Tactile Defensiveness: Terminology, Issues and Strategies

* Adapted from Is It Sensory or Is It Behavior? *Behavior Problem Identification, Assessment and* Intervention

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Touch

For sensory processing purposes, there are two kinds of "touch". Most of our understanding of "touch" falls under *light touch. Light touch* includes the feelings when someone or something brushes against our skin (our clothes, materials we are holding, furniture in our environment, etc.). I typically refer to *light touch* simply as "touch". *Deep tactile pressure* is a firm, consistent touch, such as a massage. *Light touch* tends to be alerting and arousing. *Deep tactile pressure* tends to be calming and organizing.

Tactile Defensiveness

Tactile Defensiveness is considered a sensory processing issue, where the individual's neurological system is "hypersensitive" to *light touch* sensations. As a result, the child's sensory system is overwhelmed by touch sensations that the average individual perceives as neutral. They experience touch as irritating, obnoxious, bothersome and in some instances painful. It is often mistaken as a "behavioral" issue, because the child avoids signs of affection, refuses to participate in routine "touch" activities (dressing, mealtime, bath time, fine motor play, etc.) or will act out aggressively if touched. It is important to remember that the child is not in complete control of how their behavior, they are reacting to a "fight or flight" response generated by their neurological system.

Dorsal Column Medial Lemniscus (DCML) Pathway

The DCML is a neural pathway that carries multiple sensations to the brain, including the sensations of *light touch, deep tactile pressure, proprioceptive* and *vibration*.

Inhibition

Inhibition is a neurological concept that relies on the interactions in central nervous system (CNS). Touch input travels to the brain on one neural pathway. Other sensations also travel to the brain on the same pathway. Likewise, other neural pathways carrying different sensations may also intersect a given pathway at various places. The theory behind inhibition is that because multiple sensations and multiple pathways interact with each other in the CNS, providing one kind of input may "reduce" (or "inhibit") the sensation of the other.

Proprioception

In addition to "touch" sensations, the DCML also carried proprioceptive sensations to the brain. *Proprioception i*s the "feeling" of how our muscles and joints are positioned and/or moving at a given time. This sensation tells our brain if our arm is up or down, as well as how to move in order to perform a task. We can enhance proprioceptive sensations ACTIVELY by giving more input to our joints and muscles through resistive activities. Proprioceptive sensations can also be enhanced by PASSIVE input through compressing the joints.

Active Proprioceptive Input

- *Resistive/"heavy work" activities:* Resistive or "heavy work" activities include any tasks where you are using your muscles, such as pushing, pulling, climbing, carrying, lifting, exercises against gravity [push-ups, sit-ups], etc.

Passive Proprioceptive Input

- *Joint Compression*: **Joint compressions should only be performed by trained individuals.** Compression or "traction" refers to firmly pressing the lever (bone) into the joint. For example, firmly pressing the head of the humerus into the shoulder joint. This can be done by another person, or by using a device. For example, "rolling over" a child with a bolster while he is lying on his stomach also provides compression to the joints of his body. Joint compression can also be provided by applying "body weight" to a joint. For example, supporting oneself on extended arms provides resistance to the upper extremity joints. This is usually defined as "weight bearing".
- *Weighted Materials:* **Application of weighted materials should only be performed under the supervision of a trained professional.** Weighted materials provide the same traction, or pressure into the joint, as joint compression. However, because they are provided by a non-animate material, such as a vest or neck wrap, they can provide more consistent, extended input.

Deep Tactile Pressure

As previously mentioned, *deep tactile pressure* is the second kind of "touch" the DCML processes. *Deep tactile pressure* is a harder, firmer kind of touch – like that felt during a massage.

- *Deep Tactile Massage*: Deep tactile massage is firm, consistent massage to any surface of the body.
- *Brushing*: Brushing is a variation of massage, performed by brushing areas of the body with a specialized brush (typically a surgical scrub brush) or other material that provides firm contact (i.e. cotton washcloth).
    - The Wilbarger Protocol® is a brushing program that is hypothesized to reduce tactile defensiveness by brushing designated areas of the body in a specific sequence at specified time intervals throughout a given day. **The Wilbarger Protocol® is an extremely specialized brushing protocol that should only be performed by a trained individual.**
- *Compression "Squeezing" Materials:* Compression materials are items of clothing or therapy devices that give a "squeezing" input to an individual. "Formal" compression materials include compression vests (i.e. BearHug® vest) or the BodySock ®. "Informal" compression materials include spandex, lyra, UnderArmor® clothing, swaddling with blankets. "Squeezing" can also be provided by another person by firm hugging.

Vibration

Vibration is another sensation that travels along the DCML pathway. However, vibration can cause disorientation as well as damage to the joints and/or nervous system if provided incorrectly. Do not use vibration techniques unless directed by an Occupational Therapist.

