

## Pikes Peak Respite Services



### What is Sensory Processing & Sensory Integration?

1. **Sensory Processing** is the process of taking in different kinds of sensations in order to respond appropriately to the environment.
2. **Sensory Integration** is a component of sensory processing. It refers to the ability to organize sensory information for use. It is how the brain uses information to form perceptions, behaviors and to learn.
3. **Vestibular:** (movement) This system detects movement, gravity, directs the body to right itself with the head and contributes to: muscle tone, coordination of the two sides of the body, balance, posture, eye movements, hand and eye coordination, and level of alertness. It allows us to develop a relationship with the earth, knowing what is right side up, upside down, and left, right, horizontal and vertical. Movement is a very strong stimulus and can prepare the central nervous system for other sensory input.
  - a. Children need information from this system to maintain balance while playing, climbing, and crawling, using two hands together to bang blocks and clap, attention for fine motor/table top activities, completing puzzles and drawing shapes.
4. **Proprioceptive:** (body position) This system detects stretch of the muscle or movement at the joint and contributes to: strength, coordination, body

awareness, activity level, emotional stability, and purposeful activity. It is important for judging the force of movements as well as executing smooth and controlled movements.

. Children need information from this system for motor planning how to use a new toy or climb over different obstacles, dressing, ball games, using utensils and coloring with crayons.

5. **Tactile:** (touch) Touch stimulation can be light or deep. Light touch is needed to detect subtle differences in objects and contributes to fine motor and comprehension skills. Deep touch is needed to detect body position, body awareness and contributes to feelings of calm, safety and sense of personal boundaries. This system is important for our protection. It tells us when we are in contact with something dangerous, which can cause a flight, fright or fight response by our nervous system.

. Children need information from this system for motor planning how to use a new toy, holding a crayon, finding hidden toys in sensory bin, being aware of the proximity of ourselves to others for social interaction, accepting new food textures, and tolerating and participating in hygiene.

### **Vestibular System & Sensory Play Activities**

**Vestibular System:** The vestibular system is located in your middle ear. It is a system of canals, which are lined with tiny hairs, and filled with liquid. Every time a person moves his/her head, the hair and liquid in the canals move, and stimulation occurs.

**Vestibular stimulation** is very important. It tells us where our head is in relation to our body as well as gravity. It is also a building block for many important functions such as, muscle tone and strength, balance, coordination, visual motor skills, and body awareness to name just a few.

**Vestibular Activities** that we can do with PPRS clients:

1. **Oscillation (bouncing, jumping, moving the body up and down) & Balancing**

## TRAINING MATERIAL

- a. Hopping: in place, forward, backwards, side to side
- b. Jumping: on a trampoline, off a curb, over a rope, jumping jacks
- c. Bouncing: on a bed, seated on a hoppity-hop or therapy ball
- d. Walking: on uneven surfaces, on a balance beam,
- e. Running: in place, across a field
- f. Dancing

### 2. Linear Activities: (moving in a line, back and forth)

- . Rocking: on a rocking chair, rocking horse or “the rocking puppy” (rocking on hands and knees) or tummy down over a therapy ball
- a. Walking: on a flat surface or up and down stairs
- b. Swinging in a linear fashion: on swings, tires, net, or hammock
- c. Riding in a wagon or wheelbarrow
- d. Sliding down a slide: sitting up, lying down, frontward & backward

### 3. Rotary Activities (moving in a circular or semi-circular motion)

- . Rolling: down a grassy field, across a gym mat
- a. Sit-n-spin
- b. Using a swivel chair
- c. Pushing or riding a merry go round
- d. Twirling arms or twirling around

## Proprioceptive System & Sensory Play Activities

**Proprioceptive System:** Proprioceptive stimulation occurs at the joints and informs the brain about body position and movement. The receptors are located in the muscles, joints, ligaments, tendons, and connective tissue. The stimuli for these receptors are movement and gravity.

**Proprioceptive stimulation** is very important. It tells our brain when and where our joints and body parts are moving. It is a building block for strength, coordination, and body awareness, to name just a few.

