

# Movement Gets Us In Sync

Carol and a perceptual-motor therapist, Joye Newman, co-authored *Growing an In-Sync Child: Simple, Fun Activities to Help Every Child Develop, Learn, and Grow* (Perigee, 2010) and its sequel, *In-Sync Activity Cards: 50 Simple, New Activities to Help Children Develop, Learn, and Grow* (Sensory World, 2012). These two publications describe scores of fun and functional ways to get children moving and learning.

Below, Carol tells us why movement and physical interaction with people and objects are so important for a child's overall development.

## The Importance of Movement

Early motor development is vital in the physical, emotional, academic, and overall success of every child. When children play outside, climbing trees, jumping in puddles, and rolling down hills, they develop these essential sensory, perceptual, and visual skills:

**Tactile processing** is receiving sensations through skin and hair and responding to those sensations. A child whose brain accurately interprets tactile input is comfortable being touched by other people or objects.

**Vestibular processing** is taking in sensations about the pull of gravity through the inner ear and responding to these sensations. The child learns where her head is relative to the surface of the earth – whether she is upright, lying down, or falling.

**Proprioception** is the unconscious awareness of sensations coming from muscles and joints. The child learns whether he is stomping or tiptoeing, how hard to press a pencil, and how to stretch his arm to open a door.

**Balance**, both **static** (being in place) and **dynamic** (moving), helps a child remain seated or hop across the room.

**Bilateral coordination** is the ability to move both sides of the body simultaneously, to jump on both feet or steady a paper while writing.

**Directionality** is awareness of up, down, forward, backward, sideways and diagonally, and the ability to move in these directions on command.

**Laterality** is awareness of two sides of the body and the ability to move either side independently of the other.

**Midline crossing** is the ability to use a hand, foot, or eye across the center of the body. Midline crossing is especially important for integrating two sides of the body as well as two sides of the world.

**Motor planning** is the ability to organize and sequence the steps of an unfamiliar and complex body movement in a coordinated manner.

**Spatial awareness** is the understanding of space and where one is relative to the surrounding world. Children become aware of spatial relationships by moving through space. A child who crawls across the room learns more about spatial dimensions than one who is carried.

**Vision, binocularity** and **visual tracking** are also important developmental skills. In your child's life, a task such as writing, climbing stairs or catching a ball requires complicated integration of many skills and abilities.

Your child can acquire these fundamental skills only by moving. The child who moves not only exercises her sensory, perceptual and visual skills, but also interacts with other people and the environment around her. No time spent passively in front of a screen can teach your child what actively moving can!

# ***SELECTED CHARACTERISTICS OF SPD***

## **TACTILE DYSFUNCTION**

**The child with MODULATION DISORDER who is over-sensitive to touch stimuli may:**

- Have tactile over-responsivity to unexpected, light touch, rubbing off kisses or casual touches and pushing others away to avoid closeness.
- Instantly and intensely exhibit a "fight or fright" response or a "flight or freeze" response to harmless touch sensations.
- Dislike messy activities (cooking, painting, using chalk or tape).
- Be bothered by certain types of clothing, and be particularly sensitive to sock seams, shoes, and tags in shirts.
- Prefer wearing long sleeves and pants, even in summer, or dress lightly, even in winter.
- Become anxious or aggressive on windy, "hair-raising" days.
- Be a picky eater, avoiding some foods (rice, chunky peanut butter, mashed potatoes, vegetables) because of texture, or preferring food to be the same temperature, hot or cold.
- Dislike swimming, bathing, brushing teeth or having hair cut.
- Have poor peer relationships.

**The child with MODULATION DISORDER who is under-responsive to touch stimuli may:**

- Seem unaware of touch unless it is intense, showing little reaction to pain, and getting hurt without realizing it.
- Not realize he has dropped something.
- Have poor body awareness.
- Disregard whether clothes are on straight or face is messy.
- Physically hurt other people or pets, not comprehending their pain.

**The child with MODULATION DISORDER who seeks extra touch sensations may:**

- Touch objects and people constantly, showing "in your face" behavior.
- Seek certain messy experiences, often for long durations.
- Rub or bite own skin; twirl hair in fingers; prefer being barefoot.
- Chew on inedible objects (fingernails, hair, collars, cuffs, toys, pencils).

**The child with DISCRIMINATION DISORDER may:**

- Seem out of touch with his hands.
- Have trouble holding and using tools (pencils, scissors, forks).
- Not touch or pick up items that appeal to others.
- Not perceive objects' properties (texture, shape, size, density).
- Need vision to identify body parts or familiar objects (buttons, erasers).
- Prefer standing to sitting, to ensure visual control of his surroundings.

