Occupational Therapy

Information on Touch sensitivity

What is touch sensitivity:

Touch sensitivity is an excessive to exaggerated response to touch that interferes with participation in daily activities. Difficulties participating in activities such as having their face washed, tolerating the shower; disliking nail cutting, messy play, touch without warning are associated with touch sensitivity. Touch sensitivity is also referred to as: hyper-reactivity, sensory defensiveness or sensory modulation difficulties. These difficulties are common amongst children with sensory integration problems and Autism. Touch sensitivity particular relates to the tactile (touch system) and can be accompanied by sensory seeking or sensory avoiding behaviours. These behaviours can be disruptive and influences one's engagement, social interaction and ability to engage in learning tasks. It can also have an overwhelming effect on one's emotional regulation and wellbeing.

Useful information:

Prolonged and continuous touch decreases the activation of the touch receptors, where as touch stimuli that is on and off or starts and stops can be activating, and therefore more difficult for someone with touch sensitivity to tolerate.

Touch receptors associated with light touch and touch sensitivity are located superficially under the skin and travel along the anterolateral nerve pathway, where is deep pressure sensation is transmitted along a different nerve pathway (dorsal column–medial lemniscus pathway) and can dampen down the effects of touch sensitivity. Deep pressure touch and heavy muscle work (Proprioception) are used to help manage touch sensitivity.

Strategies to support and manage touch sensitivity:

- Slowly introduce a new touch activity by pairing it with a non- threatening activity or a preferred activity.
- Applying deep pressure input by providing firm pressure to the joints and muscles; this helps to calm and deescalate sensory reactivity. Deep pressure sensation can be provided by using compression and traction (pulling of the joint). These can be provided passively to a child i.e. done to the child. If the child

can be encouraged to, or is able to actively engage in heavy muscle work, it is more effective than passive deep pressure or proprioception sensation. Therefore, active participation should be trialled first. Active participation allows the child to lead on their exploration, and gives them the opportunities to initiate and stop the activity at their own pace. It provides a level of control, which children can find helpful. Developing trust and knowing your needs are responded to, helps a child to feel secure and gives them the confidence to explore and take risks.

- Weight bearing, stretching, pull, pushing, lifting, hanging, climbing, and applied pressure are all proprioceptive actions that can calm an over reactive sensory system. These activities help to regulate the sensory system, see proprioceptive activities below.
- Sensations, such as vibration, deep pressure touch and cold temperatures tend to be tolerated before light touch is. It is best to start with these sensations as these can be easier to tolerate. A child can slowly progress to other types of touch sensations as their tolerance develops.
- When helping a child to develop a greater tolerance to touch sensation, start with the less sensitive areas of the body e.g. the back, trunk and legs. The most sensitive areas are the hands, the mouth, face and feet. There are a high proportion of touch receptors in the hands and mouth; these areas need to have good touch discrimination and therefore contain more touch receptors.
- Allow the child to lead on a touch activity, this gives them the opportunity to initiate exploration. Touch activities can be demonstrated by using playful and fun ways to explore, this may help to gain their interest and curiosity. If the child likes cars, push cars through the sensory media, and show them the tyre marks that can be made. Using a tool i.e. car also provides a barrier, and allows the child to safely explore the sensation.
- When presenting touch sensation, try not to overly focus on the end result i.e. the child tolerating the sensation. Instead provide playful and enjoyable interactions, and enjoy the process rather than the end product. A child looking at the touch media, being close to it, wanting you to demonstrate it, smiling at the effect or not becoming distressed, are all achievements.
- When exploring touch media, use parts of the body that are less sensitive i.e. trunk, legs and back. Body parts, like the hands, face, feet and mouth are more sensitive. You may need to slowly progress to using these body areas.
- To reduce touch sensitivity, the child needs to experience inhibitory sensations and calming activities. Proprioception, vibration, deep pressure, cool temperatures, and some movement e.g. rocking and bouncing, can help.
- Particular clothing, such as, lycra compression garments i.e. jett proof or sports clothing e.g. skins, can provide compression sensation to the body. This is beneficial for some children.

- There is equipment that can provide compression e.g. body sock, compression tube/tunnel, these can provide pressure on the joints and muscle, and help a child to self- regulate.

