

Sensory Smart Strategies for Real-Life Challenges

National Autism Conference 2015

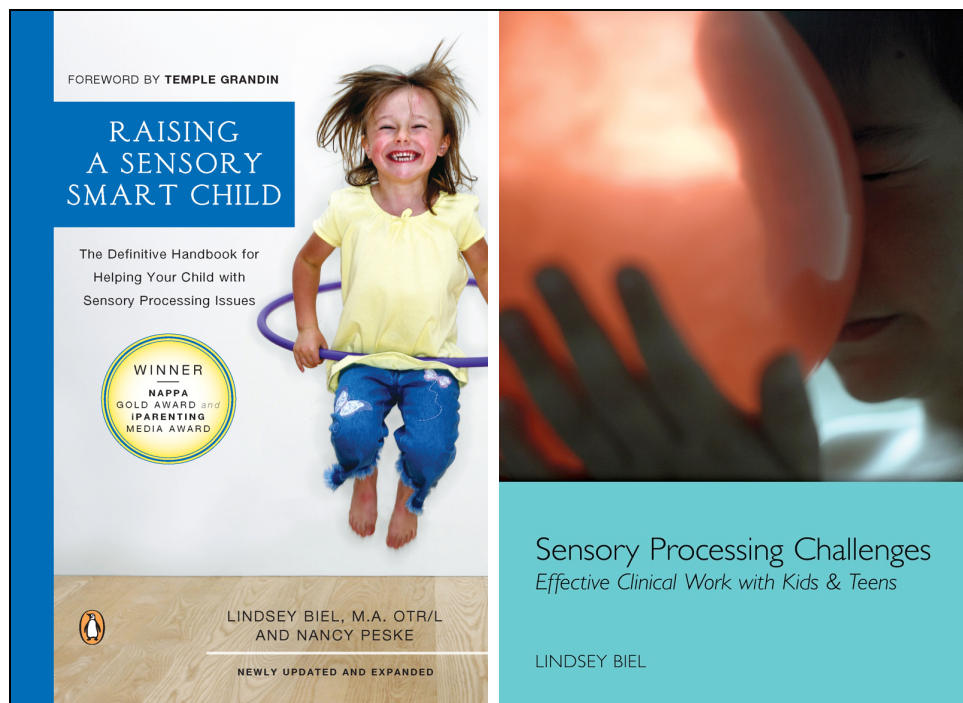
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Sensory Processing 101

- ⌘ We learn about the world through our senses
- ⌘ Neurological process of transforming sensory information into meaningful messages
- ⌘ Usually occurs automatically
- ⌘ Because of unusual nervous system wiring, people with SPD experience sensory input differently. (Atypical function of sympathetic and parasympathetic NS, white matter physiology...)



Tactile Processing

- ⌘ What do you feel? Where? Is it dangerous?
- ⌘ Diapers, clothing, shoes, socks, hats, bedding, towels, lotion, sunblock, paint, glue, clay, toys, crayons
- ⌘ Light touch, arching babies, proximity to others, clean-up, circle time
- ⌘ Vibration of air conditioners, trucks, feet overhead
- ⌘ Temperature: seasons, recess-class, travel
- ⌘ Food texture and temperature
- ⌘ Pain experiences
- ⌘ Teenagers: menstruation, shaving, intimacy



Auditory Processing

- Normal hearing threshold vs. hyperacusis
- Filter out irrelevant noise and figure out what to listen to and to process what is being said.
- vacuum cleaner, blender, TV, music, loud voices, music and gym classes, drop-off and pick-up, clean-up, cafeteria, assemblies, fire drills, gym, stores, movies, traffic, a/c....



Visual Processing

- See well up close and far away
- Smooth, precise eye movements sweep across lines of print. Letters should not wiggle. Glare and fluorescents.
- Ocular motor skills keeps eyes converged for single vision, ability to follow moving objects and people
- Foreground/background skills enable child to locate book on a shelf, friend in a crowd, pencil in a backpack
- Depth perception – stairs, ball play



Foss-Feig, Tadin, et al., 2013

- Autism & visual hypersensitivity. Tend to be visual learners: Better able to perceive patterns, able to see simple line images more quickly, focused on details.
- 2013 study: very sensitive to motion - child with ASD sees 2x as quickly as same-age kids
- Impacts complex tasks like multisensory processing and facial recognition.
- **Prone to visual overloading.**

Taste & Smell

- Smell travels directly to the limbic system (emotional brain)
- Danger detection system for toxic fumes, rotten food, etc.
- Lotions, deodorant, perfume, B.O., cleaning products and off-gassing
- Printed materials, art supplies, pencils, markers
- Bathrooms!
- Food, cafeteria, restaurants!