**The child with DYSPRAXIA may:**

- Have difficulty conceiving of, organizing, and performing activities that involve a sequence of movements, such as cutting, pasting, coloring, etc.
- Have poor eye-hand coordination and poor fine motor control.
- Have poor gross motor control for running, climbing, jumping.

## **VESTIBULAR DYSFUNCTION**

### **The child with MODULATION DISORDER who is over-responsive to movement may:**

- Overreact, negatively and emotionally, to ordinary movement.
- Dislike physical activities such as running, biking, sledding, or dancing.
- Avoid playground equipment, (swings, slides, jungle gyms, and merry-go-rounds).
- Be cautious, slow-moving, and sedentary, hesitating to take risks.
- Not like head to be inverted, as when being shampooed over the sink.
- Be very tense and rigid to avoid changes in head position.
- Be uncomfortable on stairs, clinging to walls or banisters.
- Feel seasick when riding in a car, airplane, escalator or elevator.
- Appear to be willful, manipulative, uncooperative, or a sissy.
- Demand continual physical support from a trusted peer or adult.
- Have *gravitational insecurity*, a great fear of falling experienced as primal terror.

### **The child with MODULATION DISORDER who is under-responsive to movement may:**

- Not notice or object to being moved.
- Seem to lack inner drive to move actively.
- Once started, swing for a long time without dizziness.
- Not notice sensation of falling or being off-balance, and not protect self well.

### **The child with MODULATION DISORDER who seeks extra movement may:**

- Crave intense, fast, and spinning movement (rocking/swiveling in chairs, jumping on a trampoline, riding roller-coasters, racing around corners) – and not get dizzy.
- Be a thrill seeker and daredevil, e.g., enjoying riding over speed bumps and jumping from high places.
- Need to move constantly (rocking, swaying, spinning, jiggling, shaking her hands or head, fidgeting) in order to function. The child may have trouble staying seated.
- Enjoy being in upside down positions.
- Enjoy swinging very high and/or for long periods.

### **The child with DISCRIMINATION DISORDER may:**

- Fall frequently off seat or while moving or standing.
- Become easily confused when turning or changing directions.
- Be unable to tell when he has had enough swinging, and keep going until he feels sick.

### **The child with DYSPRAXIA may:**

- Have difficulty conceiving of, planning, and carrying out complex, unfamiliar movement sequences.
- Have poor eye-hand coordination and poor fine motor control.
- Have difficulty with gross motor skills and thus move awkwardly while running, climbing, or jumping.
- Be unable to generalize what he has already learned to accomplish a new task.

## **PROPRIOCEPTIVE DYSFUNCTION**

**When MODULATING sensations of body position and muscle movement, the child may:**

- Have problems with touch and/or with gravity and movement, as well.
- Be stiff, uncoordinated, and clumsy, falling and tripping frequently.
- Lean, bump or crash against objects and people, and invade others' body space.
- Crave bear hugs and heavy work activities, more than others.
- Slap feet when walking, sit on his feet, stretch his limbs, poke his cheeks, pull on his fingers, and crack his knuckles (for additional feedback).
- Pull and twist clothing, stretch his tee-shirt over his knees, or chew sleeves or collars.

**With poor DISCRIMINATION of body position and muscle movement, the child may:**

- Have a poor sense of body awareness.
- Be “klutzy” while positioning limbs to get dressed, climb stairs, or ride a bike.
- Be unable to grade movements smoothly, using too much or not enough force, and manipulate hair clips, lamp switches, crayons, and classroom tools so hard they break.

**The child with DYSPRAXIA may:**

- Have difficulty carrying out unfamiliar, complex motions, e.g., putting on new ice skates.
- Be unable to do ordinary, familiar things without looking, such as getting dressed.
- Have difficulty ascending and descending stairs.
- Avoid participation in ordinary movement experiences, because they make him feel uncomfortable or inadequate.
- Stick to familiar activities and resist new challenges.
- Have eating, speaking and other oral-motor problems.

## **VISUAL DYSFUNCTION**

**The child with MODULATION problem of over-responsivity to sights may:**

- Become over-excited with too much to look at (words, toys, or people).
- Overreact, negatively & emotionally, to the sight of people or objects in motion.
- Cover eyes and/or have poor eye contact.
- Be inattentive to desk work.
- Be hyper-vigilant, ever alert and watchful.

**The child with MODULATION problem of under-responsivity to sights may:**

- Ignore novel visual stimuli, such as obstacles in her path.
- Respond slowly to approaching objects.
- Not turn away from intense bright light.
- Stare and “look right through you.”