- Weighted items, such as clothing, blankets, toys etc can also be beneficial. For example, weighted vests provide proprioception and deep pressure sensation to the joints. Specialist catalogues, such as Rompa, Sensory Direct and Southpaw provide this equipment and will be able to advise you on weight limit for your child's product. Supervision and regular monitoring is required when using weighted products. Please discuss the need for weighted products with your Occupational Therapist.

Activities that could be helpful:

Proprioception:

Active proprioception and deep pressure touch sensations have a calming, organising and regulating impact upon the body.

Active proprioception to the whole body:

- Hanging from a trapeze, monkey bar, chin up bar or indoor frame can help to calm the body. There are purpose-built frames and bars for indoors that can be purchased from Southpaw.co.uk – Home therapy system.
- Climbing: using climbing walls, climbing frames, climbing up a slide, using climbing apparatus in soft play, or climbing over the sofa or onto a bed.
- Crawling
- Jumping and bouncing on a trampoline
- Weight bearing activities – lying over an exercise ball with the child's hands on the floor, walking on their hands or rocking back and forth on the ball.
- Doing animal walks – example can be provided
- Dancing
- Accessing heavy muscle activities i.e. pulling, pushing, and lifting. Carrying a ruck sack and have equal weight through the shoulders gives compression. Activities like building a den, provide a playful way for the child to engage in lifting, pulling and pushing actions.
- Riding a bike or trike or using a push along vehicle or toy
- Walking, hiking and running movements, especially if uphill, provide heavy muscle work. You could also roll down a hill to gain compression and proprioception.
- Horse riding or grooming a horse gives heavy muscle work
- Use a scooter or scooter board
- Play Tug of war
- Digging
- Self- propelling on a swing – the active arms and legs movements provide proprioception
- Activities such as using clay modelling or squashing or banging clay, provides deep pressure and proprioceptive input.
- Throwing, rolling, kicking and catching activities. Use a weighted or heavy ball, encourages the child to apply pressure and force when pushing and rolling the ball, this gives more proprioceptive feedback

Proprioception sensation to the mouth:

• Chewy and crunchy foods (foods with resistance) provide proprioception and rhythmic movement. Having access to these types of foods is a simple way to incorporate proprioception into the day. Having regular exposure to proprioception helps to regulate the body throughout the day.

• Sucking action has a soothing and calming effect. This can easily be provided by using a water bottle, drinking through a straw and having a milkshake or smoothie. The thick textures are better as they require a strong sucking action.

• Blow games – Blowing requires the active movement from the cheeks, jaw, lips and tongue. Activities such as, blowing bubbles, blowing through a straw, using blow toys (party horns, pinwheel, blow football), blow pens, using instruments that require blowing etc are beneficial ways to provide proprioception.

Passive Proprioception/ deep pressure sensation:

Joint compressions – Joint compressions provided proprioception sensation to the body. Joint compressions (firm pressure to the joints). Here are examples of some joint compressions, these will need demonstrating to you if you have not already been shown them. When doing the joint compressions, it is important to constantly monitor the child's reactions and respond accordingly. Do not continue with the joint compressions if the child pulls away or demonstrates that they do not like them. It is important that the child associates the joint compressions with a positive and beneficial experience. Below are examples of joint compressions:

- Shoulders – press firmly down on the shoulders
- Shoulder/elbow – place one of your hands-on top of their shoulder and the other hand cupping their elbow. Push down on the joints
- Elbow/wrist – Place one hand on the child's elbow and use your other hand to hold their hand. Hold their hand in a hand shake position (support the wrist with your extended fingers).
- Hand – Place the child's hand between your hands and squash

When doing the joint compressions have a firm but gentle approach; provide rhythm and use predictable movements i.e. start with five compressions for each exercise. Counting the compressions helps the child to know when you are going to start and finish. Use words that they are familiar with i.e. go, finish, more, stop etc. This will vary depending on the child.

Traction – Traction sensation is a pulling action on the joints, it's the opposite to compression. Similar precautions to compressions, need to be shown when applying traction sensation. If you have hypermobile joints, you must seek advice from an Occupational Therapist or Physiotherapist, this is to avoid unnecessary harm to the joints.

Knuckles – Place one hand either side of the knuckles to stabilise the joint. Place your fingers around their finger and gently pull your fingers along the length of their finger. Do this on everything finger.

If you require support or have any enquires regarding touch sensitivity, please email the Occupational Therapist:

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