Proprioception

- Internal body awareness from proprioceptors in joints, muscles, ligaments, and other connective tissue
- Tells you where body parts are without looking, helps you grade movement and force for coordinated, fluid movement
- Grasp, coloring, writing, shoelaces, buttons, eating, gentle touching, fine motor manipulations
- Keeping body organized, center of gravity, navigate through space



Vestibular Challenges

- Vestibular apparatus in inner ear detects gravity through changes in head position and speed.
- **Internal GPS system:** works with proprioceptive and visual systems to maintain balance, muscle tone, spatial awareness, and keep world stable during movement.
- Rolling over, diaper table, rocking, swinging, gym and playground, run, jump, climb, spin, swing, walking, running, stairs, surface changes (sand, grass, snow)
- Cars, planes, amusement park as well as subtle challenges: bend over to pick up something, tie shoelaces, etc.



Interoception

- Sense of physiological condition of the body
- Hunger: Learns well when hungry? Low blood sugar?
- Thirst: Dehydrated? 60+% of body is water
- Heart Rate
- Bowel and bladder control
Is student too busy to pee? Too anxious to poop?



Sensitivity Profiles

- **Hypersensitivity/Overreactive: "Too loud"**
N.S. on high alert- withdraws, avoids input, sensory seeking when in control
- **Hyposensitivity/Underreactive: "Too quiet"**
Underaroused sluggish, tuned out, hard to engage
- **Mixed Reactivity= N. S. Instability**
Sensory load...academic and social...
transitions... seasonal/food allergies
sleep and eating.... hormones....

Paper plate concept



Real Life Presentations

- Struggles with one or more “channels”
- Struggles to combine multiple sources of input
Monochannel processing– one sense at a time, e.g., turns off one source of input to tune in another. Avoids eye contact in order to listen better (turns off eyes to tune into ears), can’t eat in noisy room.
- Overloaded by multisensory processing demands

Stims: “Nonpurposeful behaviors”

- **Overstimulation:** block out overwhelming sensory input if overaroused by people, environment, processing demands
- **Understimulation:** provide additional sensory input if feeling low arousal
- **Self-regulation:** intensifies when happy (hand flapping), bored (jumping, spinning), frustrated or angry (stim may intensify to SIB)
- **Pain management:** release endogenous opioids (beta-endorphins) which make person feel better

Stim Considerations

Learn what's driving the behavior:

- Triggers and patterns: timing, people, context, objects (behavior journal ideas in your handout)

Sensory underpinnings: What does the child get out of it from a sensory perspective?

- Can you meet sensory needs more acceptably?
Example: jump on mini-trampoline at specific times, not around room all morning. Intense exercise reduces stim!
- Can you redirect?
Example: hands in pockets, clap hands, chew on chewy.
- Use stim more effectively – as a reward?
- Do you need to join in and connect?

Managing sensory meltdowns

- **Reduce unwanted stimulation** for overstimulated child/teenager - dim lights, quiet area/headphones, picture book...
- Allow child to engage in **self-regulating input** e.g., sensory box with fidget tools, oral comfort item, breathing, organizing movement
- Watch out for using unwanted behavior as an **excuse to avoid activities.**
- Must **limit time**



