

Tactile Defensiveness

Information for Parents and Professionals

By Sidney Chu, MSc, SROT, OTR

Introduction

The tactile system is our sense of touch through different sensory receptors in our skin. It is through the tactile system that we first receive information about the world when we come out from the womb environment. The ability to process tactile information effectively allows us to feel safe and form bonding with those who love us. It contributes to our social and emotional development.

One important role of our tactile system is its protective function that alerts us when something is unpleasant or dangerous. For some children, this function of the tactile system is not working normally. They may perceive most touch sensations to be uncomfortable or scary and react with a flight-or-flight response. We call this condition tactile defensiveness, which was first identified by Dr A.J. Ayres, an American Occupation Therapist around the 1960s.

What is Tactile Defensiveness?

Tactile defensiveness (TD) refers to a pattern of observable behavioural and emotional responses, which are aversive, negative and out of proportion, to certain types of tactile stimuli that most people would find to be non-painful (Royeen & Lane, 1991). It is a type of Sensory Integrative Dysfunction, which is the brain's inability to process and use information through the senses.

Children whose tactile systems give inaccurate information are frequently in the state of 'red alert'. Casual contacts within an ordinary daily environment could cause extreme reactions that may be interpreted as bad behaviours. They may react by whining and clinging (fright), or lashing out (fight) and running away (flight) (Trott, 1993).

The neural disorder that causes a child's tactile defensiveness does not necessarily affect the child's learning ability. However the discomfort and behavioural reactions caused by this disorder does interfere with the learning process. Very often the child is emotionally insecure (Ayres, 1979).

Although not well understood, TD has been recognised for many years as a "Hypersensitivity" or "hyper-responsivity" to touch in a variety of populations (Baranek and Berkson, 1994). For example, it has been identified in children with specific learning difficulties (Ayres, 1964, 1972), learning disability (Kinnealey, 1976), autistic spectrum disorder (Ritvo, Ornitz and LaFranchi, 1968; Ayres and Tickle, 1980 and Grandi, 1984), and other developmental disorders (Larson, 1982).

It is important to note that TD and developmental Dyspraxia are two separate conditions. **Occasionally, child could suffer from both conditions at the same time. We call this situation co morbidity.** More commonly, a child with TD may be misdiagnosed as a child with developmental Dyspraxia. There is some confusion among a number of professionals about the understanding of the two conditions. Clinically, it is extremely important to make an accurate diagnosis, as the treatment for TD is different from that for Dyspraxia.

Behavioural Indicators of Tactile Defensiveness

Children with TD are usually hyperactive and distractible. They over-react to tactile stimulations so that most people do not particularly notice, or at least are not bothered by it. However, it is important to note that children with TD will get involved in certain tactile activities if they are in control. They will also actively seek out a large amount of muscle stimulation and firm touch stimulation as a means to reduce the level of hypersensitivity. They may frequently and consistently present some or most of the following behavioural features (Ayres, 1979; Larson, 1982; Royeen, 1985; Royeen & Lane, 1991).

Avoidance Responses to Touch Stimulation

- Avoidance of certain styles or textures of clothing (e.g. scratchy or rough); or conversely an unusual preference for certain styles or textures of clothing (e.g. soft materials, long sleeved shirts)
- Avoidance of contact with other children, e.g. preference for standing at the end of line during assembly, staying at the edge of a group during story time etc.
- Avoidance of anticipated touch or from interactions involving touch, e.g. tendency to pull away or avoidance of touch to the face
- Avoidance of play activities involving tactile materials (e.g. sand, finger paints) or body contact, with a tendency to prefer solitary play
- Avoidance of going barefoot, especially in sand and grass (could result in tip-toe walking)
- Avoidance of a crowded environment, likes to stay under the table, behind the settee or under the staircase

Aversive Responses to Non-Painful Touch

- Aversion or struggle when picked up, hugged or cuddled
- Aversion to certain daily living tasks, e.g. having showers, cutting fingernails and hair and face washing
- Aversion to dental care and/or brushing teeth
- Aversion to being handled during daily activities, e.g. changing nappy or clothes, cleaning nose or face
- Aversion to being approached from behind. May rub skin or scratch area being touched

Emotional Responses to Touch Stimulation

- Becomes anxious and distressed when being physically close to people, e.g. during assembly, inside the dining hall, etc.
- Refusal to participate in certain social activities, e.g. going to a party or supermarket
- Responding verbally or with physical aggression to light touch to arms, face or legs, e.g. lashing out
- Objection, withdrawal or negative responses to touch contact, including that encountered in the context of intimate relationship even in a friendly or affectionate manner. A tendency to prefer to touch rather than to be touched. Some children may seek firm touch in order to modulate the level of defensiveness.