**The child with MODULATION problem of craving sights may:**

- Seek visually stimulating scenes and screens for long periods of time.
- Be attracted to shiny, spinning objects and bright, flickering light.

**With VISUAL DISCRIMINATION DISORDER, the child may:**

- Confuse likenesses and differences in pictures, written words, objects, and faces.
- Miss people’s expressions and gestures.
- Have difficulty with visual tasks, such as lining up columns of numbers or judging where things (including himself) are in space.

## **AUDITORY DYSFUNCTION**

**The child with MODULATION problem of over-responsivity to sounds may:**

- Overreact, negatively & emotionally, to ordinary sounds and voices.
- Cover ears frequently.

**The child with MODULATION problem of under-responsivity to sounds may:**

- Ignore ordinary sounds and voices.
- “Turn on” to exaggerated musical beats or extremely loud, close, or sudden sounds.

**The child with MODULATION problem of craving sounds may:**

- Crave intense, loud noises and TV or radio volume.
- Love crowds and places with a lot of noisy action.
- Speak in a booming voice.

**With AUDITORY DISCRIMINATION DISORDER, the child may:**

- Have difficulty recognizing differences between sounds, e.g., consonants at beginnings or ends of words.
- Be unable to repeat or make up rhymes.
- Sing very much out of tune.
- Look to others for cues, because verbal instructions may be confusing.
- Have problems with basic auditory skills, such as localizing where a sound comes from or picking out a teacher’s voice from a noisy background.
- Have poor listening skills (receptive) and poor speech and language skills (expressive) because of underlying dysfunction of auditory and vestibular senses.

## **SENSORY-BASED MOTOR DISORDER**

**The child with POSTURAL DISORDER may:**

- Be tense or have “loose and floppy” muscle ton.
- Lose balance easily and “trip on air.”
- Have difficulty using both sides of the body together (bilateral coordination).
- Not have a hand preference by age 4 (unilateral coordination).
- Have difficulty crossing the midline.

**The child with DYSPRAXIA may:**

- Have difficulty ideating a new, complex action; sequencing the steps and motor planning to do the action; and executing the plan.
- Be awkward, clumsy, apparently careless, and accident prone.
- Have poor gross-motor coordination and difficulty in learning new skills, such as skipping.
- Have poor fine-motor skills in the hands, such as drawing, buttoning, playing with Legos.
- Have poor fine-motor skills in the eyes, having difficulty using both eyes together.
- Have poor fine-motor skills in the mouth, having difficulty sucking, eating, chewing, holding mouth closed, and speaking clearly enough to be understood.

## **TASTE (GUSTATORY) DISORDER**

**The child with MODULATION DISORDER who is over-responsive to taste may:**

- Strongly object to certain textures of food — chewy, lumpy, or pureed.
- Strongly object to certain temperatures of food — very hot, lukewarm, or ice cold.
- Frequently gag while eating.
- Be a picky eater but may enjoy more foods when alerting tastes (sour or bitter) are eliminated.

**The child with MODULATION DISORDER who is under-responsive to taste may:**

- Not be alerted when eating something rotten or harmful.
- Be uninterested in food but may learn to enjoy new foods when spices & herbs are added.
- Be able to eat very spicy food without reaction.

**The child with MODULATION DISORDER who seeks taste sensations may:**

- Lick or taste inedible objects, such as Play-Doh, glue, and toys.
- Overeat.
- Eat during times when they need to pay attention, as food helps them get organized.
- Prefer very spicy or very hot-flavored foods.
- Prefer very cold or steaming hot foods.

**The child with DISCRIMINATION DISORDER may:**

- Be unable to distinguish tastes or tell when food is too spicy, salty, or sweet.
- Be unable to distinguish when food's taste indicates that it has gone bad.
- Choose or reject food based on the way it looks.

## **SMELL (OLFACTORY) DISORDER**

**The child with MODULATION DISORDER who is over-responsive to smell may:**

- Strongly object to odors, such as a ripe banana, that others do not notice.
- Be a picky eater.
- Become irritable when strong odors such as disinfectants are in the air.

**The child with MODULATION DISORDER who is under-responsive to smell may:**

- Be unaware of unpleasant odors, such as sour milk.
- Be unable to smell his meal.

**The child with MODULATION DISORDER who seeks smell sensations may:**

- Seek strong odors, even objectionable ones.
- Sniff food, people, and objects.

**The child with DISCRIMINATION DISORDER may:**

- Be unable to distinguish distinct smells, such as lemons, vinegar, or soap.
- Be unable to distinguish when food's odor indicates that it has gone bad.