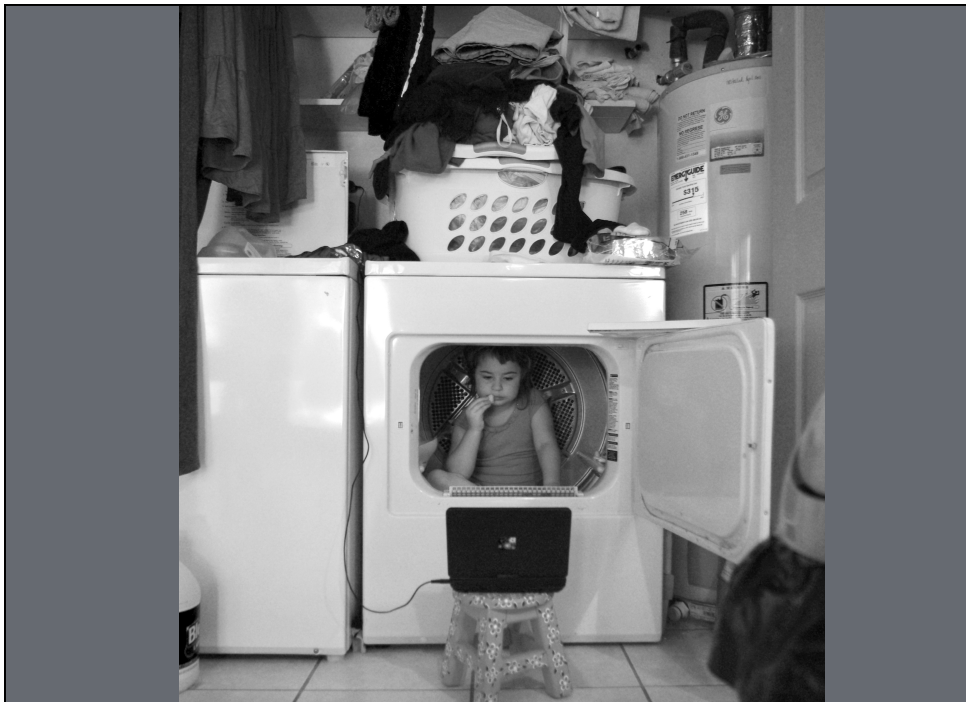
Sensory Kit/Break Box

- Create sensory tool kit with hand fidgets, weighted toys, putty, vibrating massagers, lap pad, headphones, picture books, music, etc.

Great resources:

- StimTastic.com
- fidgetclub.com
- funandfunction.com and most therapy catalogs
- Target, party supplies





Talk later!

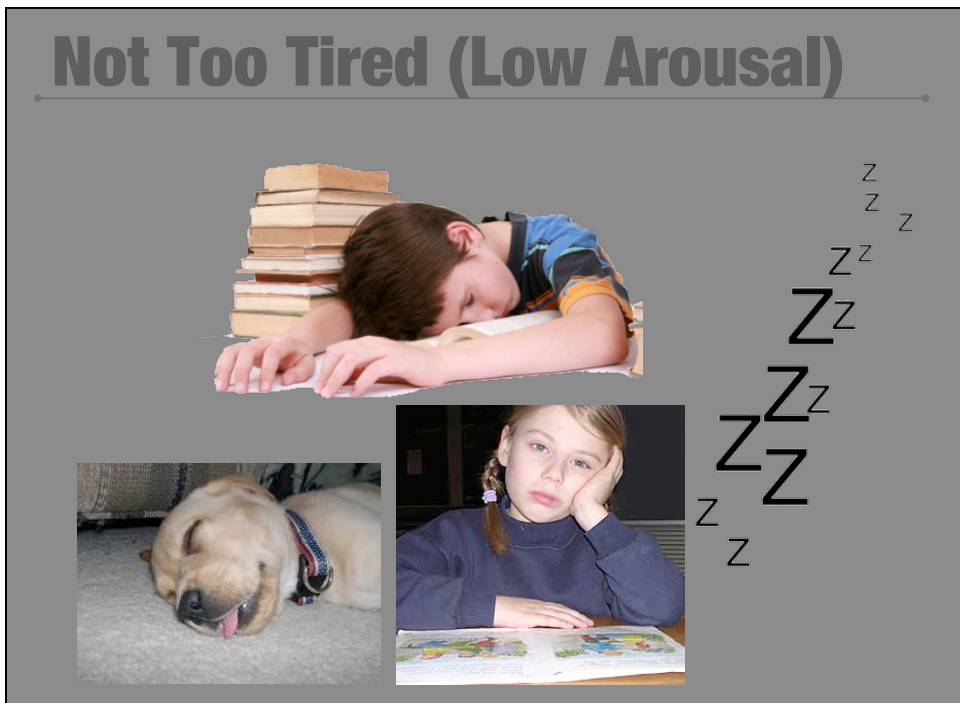
- Talk about what happened later:

“I saw you were having a really hard time. What do you think caused it? Do you think it was too crowded/smelly/noisy there? Do you have ideas about what we can do next time we’re in a situation like that? I have some ideas that you might like.”

