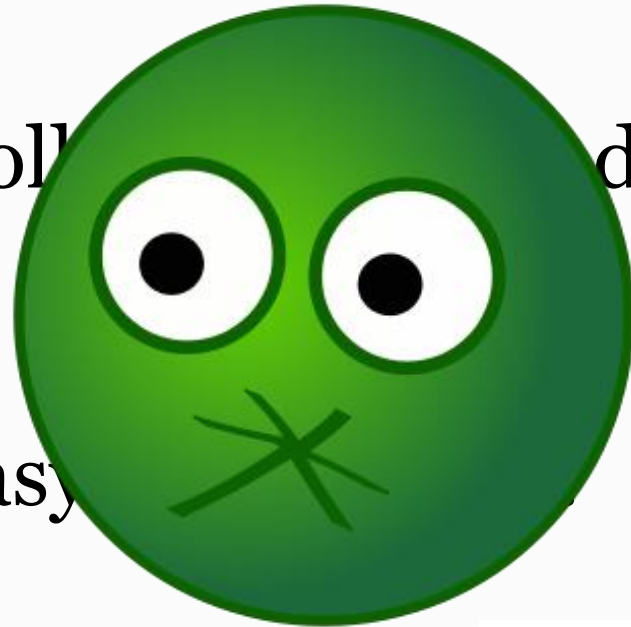
Every Nervous System is Unique!

- Everyone's brain notices sensory information differently.



• I LOVE roller coasters and get a

• I feel queasy



What is the result of a balanced sensory system?

- Self regulation is the ability to attain, maintain and change levels of arousal or alertness
- The level of alertness we need depends on specific situations and activities
- The ability to maintain an appropriate state of arousal develops from our ability to balance sensory input!

Now picture yourself on the way to work...



Self regulation

- A normal state of arousal is essential for the development of the following abilities:
 - Attention to tasks
 - Impulse control
 - Frustration tolerance
 - Balance of emotional reactions

How Do Children with Sensory integration difficulties typically Present?

Four main presentations:

1. Sensory Seeking
2. Sensory Avoiding
3. Sensory Sensitivity
4. Sensory Low Registration

Neurological Threshold Continuum	Behavioral Response Continuum	
	Acting in ACCORDANCE With Threshold	Acting to COUNTERACT Threshold
High (habituation)	Poor Registration	Sensation Seeking
LOW (sensitization)	Sensitivity to Stimuli	Sensation Avoiding

KEY POINT: Some children process input from each sensory system in different ways or quadrants.

Sensory Seeking...

- You can describe these children as having “high thresholds” they need more input than their same age peers in order to register a response, so their brain/nervous system is always looking for opportunities to fill up on this type of input.
- How would this interfere with self regulation?

Evil Knieval



These are our runners, climbers, spinners, rockers, mouthers, etc..

Sensory Avoiding (low threshold)

- Avoiding (defensive)
 - Tendency to actively work to keep sensations away from themselves, it is as if those sensations are uncomfortable or frightening (low threshold)
 - Children who are sensation avoiders might engage in very disruptive behaviours, by withdrawing or engaging in an emotional outburst that enables them to get out of the threatening situation
 - Often create rituals for their daily lives, to limit sensory input to that which is familiar



Is the child being defiant or blocking out unpleasant auditory input?

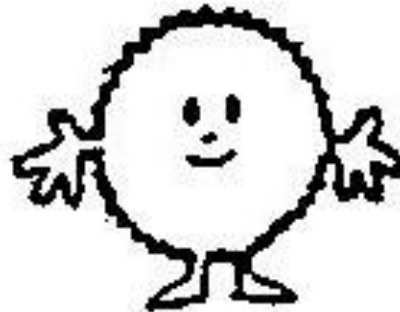
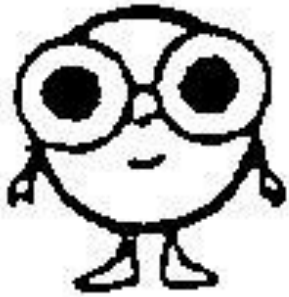
Keep in mind...

- The four categories outlined often will overlap depending on a particular child's environment, emotional state and task at hand
 - e.g.
 - a busy mall vs. a quiet room
 - upset child vs. calm child
 - familiar vs. new tasks

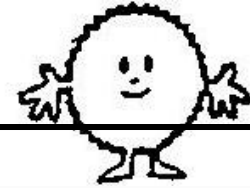
Resources to Highlight

- www.sensory-processing-disorder.com
- Sensational Kids – Lucy Jane Miller

Sensory Strategies



Sensory Strategies: Tactile



Observed Behaviour	Possible Strategy
Not feeling sensations	Add extra sensation, e.g. verbal/visual cue along with touch, massage
Avoids messy play	Massaging hands prior to the touch
Avoids certain clothing	<ul style="list-style-type: none">• Proprioceptive activities• Soft clothes, snug fitting clothes (spandex, lycra)
Likes to feel things	<ul style="list-style-type: none">• Provide with fidget/sensory toy• Make sensory bins available



Sensory Strategies – Vestibular



- Observed Behaviour
 - Fidgeting in Chair
 - Jumping, running, spinning
 - Avoids stairs or walking on different surfaces
- Possible Strategy
 - Move n' sit cushion, fidget toy
 - Provide opportunities for movement breaks, weighted vest, therapy ball activities, mini trampoline
 - Gradual introduction to non threatening vestibular activities (i.e. start with an area with 2-3 steps).