Problems and Intervention Strategies for Tactile Defensiveness

Problem	Intervention Suggestions
Hair washing, cutting or combing/brushing .	• Reduce all other stressors in the environment (i.e. crowds, noises, visual stimulation). • Provided pleasurable distractors (i.e. soothing music, a favorite movie, a "snuggle" toy or fidget). • Sit child firmly between your legs. Use your knees to "squeeze" their hips, providing firm, deep pressure. • Provide firm, downward pressure at the child's shoulders. • Provide verbal cues prior to touching the child to prepare them for the sensation. • Give definite time limits to the task, preferably that the child has an active contribution in (i.e. "Let's count to 10, then we will stop brushing your hair" rather than using a time). • Use firm strokes while brushing or washing.
Bathing or showering	• Before bath time, so resistive exercises ("heavy work activities") to provide deep proprioceptive input. • Have the bath/shower prepared prior to undressing. • Use short, but effective, transition techniques to encourage child into bathtub (i.e. "animal walking" into bathroom, hoping in on count of 3, etc.) • Allow child to do as much self-washing as possible (**self-imposed touch tends to produce a less defensive reaction.)* • Use a less offensive fabric when choosing washcloths (i.e. cotton, sponge or loofa) • Use firm, downward strokes when washing. • Use a handheld nozzle rather than having the child go under the faucet. Allow the child to control the nozzle if able. • When drying, use a large towel, wrap firmly and tight around child's body. • If the child tolerates it, provide a firm massage following bath/shower using preferred lotion.
Standing in line	• Position the child at the end of the line • Give the child a "special task" (i.e. closing the door, turning off the lines)
Reacting aggressively when others bump/touch	*Personal Space Strategies:* • Provide physical and visual cues for each child's "personal space" in crowded environments (i.e. an area marked out with masking tape on the carpet, a cardboard box/beanbag chair or pillow to sit in during floor time, a designated tile square to stand in while on line, etc.) • Teach the group/class to use "firm" touch when trying to get another's attention • Teach the group/class to approach other's within their visual field, make eye contact, and use auditory cues (i.e. calling their name) before touching them *Affection Strategies:*

	• Educate family members on the child's sensitivities. • Teach the child alternative ways of showing affections (i.e. verbalizing, blowing kisses, shaking hands, etc.) • Discourage "behavioral assumptions" (i.e. correct relatives who infer that the child is "naughty, unkind or cruel" if he/she does not display "normal" signs of affection [hugs, kisses, etc.]) • Teach family/friends to verbalize what they are going to do beforehand (i.e. "I am going to give you a BIG hug.") as well as approach the child from his/her visual field • Teach family/friends to provide signs of affection firmly
Refuses to wear certain clothes/takes off clothes inappropriately	• (Obviously) – Avoid buying fabric that is irritating (wool) and be considerate of your "needs" versus your child's (i.e. your little girl does NOT have to wear a dress and stockings if it is going to ruin the day). • Use seamless/tagless articles of clothing when possible (Hanes ® and Fruit of the Loom ® both make seamless/tagless undergarments and socks) • Turn articles of clothing inside-out if you can (i.e. socks, undershirts) • Cut out tags for articles of clothing that cannot be turned inside out. Be careful not to leave any residual tag material that will snag the skin. • Always wash new clothing to remove "stiffness" • Use inhibition techniques, such as deep tactile pressure (firm massage, brushing, "compression" clothing under regular clothes [spandex, lyra, UnderArmor®]) joint compression, or proprioceptive ("heavy work") activities [any task involving resistance – pushing, pulling, lifting, carrying, gross motor exercises, etc.] prior to dressing, then as needed afterwards
Picky Eater	• Discuss an Oral Motor Program with your Occupational Therapist • Before mealtime, provide resistive oral motor activities (sucking a thick liquid [applesauce, yoghurt, pudding] through a straw; chewing on a crunchy or chewy food item [gum, taffy, licorice, pretzels, chips, hard candy, etc.]; sucking on a food item [hard candy, lollipop]. • Under the supervision of your Occupational Therapist, provide vibration provide vibration stimulation before mealtime (i.e. an electric toothbrush or oral-motor vibration device)
Avoids getting hands messy/ manipulating "messy" materials or only uses fingertips to engage in fine motor play	• Before fine motor activities, provide deep tactile pressure into palms of hands (i.e. by clapping, slapping or banging with opened hand) • Before fine motor activities, provide deep tactile pressure into palms of hand (i.e. by applied firm massage or brushing) • Before fine motor activities, engage in resistive hand exercises (i.e. pulling apart elastic bands or Theraband®, pulling or manipulating Silly Putty or Theraputty® [play this is baggie to manipulate if child does not want to touch it directly]; use "squeeze" tools [hole punchers, staplers or tweezers]; perform Fine Motor Olympics® activities)
Avoiding going barefoot/ Toe-walking as a result of avoiding contact with feet and surface	• Speak with your health care provider to rule out musculoskeletal conditions (i.e. heel-cord shortening). • Provide deep tactile pressure to the bottom of the foot (i.e. by deep tactile massage or brushing) • Engage in lower extremity proprioceptive/ "heavy work" activities such as pushing legs into wall.
Trouble falling/staying asleep	• Avoid other "tactile" activities that are offensive during late evening hours (i.e. if child is sensitive during bath time, bathe in the morning, not before bed; let child pick bedtime clothing; make before-bed snack conducive with child's oral motor needs). • Develop a calming routine (soft music, story time, rocking) • Avoid visually or auditory stimulating activities before bed (NO TV!) • Use "snug" fitting pajamas for swaddling effect • Use deep tactile pressure techniques to promote calming (i.e. deep tactile massage or "swaddling") • Use a heavy comforter or weighted blanket