

Sensory Diets

People who have disordered sensory processing often need and typically benefit greatly from *enriched sensory diets* that provide them with frequent, strategically placed opportunities to get helpful sensations.

Opportunities should be structured, sequenced and timed in a way that takes the person's needs, preferences, and environment into account. Just like diets comprised of food, diets comprised of sensation need to be *individualized* so they also match and take into account a person's particular needs and challenges.

To make enriched *sensory diets*, and integrated feature of someone's day, care providers must figure out:

- (1) what sensations a person needs,
- (2) how those sensations can be obtained through natural or structured activities,
- (3) how such activities can be incorporated into the person's natural daily routine (Hansch, 1999).

When is it indicated (Hansch, 1998)

- self-stimulatory behavior;
- self-injurious behavior;
- stereotypic behavior;
- explosive behavior, predictable or not;
- impaired learning, an appearance of being out-of sync with their situation, or not having the ability to catch on to what they are experiencing;
- impaired, delayed, or intermittent receptive language; or
- no, little, or very slow improvement with other approaches.

The benefits of enriched sensory diets (Hansch, 1998)

- Creates *boundaries* for me which increases my ability to interact and learn about my world.
- Enhances *nerve growth factor*, which increases myelination and dendritic growth.
- By using pure sensation and repetition, *neural pathways* become more effective and well established.
- Enhances *dopamine's effectiveness*, therefore increasing alertness, sharper attachments (i.e., friendships).
- Enhances *serotonin*, thereby promoting the regulation of all brain chemistry and clarifies the internal TV set (perception of the world).
- Clears the *stress chemistry* in the system by increasing parasympathetic chemistry, allowing our sensory systems to relax, play, and learn.
- Strong doses of proprioception triggers a strong endorphin rush, thereby *clearing* the system of *pain chemistry*.

The desired outcome of the Sensory Diet is:

For individuals:

- Decreased need to stimulate or injure self.
- Improved ability to pay attention, participate, and learn.
- Increased independence in functional activities.
- Spontaneous expression of new skills and abilities.
- Improved social interaction.
- Decreased fear and anxiety.
- Improved communication.
- Improved ability to handle distractions and interruptions.
- Improved ability to adjust to change.
- More able to experience joy and have fun.
- Improved ability to take advantage of choices, services and community integration opportunities.

For teachers, caregivers and families:

- Individual's strengths and potential to improve more evident – efforts are rewarded.
- Able to concentrate on training or educational activities rather than needing to manage challenging behaviors.
- Able to utilize more natural learning opportunities where it is easier to reinforce functional skills.
- Able to decrease use of psychotropic medications and behavioral management techniques.
- Improve survey results, time can be spent helping individuals instead of working on correction plans - lots of positive recognition.
- Improved staff morale - lower turnover, higher commitment, fewer injuries.

What we want to achieve:

More adaptive behavior
More independent
More intact sensor-motor responses
More timely & precise responses

What sensations should be used in an enriched sensory diet?

- Visual: color green is calming; avoid bright colors (especially red),
Natural light and low light is calming (can use desk lamp); Fluorescent light can over-stimulate
- Auditory: music and sound (Mozart-effect and entrainment) see attached
- Olfactory: aroma therapy – lavender and vanilla is calming; avoid sharp, citrus smells.
- Vestibular: linear swinging is calming; spinning can over-stimulate.
- Tactile: deep pressure is calming; light touch can over-stimulate. Make sure student is not sitting under air conditioning vent.
- Proprioception: Heavy work activities, jumping on trampoline, pushing and pulling activities are calming and helps the neurological system to filter information better.
- Oral: in mouth stimulation (chew tube or chewing gum calms) and tastes (sour alerts; crunching and chewing helps to organize neurological system).

Adverse Reactions to Sensory Input (Hansch, 1998)

Watch for adverse reactions to sensory input and report these to responsible therapists (an OT or SLP who has been trained in sensory processing disorders).

- Change in facial coloring (pallor or flushing)
- Sweating or clamminess
- Nausea, vomiting
- Increased or decreased respiration
- Person becomes drowsy or sleepy
- Avoidance responses/withdrawing
- Over arousal
- Disorientation or confusion
- Persistent giggling
- Tremors
- Seizures

*** PLEASE NOTE THAT A SENSORY DIET MUST BE DEVELOPED AND MONITORED BY A TRAINED PROFESSIONAL.

Please contact me with any questions at 409-454-0455.