“I know going to the mall is hard for you. You did a great job until we went into too many stores. I should have remembered that we needed to take a break/go to fewer stores. We’ll do better to prevent what happened next time.”

An ounce of prevention

- Predict which situations are likely to be hard.
Engage in preparatory activities such as reviewing sequence of events (verbal or visual), sensory diet
- Recognize early warning signs: does child get quiet? Speak rapidly? Breathe quickly? Get clingy? Stim?
- Bag of tricks: calming toys and activities (favorite hand fidget tools, crayons and paper, MP3player, snack, gum, water)
- Take breaks to prevent overloading
- Plan graceful exit strategies for parties, malls...



Optimal state of Arousal

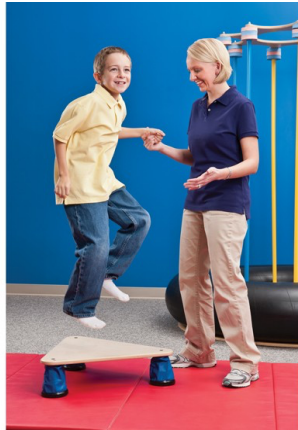


Vestibular & Proprioceptive

- Push, pull, climb MOVE - Stairs, ladders, playground equipment, wheelbarrow walk (in **plank** position), bounce, jump, crash, throw, pound, hang upside down
- Spin with caution. Consult with OT.
- Chair and wall push-ups
- Bounce and roll on physioball
- Alert Seat, inflatable seat cushions and other ball chairs



Jump and Climb!!!!



More Vestibular & Proprioceptive

- Carry books, circle dances, somersaults, distribute supplies, run errands,
- Clean using big movements, e.g. spray and wipe table, vacuum
- Mountain climbing
- Brain Gym
(resource: *Brain Gym Teacher's Edition*)
- Super Duper Move Your Body and other movement card decks



Swings - Southpaw, Fun & Function...



Home Solutions



Joki Swing - autismproducts.com



Teenagers

- More thrill seeking/risk as they explore limits, so increase input options
- Team/individual athletics
- Enclosed trampolines, tire swings, home gym equipment (treadmill, etc.)
- Horseback riding, gymnastics, Yoga, Pilates, martial arts
- Skateboards, roller skates, ice skates, skiing, swimming
- Hiking, surfing, snorkeling, Scuba



You want me to wear that?

- Wash multiple times to remove sizing and pesticides
- Remove tags, labels, itchy threads
- Avoid elastic waistbands and cuffs
- Seamless underwear, socks and tights (quick fix: turn inside out!).

Resources: Hanes, Uniqlo, Champion,
SmartKnitkids.com (kids and adults)

See *Sensory Smart Clothing Choices* at sensorysmarts.com plus links to sites.



Tactile Sensitivity

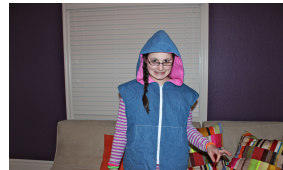
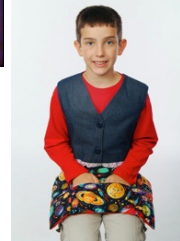
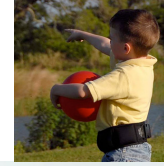
- Deep pressure and vibration bombard tactile receptors: “brushing” and joint compressions, VibraDerm brush, massage, burrito, sandwich
- Explore textures: sensory bin, smooth, rough, sticky, slippery
- Kinetic Sand, Unscented, gluten-free Wonder Dough, Sculpey, Gak.
- Hand fidget tools: Koosh, squeeze balls, weighted toys, Fun & Function Discovery Putty, Silly Putty, Crazy Aaron’s Thinking Putty, Stimtastic...



