

# Areas of Learning

## Physical Development - Cross lateral, vestibular system, proprioception, bilateral integration



Physical development is such a huge area and there are many elements to be understood. This card will aid you to delve deeper into some specific mechanics of physical development.

### **Bilateral coordination**

Refers to the ability to use both sides of the body at the same time in a controlled and organised manner. It is unconsciously used for everyday activities such as buttoning a shirt or catching a cup as it falls to the ground. Bilateral coordination is the result of the successful integration of vestibular, proprioceptive, and visual sensations along with efficient communication between two sides of the brain. It is also called bilateral integration. Activities could include turning pages in a book, jumping jacks, crawling and pegging out the washing.

### **Cross-lateral**

Cross-lateral movement is any motion that requires coordinating movement on both sides of the body. When the movement crosses from one side of the body to the other, it is called crossing the midline. The left side of the brain controls the right side of the body, and vice versa, so moving the left hand to touch the right side of the body activates both sides of the brain. Some movements, such as marching, are cross-lateral movements that require brain-and-body coordination even though they do not cross the midline. E.g., touching the right ear with the left hand, threading with large string and items and washing a car or large wall with sponges.

## **Proprioception**

Otherwise known as kinaesthesia, is your body's ability to sense movement, action, and location. It's present in every muscle movement you have. Without proprioception, you wouldn't be able to move without thinking about your next step. E.g., bringing a cup to your mouth or a finger to your nose while your eyes are closed. Well-developed proprioception helps to keep our movements fluid and coordinated rather than jerky, floppy or fidgety. Babies develop this through actions like rocking backwards and forwards on all fours. Older children rolling on a large ball, crab crawling and climbing a tree.

## **Vestibular System**

Small, fluid-filled canals in our inner ear establish our direction of movement against gravity. This information helps us to orient ourselves, particularly our head movements. This is useful when swinging, spinning round, going upside down and so on, and increases postural control and balance. Children with vestibular difficulties may be rigid or find it hard to stand with their eyes closed. They may have poor muscle tone, balance and coordination and can dread movement.

Children need gentle stimulation such as hearing their mother's voice, being rocked and having interesting things to see. Rolling over stimulates the vestibular system; later on, monkey bars, roly-polies and cartwheels.

## Task

Above we have listed a brief overview of 4 specific areas of physical movement. It is important to recognise these areas individually and support children with real intention in each.

Research the headings in more detail within your team and come up with a list of activities that challenge the areas specifically. We have listed some websites to get you started.

- How can you implement these activities in your setting?
- Can you adapt the activities for babies, toddlers and preschool?
- Do you observe children in these areas, if not, could you?
- How could you support parents to understand the importance of these areas?

## Useful links

- [The Simple Guide to Bilateral Coordination + 30 Activities - Empowered Parents](#)
- [10 Crossing Midline Exercises For Kids - Growing Hands-On Kids \(growinghandsonkids.com\)](#)
- [Powerful Proprioceptive Activities That Calm, Focus, & Alert - Your Kid's Table \(yourkidstable.com\)](#)
- [The Best Activities for Vestibular Input \(growinghandsonkids.com\)](#)