Sanette Chamberlain, OTR, SIPT Cert. M.SP.

SENSORY PROCESSING:

What is Sensory Processing?

Sensory Processing refers to the ability to register, integrate and make sense of sensations; and to make adaptive responses/appropriate reactions to the environment.

Seven senses that effect sensory processing:

1. Sight – eyes
2. Sound – ears
3. Touch – skin
4. Smell – nose
5. Taste – tongue
6. Proprioceptive system – located in muscles and tendons
7. Vestibular system – located in inner ear

Sensations from these seven systems are constantly coming into the brain and unimportant information is tuned out. However, when sensory processing is disordered, unimportant information is Not tuned out and ALL sensation/information is processed, leading to over stimulation – fight, fright or flight responses. Children attempt to order input with avoidance responses, self stimulation and even self injurious behavior.

Avoidance responses: avoiding certain foods (based on smell, texture), stripping off shoes or clothes, hiding behind/under furniture/person, tantruming to get out of activity

Self stimulation may include/is not limited to: flicking fingers or hands, spinning objects or self, pulling clothing tightly,

Self injurious behavior may include/is not limited to: hitting self on head, head banging, eye gauging, biting hands

Sensory defensiveness is the tendency to react negatively to unexpected (light touch/sound) sensation. Flight, fight and fright responses and unpredictable emotional outbursts and difficulty to calm down are common when the system gets over-stimulated.

- Application of deep pressure has been proven successful to reduce tactile defensive behaviors. Examples: massage, lotion rubs, Bearhug vest, hugs.
- Proprioceptive input is important since this system gives awareness of the body's position in space and also because this system helps to "anchor" or stabilize our emotions. "Heavy work" activities like jumping, pushing, and pulling increases proprioceptive input and registration.

Children who have sensitivity to stimuli tend to be distractible and may display hyperactivity and/or attention difficulty. They have a pattern of direction their attention to the latest stimulus that presents itself, which draws them away from whatever they are trying to accomplish. They might be cautious about proceeding in some situations because they missed information or might become upset either by their own difficulties with tracking tasks or with others who are interrupting them. For these children, we must understand how their nervous systems operate to establish a balance of power. Each sensory system has a component that enables arousal

(awakeness) and alerting and another component that supports discriminatory skills and mapping of self environment.

Children with sensory defensiveness do not need any more arousal and alerting – this mechanism is already informing them of new information too often. Therefore, discriminatory input that supports organized patterns to the brain without generating additional alerting must be provided.

Discriminatory input includes firm touch/deep pressure touch on the surface of the skin (NOT light touch), linear swinging (oppose to angular movement – spinning or bending over) and predictable patterns of visual cues (oppose to unexpected stimuli). The overall goal is to provide children (and teach them to obtain) sensory experiences as part of ongoing performance that support him to continue a task and to minimize the chances for fight, flight or fright responses (emotional outbursts, etc).

Sensory under registration:

When sensation is not registered by the system, children may appear “floppy” and have difficulty with balance and motor coordination/motor planning. They typically start walking later than their peers, fall easily and do not “catch” themselves when they lose their balance.

Clear, strong input should be given to “fire” sensations and strengthen neurological pathways.

Sensory diets can be set up (by a trained professional) for students with sensory processing disorders to meet their **specific** sensory needs and assist them with

1. registration, integration and/or modulation of input
2. to decrease self stimulatory, self injurious and avoidance behavior,
3. improve adaptive responses
4. increase classroom participation and improve learning.

Sanette Chamberlain, OTR, SIPT Cert., M.SP.

Sanette@skills4kidz.com

SENSORY STRATEGIES

The purpose of a sensory diet is to modify the student's environment to make it as comfortable as possible for the student who has difficulty sorting out stimuli. Senses here include touch, vision, hearing, smell, taste, and movement. The word "diet" implies the restriction, limitation, or elimination of specific sensory input and possible replacement with more comfortable or appropriate sensory input. Each student is different. Responses to sensory input can vary from child to child and from day to day for each individual student. When inappropriate behaviors occur, it is often a response to discomfort, fear, or anxiety created by sensory overload or sensory input which the student is not able to handle.

