

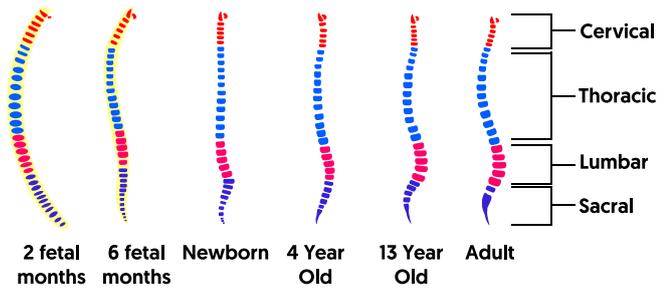
Targeted Training

Neutral Vertical Posture

Introduction:

A child's spine is fairly flat to around age 7 when the small curves transition into the natural s-shaped curve of an adult.

Development of the Spinal Curves



What is Neutral Vertical Posture?

- Eyes - forward
- Chin - neither protracted or retracted
- Ear - ear lobe in line directly above the hip
- Shoulder Girdle - neither protracted or retracted
- Hands - not resting on the bench or on the child's legs or body
- Spine - minimal spinal curvature [age dependent]
- Pelvis - neutral
- Hip - knee angle 90-90



The neutral vertical posture means that the joints of the head and trunk (and lower limbs if standing) are close as possible to neutral i.e. not flexed, extended, laterally flexed or rotated.

The spine is in a neutral position and so all muscle groups can respond and appropriate active neurological control can kick in.

This also means that joints are under ACTIVE control and not resting on bony end stops or taut ligaments to gain pseudo-control.

The advantage of the neutral vertical posture is that the moments acting about joints are minimised – this reduces stresses on joints and other structures and results in minimal energy costs. This is unique to the neutral vertical posture.

There is also a further advantage – a child who is beginning to learn control of joints of the trunk can do so more easily since the muscle force needed for control is as low as it can be.

Neutral vertical posture is seen as the moment when the child actively lifts their head and the free part of their body to neutral and engages in play/interaction.

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Neutral Vertical Posture

What Neutral Vertical Posture is not

It is important to distinguish the neutral vertical posture from simply being 'upright' which is much less specific. A child can be in a generally upright posture but without the neutral vertical trunk posture that is needed for Targeted Training.



General trunk rounding even though hands are not supporting



Flat trunk profile and hands free but child leaning forwards

The neutral vertical posture is the ideal basis for learning movement control as it enables efficient movement in all directions using all muscle groups - anteriorly, posteriorly, laterally and rotation.

“It is this true control learning that enables transfer to functional abilities”



Penny Butler, Physiotherapist Consultant

Neutral vertical posture should be set individually for each child, it may be seen immediately when the child is brought to upright, but if not, there are adjustments built in to the Squiggles TT in order to achieve this. For further information on achieving neutral vertical posture within Squiggles TT see clinical workbook.

For full list of references please visit the Squiggles TT page at www.leckey.com



Child upright but with a lordosis that is greater than normal at this age