It is important to note that children with TD quite often present hypersensitivity to other sensory stimulations, e.g. movements, sights, sounds. When a child presents hypersensitivity to more than one sensory stimulus, we call this **Sensory Defensiveness**.

Theoretical Explanation of Tactile Defensiveness

Different theories have been proposed to explain this specific Sensory Integrative Dysfunction over the years. The whole concept centres around the mechanism of inhibition at different levels of our brain function. For example:

- Ayres (1964) proposed a dual-system theory that TD resulted from an imbalance in two somatosensory systems – protective system and discriminative system. TD occurs when the protective system due to a lack of sufficient initiation predominates over the discriminative system.

- Larson (1982) suggested an imbalance in descending mechanisms from the higher part of the brain, which resulted in either too little or too much inhibition
- Fisher and Dunn (1983) hypothesised that tactile input may be regulated at the level of the spinal cord by inhibitory influences from higher centres. In the case of TD, this modulation (i.e. inhibition) may be deficient, causing an over-reaction to tactile stimuli
- Royeen and Lane (1991) proposed a concept of continuum of sensory registration and modulation. TD is part of the overall sensory defensiveness, a broader dysfunction occupying one extreme end of the continuum. They speculate that limbic system dysfunction underlies this modulation deficit
- Baranek & Berkson (1994) supported the idea that TD is best conceptualised on a continuum of responsiveness, rather than as a discrete category of behaviour.

Further research is necessary to validate these hypotheses and clarify the concept of TD as a discrete condition, or as a part of the overall sensory defensiveness.

Strategies for Helping a Child with Tactile Defensiveness

Therapies aimed at reducing TD attempts gradually to elicit more normal reactions to various tactile sensations. The goal is to normalise the way the nervous system registers and interprets touch information. The following handling and remediation techniques are found to be useful in helping a child with tactile defensiveness (Mailloux, 1992).

- Use firm pressure when touching the child. Never use light touch. Pats on the head, back or shoulder are not reinforcing for a child with tactile defensiveness.
- Straight, downward firm pushes on the top of the head or on both shoulders are calming for these children. A heavy bear hug is also excellent. Be sure the child is expecting your touch; never surprise the child
- Avoid touching or approaching the child from behind. Make sure the child sees you before giving instruction or asking for responses
- When using physical prompts, instructions or guidance, use as firm a touch as possible without hurting
- Have the child go first or last in a line. This will minimise possible tactile contact.
- Minimise time expected to stand and wait in line
- Allow the child with tactile defensiveness to wear a sweater or jacket indoors if it can help him/her feel more secure and relaxed

- Space children so that they are not sitting near enough to touch one another
- Use markers to help designate personal space when sitting on the floor; or allow the child to choose the position during story time
- Encourage the child to brush the body himself/herself with a natural sponge during bath time
- Create a quiet corner for the child to go when he/she gets too ‘sensitive’ and disturbed
- Pay attention to which fabrics, types of clothing, play substances, or social situations (e.g. walking through a crowded mall) seem to elicit negative reactions for the child. Until the problem is alleviated, try to avoid irritating situations (e.g. let your child wear all cotton clothes if this is what he/she prefers)
- “Heavy work” activities like carrying groceries or laundry bags, wearing a heavy backpack, push/pull games and jumping activities all provide a type of sensation which tends to calm down or organise tactile sensitivity. Having your child help with heavy household tasks and playing jumping and push/pull games may help to calm and organise him
- Try gradually to incorporate a variety of tactile experiences in play, eating, bath time, etc. It will usually be easier for the child to initiate play himself rather than having new or potentially threatening sensations imposed upon him. Demonstrate on yourself and make it fun. Remember - do not force participation.

There are more specific tactile activities your child’s Occupational therapist can suggest which may be appropriate. Ask your therapist for ideas and be sure to discuss your child’s reactions to various experiences. Always watch for signs and avoid over-stimulation and excitability.

What Should You Do Next?

If you think your child may have TD, you should seek professional input to confirm the diagnosis and advise you on treatment strategies. Try to have your child referred to an Occupation therapist who has completed post-graduate training in sensory integrative therapy.

Different areas may have different referral criteria and procedures. Usually the first contact will be your family G.P. Try to gather information based on the set of behavioural indicators described and discuss your concerns with the G.P. who may be able to make a referral to your local Paediatric Occupational Therapy Service.

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Further Reading

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Further information available from:
Dyspraxia Foundation, 8 West Alley, Hitchin, Herts SG5 1EG
Tel: 01462 454986 (Helpline) 01462 455016 (Administration) Fax: 01462 455052
Website: www.dyspraxiafoundation.org.uk