



Body movement skills

It is vital for us to know where our body parts are in relation to each other and the environment. **Proprioception** tells us where our body parts are without us needing to look – we cannot rely on our eyes to do this as they are often needed to observe and guide the actual activity we are doing and look out for danger. Kinesthesia gives us feedback as to how our body is moving.

Information from these senses is stored in the brain for recall of body positions and movements when we need to do the same or similar activity in the future. A child with proprioceptive difficulties may not store these positions correctly and may not be able to effectively recall them automatically for reuse when they next come to do the activity. This means that they may appear to have to relearn how to move for an activity every time they do it, or their movements appear awkward, clumsy and uncoordinated.

The receptors for this system are in the muscles, tendons and joints and are mainly stimulated by pushing, pulling and stretching activities. Any activity that is done against resistance will fire the receptors in the muscles and joints giving the brain feedback about where the body is and how it is moving.

These types of activities can range from overall large movement such as required for swimming to targeting specific joints such as those of the fingers. Swimming is an excellent activity as it not only provides resistance to movement but also reinforces it with tactile input as the water flows over the body.

Other good activities are obstacle courses that require lots of climbing through spaces, jumping over objects and other activities that involve knowing where body parts are. Encourage child to look at obstacle, then go

through (under, over) without looking and trying not to touch body parts on the obstacles. Repeat several times with eyes open, then repeat with eyes closed. If needed, adult can verbally describe child's position ("your arms are too close") child crawls through ladders and other obstacles with eyes open, while looking at the next obstacle.

The resistance does not have to be an external force. The weight of the arm is sufficient to give feedback to the brain when it is operating in an unsupported position. So rather than do activities such as painting on a flat tabletop where the arm is supported by the surface, use an easel or even the wall. Many commercially available games/activities such as Connect 4, Etch-a-Sketch or simple pegboards, although not designed to, could be mounted on an elevated surface.

Encourage activities that involve movement without visual guidance. Dance, gymnastics, and karate are examples of activities that involve awareness of position and movement of body parts in space, yet are difficult or impossible to guide visually. These can be done slowly, with the child focusing on how the movement feels and with feedback provided verbally by an adult or visually by use of a mirror. However these are often done with groups of children in clubs outside school and may leave the child open to direct comparison with their peers. The instructor would need to be aware and understanding of the child's difficulties and how to handle them.

For more awareness of fine movements, resistive activities such as modelling clay, can be introduced starting with the softer materials such as play-doh and working up to the stiffer materials like clay and plasticine. For more permanent creations,

oven hardening materials such as Fimo can be used. The possibilities for using these materials are limited only by the imagination of the user.

Most creative activities will have elements that contain opportunities for proprioceptive feedback e.g. if doing paper mache ask the child to rip 5 sheets of paper at a time thus increasing the resistance to the fingers and grip.

As a parent you will know what sorts of activities your child enjoys and with a little imagination you may be able to find ways to incorporate activities to help proprioception in to these. Do not be afraid to experiment with activities but keep them safe and do not destroy the child's confidence by giving them activities that are unrealistic and difficult for them to achieve. If you inadvertently do, blame yourself for giving them something too difficult and move on to something easier without any fuss.