Weighted Products

- Calm, self-regulation, and focus
- Weighted vests, toys, collars, lap pads, blankets, belts, hat, anklets, hoodies, toys, bean bags
- Typical: 5-10% of body weight (50 lbs: 2-5 lbs weight) Experiment with heavier weight with supervision.
- Typical: 20 minutes on, 20 off
May work for several hours

Shown: Weighted Wearables, Miracle Belts, Sensory Critters hoodie



Compression Garments

- Deep pressure may calm and organize
- Dynamic fabric = less habituation... wear all day
 - Lycra bicycle clothing
 - Under Armour brand
 - snug leggings, tights, SPANX
 - SPIO compression
 - Southpaw weighted pressure vest (southpawenterprises.com)



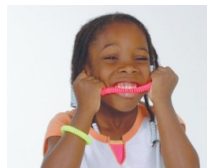
Oral Comforts & Self-regulation

- Gum! Glee is GF/CF, Spry is superchewy/no artificial sweeteners. Trident Recaldent (dairy) remineralizes enamel. Gum increases alertness, reduces chronic (not acute) stress, enhances cognition (Allen, Smith, 2011).
- Water sports bottle and thickened liquid via straw
- Chewy or crunchy foods – like carrots, chips, dehydrated veggies, fruit leather, Tootsie Rolls, Starburst



Oral Comforts

- Pencil Topper
- Chewlery
- ChewEase
- Kid Companions
- Dr. Bloom's Chewable Jewels
- Teething Bling
- Chew Stixx Tough Bar
- Chew Noodle
- StimTastic
- Chewigems



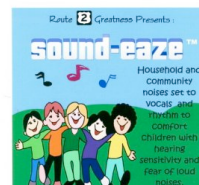
Don't forget to breathe

- Bubbles
- Whistles
- Blow toys
- Yoga breath - **LION BREATH!**



Dealing with Sound Sensitivity

- **Investigate** ear infections that can cause decreased or distorted hearing. Consider possibility of migraines. Hyperacusis.
- **Protect:** Ear muffs (Peltor), SensGard, ear plugs, white noise machine/CDs, quiet work space, double pane windows...
- **Build Skills:** Therapeutic listening, FM Unit
- **Desensitize** via daily life exposure, recordings, or Sound-Eaze (route2greatness.com)



Sensory Friendly Films: Autism-Society.org



Everything and everyone SMELLS

- Smell games: spices, flowers, objects...
- Discover preferred essential oil to preempt smells.
- Avoid synthetic scents such as room sprays, scented detergent, scented candles, perfumes, as well as ammonia based products.



Visual processing issues

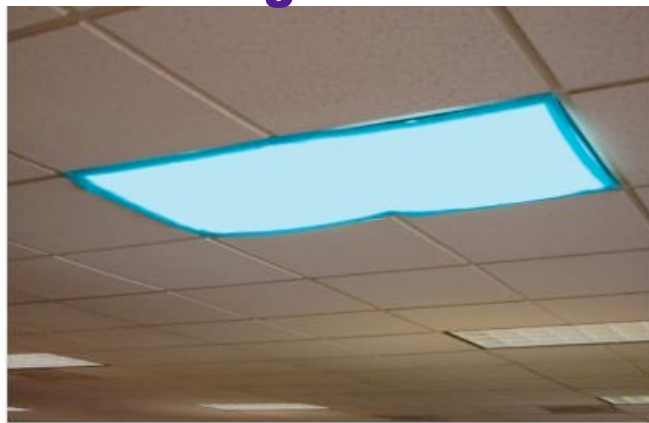
- School/Pediatrician screening vs. comprehensive eval
Developmental optometrist COVD.org.
- irlen.com for information on color and visual distortions
- Reduce visual clutter on paper, worksheets and walls
- Colored overlays (reallygoodstuff.com)



Light Sensitivity

- Optical-quality sunglasses, wide-brimmed hat/visor
- Sensitive people can see and hear fluorescent lighting. Associated with visual fatigue, headaches, migraines.
 - Install dimmer switches when possible
 - Turn off overheads. Use eye-level full spectrum, incandescent, LED or halogen lamps with dimmers. Bolt to floor/wall.
 - Replace overhead fluorescent tubes with LED tubes
 - If unable to replace fixture type, use a light diffuser

Classroom Light Filters



More Sensory Smart Strategies

- Practical strategies for home and school! In bookstores, libraries, Amazon, sensorysmarts.com...
- Visit sensorysmarts.com and sensoryprocessingchallenges.com for FREE screening tools, webinars, articles, tips, resources, and more
- Join over 86,000 others on Raising a Sensory Smart Child and Sensory Processing Challenge Facebook pages!!

