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INSIGHTS

By physiotherapist Hannah Harboe

Tactile Discs and tactile discrimination

Our sense of touch resides in receptors in our skin. Touch is particularly sensitive around the mouth, in our hands and under our feet, and it is therefore here that we sense very small differences in textures and surfaces, etc. If we walk barefoot in the dark, most of us can distinguish between an asphalt tarmac road and an earth track. We can determine the height of stairs and doorsteps. Our ability to differentiate structures and surfaces helps us to move evenly and fluidly without falling or tripping.

We sense very small differences with our hands, e.g. we can feel the difference between orange and mandarin peel.

Children must train in order to develop the ability to differentiate between objects. The ability to differentiate through the sense of touch is called tactile discrimination.

The more we stimulate children and allow them to touch and manipulate with everything they come in contact with in everyday life, the better they become at using their sense of touch and performing fine motor skills, such as drawing, sewing and writing. The more opportunities we give children to move on different surfaces in the natural environment, with and without footwear, the better they become at moving freely and effortlessly – without stumbling over small imperfections – on any underlay.

Tactile Discs are a range of products that can be used to train children's tactile discrimination skills. Each disc is unique and can be used with the other discs in the range. While the material, diameter and thickness of the discs are the same, each disc has a different surface.

Two sizes of disc are available. One size is suitable for feet, the other for hands. Using both sets, the child can feel differences between discs with his/her hands or feet, and can compare and transpose sensory input from hands to feet, and vice versa.

The small discs can also be used to stimulate the sense of touch in other parts of the body. The large discs can be used as seating.

When a child walks on the discs, he/she will notice an effect on balance, depending on which disc he/she is standing on. The disc surface affects tactile registration via the feet, a process that works closely with the sense of balance afforded by the vestibular system.

The experience is further underpinned by the sense of sight that assesses sensory input even before the child steps on the discs. Via sensory integration, i.e. coordination between the senses, the child regulates the speed, force and rhythm of his/her movement over the discs.

The child will move more slowly on some discs. He/she may remain longer on some discs in order to gain a firm foothold. The child will move faster on some discs in order to restrict stimulation to a minimum, either because the surface pricks at the skin or is uneven and therefore more difficult to balance on.

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Case:

Ella is a happy, energetic five-year-old. She has severely impaired vision, which also means that she has underdeveloped motor skills.
Due to her disability, Ella has so far led a more protected life than her peers. She has had to depend more on having adults around her, especially when playing outside where she is not always able to register potential dangers. She cannot prevent herself from falling over branches and steps, or from coming too close to a swing in motion, etc.

As Ella becomes older, she requires more independence. She needs to feel less dependent on adults. It has become clear that she needs to develop better motor skills. To achieve greater independence, she has to train and improve other senses to compensate for her blindness.

Until now, Ella has made good use of her hearing. She is good at orientating herself to voices and good at stopping immediately if the adults warn of danger ahead. She has always been good at touching everything and has good tactile discrimination and manipulation skills. However, she has received too little information via an insufficient stimulation of the tactile receptors in her feet. She easily loses her balance and is insecure about new underlays and in uneven terrain.

We decide to start training the tactile discrimination in Ella's feet using Tactile Discs.
We place all the large discs in a circle on the floor.

Ella walks on all the discs, holding my hand. She needs a great deal of support in order to keep her balance every time she steps onto a new disc. Ella is then given a small disc to hold in her hand as she walks from disc to disc. She continues until she believes she is standing on the same surface as the surface on the disc she is holding in her hand. Ella takes her time, concentrates and walks slowly. Sometimes she guesses correctly first time. On other occasions, she has to make several attempts

We repeat the game on a weekly basis. Ella gradually becomes more sure-footed as she walks from disc to disc. Her ability to use the sense of touch in her feet to gain a firm foothold and avoid losing her balance is improving.
As we continue to practise, Ella becomes more confident in the playground. Her parents and carers are now more aware of how important it is that Ella continues to practise and is exposed to many different types of underlay. Training and stimulation allow Ella to move safely in a world that is, in many ways, designed for people who can see.

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