



PADS Online

# Physiotherapy Sessions

## Brain & Body





# The Brain/Body Connection

At birth, connections to higher senses in the brain are very underdeveloped. It can be compared to the neurological equivalent of preliminary sketches, or a blueprint for a Grand Design.

The human infant is born at a relatively premature stage of development in terms of its motor skills and brain development, compared to other land-based animals.

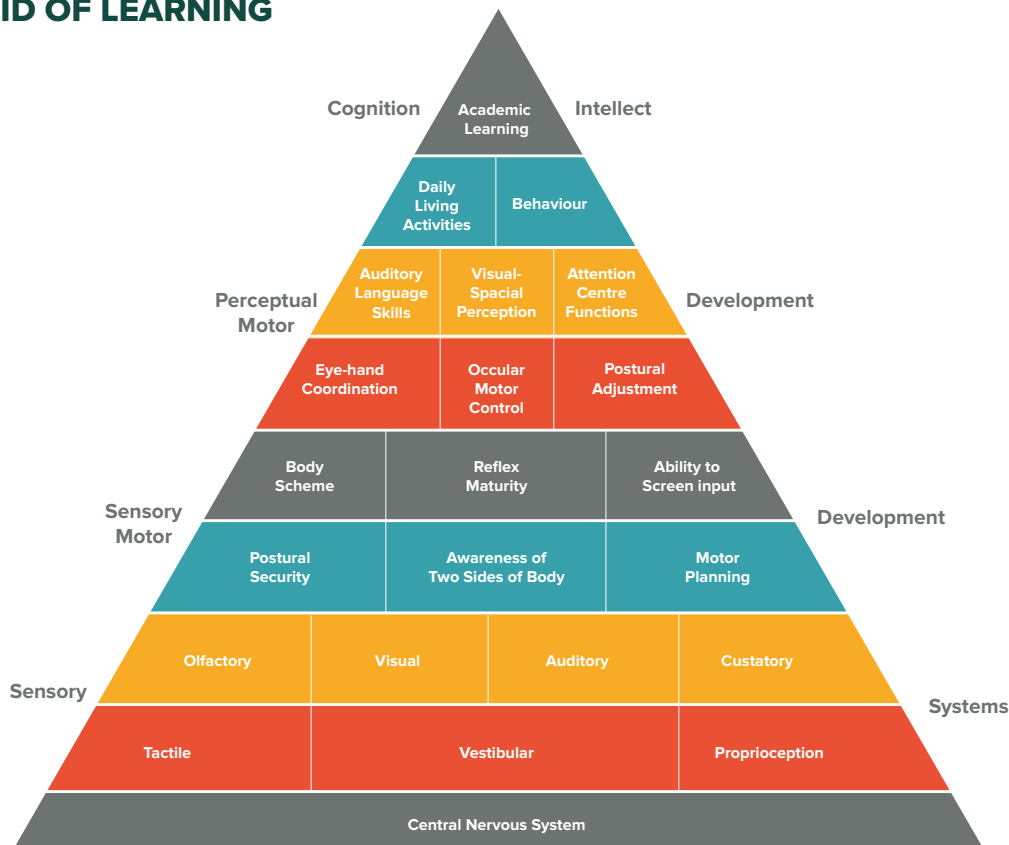
Think of a baby giraffe or a foal struggling up on to its legs shortly after birth. They are mostly ready to function and move like

the adult as their brain and motor skills are almost fully developed. They don't require the critical thinking, problem solving skills and emotional regulation of humans and so are able to function in their world from birth.

In comparison the human infant is quite helpless and relies on its parents for its every need.

The first movements of the newborn baby are controlled by primitive brain reflexes which are mostly for survival.

## PYRAMID OF LEARNING





Think of the way a baby moves when they hear a loud noise (startle or Moro reflex) or the cute way your new baby grips your finger tightly (grasp reflex) or how your baby moves their lips and turns their head (root/suck reflex) when hungry or ready for food.

These reflexes are involuntary and must be replaced by voluntary **postural** reflexes.

The **first 9 months** of postnatal life are a crucial time for brain and body development!

This nine month timeline is for a typical infant. If your baby has low tone or health issues this timeline will lengthen. It is not the length of time that matters but rather the pattern of movements that a baby experiences through all their senses. So, don't panic about a timeline.

Be patient and allow your baby to move through the stages of development at their own pace.

When we are born, all parts of the brain have been established, however they are not yet working well together. In order for all parts to function as a unit they must be developed and linked up to each other.

This is achieved by the rhythmic infant movements that stimulate the growth and the branching off of the nerve cells and the myelination of the nerve fibres. The infant needs to develop sufficient muscle tone in order to move around and stimulate this linking together.

To establish tone, the infant needs to be touched, hugged and rocked, as well as being allowed to move around freely. Such stimulation sends signals from the sense organs of the tactile, balance and kinaesthetic

(movement) sense to those centres of the brain stem that regulate tone.

**SO, WHERE DOES THE PARENT COME IN HERE AND WHAT CAN YOU DO TO INFLUENCE OR MAXIMISE YOUR BABY'S DEVELOPMENT?**

**Low Tone:** support and stimulate your baby to be able to develop head control and then core and postural stability.

**Hypermobility:** ensure good alignment and ideal positioning when awake. Support and strengthen joints to allow controlled and graded movements.

As outlined in the 'Senses' document a baby needs a rich sensory environment to thrive.

This is even more important if your baby has low tone, as they may be very placid and not inclined to move themselves. This may be because it is very effortful, so the parents should give the baby outside stimulation and continue to give this stimulation until the baby takes over themselves.

This is done through handling and challenging the baby through guided movements to let them experience what they need to develop to the best of their ability.

We hope this has informed and motivated you as a parent to take charge and feel that you can help and guide your baby. Also, to know that you can influence the developmental path that your baby will take.