**Proprioceptive Activities** that we can do with PPRS clients:

**Qualities that make input calming:**

Steady compression

Slow stretches

Heavy or sustained resistance

Slowly alternating push or pull

**Qualities that make input alerting:**

Fast paced

Quick changes

Unexpected changes

Jarring or jerking

Abrupt stops or starts

**Activities & Strategies for clients:**

Slow, gentle stretching

Carrying heavy objects, stacking books or chairs

Erasing the boards, wiping down desks

Push-ups: floor, desk, chair, wall

Walking in place, on tiptoes or on a line; marching

Hopping, jumping, jumping jacks (on the ground or trampoline)

Skipping

Gallop running in place

Playing catch with a weighted ball

Pushing or pulling, such as tug-of-war

Hanging on the monkey bars

Pushing a friend on the swing

### **Tactile System & Sensory Play Activities**

**Tactile System:** The tactile/touch system covers your body! Your body has thousands and thousands of touch receptors located in and under the skin, with the hands, fingers, soles of the feet, and the mouth and tongue being the most sensitive. Whenever your body is touched by a person or by an object your touch receptors are stimulated and then inform the brain about touch, pressure, vibration, pain and temperature.

**Tactile Stimulation:** The tactile/touch system is very important. Through touch, babies and children experience comfort, excitement, love, acceptance, fear and pain. To the baby/child, the whole world is about touching & feeling and experiencing their environment.

**Tactile Activities** for PPRS clients:

#### **Tactile input that is calming:**

Deep pressure touch

Tight wrap (not too tight)

Firm stroking over large areas

Soothing or comforting

#### **Tactile input that is altering:**

Light touch

Jabs or pokes

Touch to face

Approaching from behind

Moving the hair

Rough texture

**Deep pressure input:**

Massage or rub back and/or limbs; may also use lotion

Give firm bear hugs

Joint compressions

Roll up in a burrito with a blanket, weighted blanket

Sit in a bean bag chair

Bean bag chair or pillow sandwich

Play in a ball tank

Soaking in a warm bath

**Variable tactile input:**

Play with Play dough, silly putty and clay

Encourage child to rub a variety of textures against his/her skin such as oatmeal soap, liquid soap, lotion, shaving cream, hair gel with different textured scrubbers

Painting: finger paints, water, pudding, shaving cream or peanut butter on a plastic tray; try adding salt or sand to the paint for a different texture

Play in tactile bins of lentils, dry rice, beans, macaroni, cereal, cotton balls, feathers, fake fur, cotton balls and sand paper

Water play in sink or water table with sudsy water and unbreakable items such as a pitcher, bottles, medicine droppers, sponges, etc.

Sand play: sandbox or sand table; add small toys to bury, arrange and find

Mud play: walk in mud, make mud pies

Pets: stroke, brush or hold household pet

Dress up: include gloves, furry or feathery, silk scarves and clothing of different textures

### Some Quotes to Ponder

**“The Impact of Sensory Integration Dysfunction is especially striking in first-hand reports by adults with autism: (from Vicky Golden, MOT, OTR)**

“As a person with autism, the way I perceive and sense the world and interpret it is different from most people.” (Kathy Grant, 2000, p.20)

Ears “as helpless microphones, transmitting everything, irrespective of relevance, at full, overwhelming volume” (Temple Grandin in Sacks, 1993, p.109)

“I had never felt my body comfortably in someone’s embrace. My skin response had been as much a barrier as a wire cage. I had learned to endure, but not enjoy.” (Blackman, 1999, pp. 5-6)

“to look at any face fixedly from a social distance was intolerable, not for any reason connected with love or withdrawal, but because I had too much impact from the complexity of depth, movement, colour and smell from any human being.” (Blackman, 1999, p.28)

“I could feel but had no need of touch and appeared unable to feel pain. I could feel physical sensations but they were slow to register and were floaty and without distinct locations or meaning or even a developed sense of whether they were internal or external to me. There was no response because the information, though perceived, remained unprocessed and uninterpreted.” (Donna Williams, 1998, p.53)

“sounds...didn’t frighten me in themselves, but they triggered some loss of orientation that was unpleasant and frightening...I have caught myself turning off the car radio while trying to read a road sign, or turning off the kitchen appliances so that I could taste something.” (Jim, in Cesaroni & Garber, 1991,p.306)”