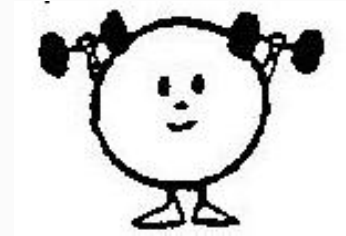
Sensory Strategies – Proprioceptive



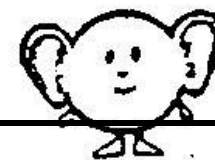
- Observed Behaviour
 - Flapping hands
 - Squeeze between furniture
 - Clumsy – weak fine motor/gross motor
- Possible Strategy
 - Wall push ups, jumps with hands held, wheelbarrow walks. Weighted wrist band
 - Weighted vest or snug fitting clothes, deep pressure activities such as wall push ups, toys to that are squeezable
 - Body awareness activities, activities that provide input to joints (i.e. catch a heavy ball/beanbag, weighted pencil)

Hands on: Proprioception

- Trampoline
- Weighted vest
- Compression vest
- Joint compressions
- Lap snake
- Weighted blanket
- Hot dog



Sensory Strategies : Auditory



Observed Behaviour	Possible Strategy
Banging on objects, making loud noises	<ul style="list-style-type: none">• Music corner, headphones with music, time limits with noisy toys
Covers ears	<ul style="list-style-type: none">• Reassure source of sound or prepare for loud noises, fidget toys, breaks from busy rooms, relaxation techniques, white noise• Social stories
Easily distracted	<ul style="list-style-type: none">• Proprioceptive activities• Quiet corner or area for work activities

So what do we do?

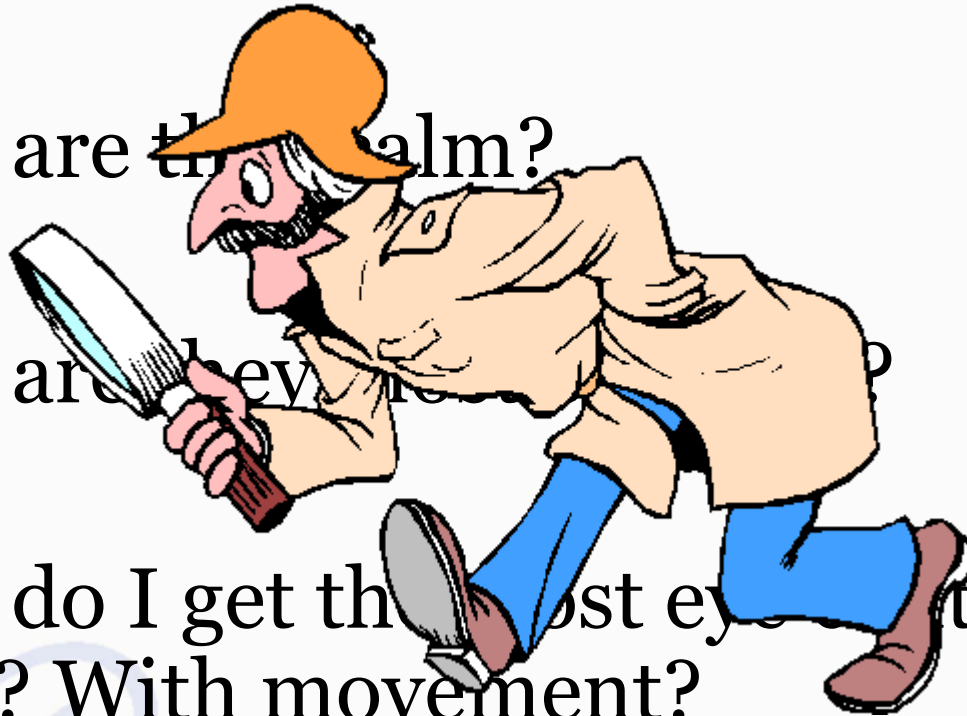
- Be a detective!!!

- When are they calm?

- When are they happy?

- When do I get the most eye contact? With music? With movement?

- Problem solve!



Important Notes...

- Beware of the kid in a candy store syndrome.
- Structured, step-wise approach is essential.
- Signs of Sensory Overload: Increased activity or sensitivity; nausea, distractibility, disorientation; rapid or shallow breathing, paleness or flushing; sweating; increase or decrease in muscle tone; drowsiness; glazed eyes.
- All nervous systems are unique.
- Sensory needs change and fluctuate over time.

What is a Sensory Diet?

- A term that means a program of sensory activities and strategies to ensure that a child receives a good balance of input for themselves
- Input can be calming or alerting depending on each child's needs at a particular time
- Overall goal being to help a child remain in a calm, organized state

References

- *Building Bridges through Sensory Integration* by Shirley Sutton and Paula Aquilla.
- *The Out of Sync Child* by Carol Stock Kranowitz
- *The Out of Sync Child Has Fun* by Carol Stock Kranowitz
- *Raising a Sensory Smart Child* by Lindsay Biel and Nancy Peske
- *Sensational Kids: Hope and Help for Children with Sensory Processing Disorder* by Lucy Jane Miller
- sensory-processing-disorder.com
- www.sensorysmarts.com

Thank You