Note: It is important not to make sensory diet items contingent upon behaviors. These changes are to meet a need for this child to fully participate during a school day and should not be used as a reward or taken away. Here are some suggestions:

1. Reduce stimulation (calming)

- ☐ Reduce visual stimulation in the student's working environment (walls, desk). Avoid locations by windows, doors, or walkways.
- ☐ Use natural light. Try activities in less light (snack, reading a story).
- ☐ Provide a study corner with limited visual distractions.
- ☐ Reduce auditory stimulation in the student's environment.
- ☐ Earphones or ear plugs can be used to limit noise distractions.
- ☐ Noise Buster – A machine that blocks out background noises through a device and headphones.
- ☐ Play slow, rhythmic, classical music in the background for quiet activities.
- ☐ Place a tactilely sensitive child at the edges of the group or row.
- ☐ Be aware of scents (perfume, cleaners, food).

2. Routine (calming)

- ☐ A consistent routine is comforting and may reduce anxiety.
- ☐ Consistent expectations and consequences for unacceptable behavior will reduce fear/anxiety.
- ☐ Students need to be able to anticipate the day's activities, especially if there are changes to the routine.
- ☐ A visual schedule is helpful. Pictures and symbols can provide information (place on desk, blackboard, wall or in a small book) to help with transitions.
- ☐ Consistently give a prior verbal warning before changing activities.
- ☐ For changes in the routine let students know in advance. Remind close to the time of the event.

3. Modify stimulation (add opportunities for sensory input)

- ☐ Provide a cozy corner with pillows and low light where the student can read or retreat when over stimulated.
- ☐ Determine if the student is a visual learner, and auditory learner, a kinesthetic learner, etc. Try to limit input to the other sensory channels. Overload can deter learning.
- ☐ Allow a variety of working positions such as standing at a bookcase, kneeling at a table or lying on the floor.
- ☐ Finding objects (puzzle pieces, counting bears) in a rice or bean tray or Playdoh.
- ☐ Putting on lotion.

4. Movement opportunities: Slow, regular movement in a straight line (as in rocking, bouncing) is calming. Quick, irregular (stop and start) and rotational (spinning) movements are alerting.

- ☐ Schedule activities so that periods of sitting are alternated with periods of movement such as a drink, going to the bathroom, handing out papers, taking a note to the office, etc.
- ☐ Try to insure that movement activities are used to the maximum – recess should be spent running hard, swinging, hanging from bars, etc.
- ☐ For some students, fidgeting promotes attending to activities/instruction including doodling, rocking in chair, or holding a toy.
- ☐ Rolling on a mat, in a barrel or up a wedge.
- ☐ Provide opportunities for movement at transition times (hop or crawl).
- ☐ Do some wake-up activities before seatwork. Finger plays, calisthenics, running in place, jumping, stretching, push-ups, on chair or desk, moving furniture (putting down chairs), etc.
- ☐ Give the student an opportunity to write on the board before beginning written work.
- ☐ Vestibular movement is often calming for the student such as: rocking, swinging or neck rolls.
- ☐ Rocking chair that can be used for reading time.
- ☐ A fidget box including small items (squishy ball, putty, pipe cleaner, etc.) to be used when attention to a speaker is needed.
- ☐ Use different seating options to provide some movement while attending to seated work: gym ball, T-stool, air cushion on chair. Vibrating pillow, tennis balls on two legs of a chair for rocking.
- ☐ Placement of supplies in a box on the floor or across the room will build in extra movement.

5. Deep pressure touch/heavy work (calming)

- ☐ Deep pressure often helps a student focus (using a weighted snake, vest or lap pad).
- ☐ Don't touch the student from behind.
- ☐ Being the filling of a mat or pillow "sandwich".
- ☐ Lifting weights.
- ☐ Use firm touch (strong, short pushes on the shoulders) rather light touch.
- ☐ Carrying books or lunch baskets or wearing a heavy backpack during transition times.
- ☐ Push-ups on floor, desk, or chair.
- ☐ Jumping (rope or on a mini tramp)
- ☐ Writing in clay trays
- ☐ Push-pull activities such as "rowing" with a partner.
- ☐ Wearing heavy shoes/boots.

6. Oral-motor Activities (sour, crunchy – alerting: sweet, soft – calming)

- ☐ Many times keeping the mouth busy will enhance attention and the learning process.
- ☐ Teach and encourage deep breathing for calming and attention.
- ☐ Sucking through a water bottle with a straw (thick one)
- ☐ Gum chewing at appropriate times.
- ☐ Chew on Thera-tubing.
- ☐ Whistles and blow toys (there are some that do not produce sound)
- ☐ Sucking on hard candy—remember some flavors are more appealing and alerting than others (depends on the student)
- ☐ Eating a crunchy snack such as crackers, carrot sticks, etc.