Institute for Neuro-Physiological Psychology (INPP)

NeuroDevelopment and Primitive/Postural Reflexes

As part of the NeuroGeniSys Procedure and Assessment, Crossroads Institute looks at the NeuroDevelopment and NeuroMaturation of the brain. Part of the NeuroDevelopment assessment involves a comprehensive Primitive and Postural Reflex assesment. Crossroads Institute uses the Institute for Neuro Physiological Psychology (INPP) technique created in Chester, England and is INPP Certified to conduct these assessments. Crossroads Institute has been authorized by INPP to train other practitioners who wish to learn and become certified in this technique.

Primitive and Postural Reflexes

Just what are Primitive and Postural Reflexes?

Sally Goddard Blythe (Director of INPP) relates it this way. "At birth, a baby is a floppy, reflexive mass, with no voluntary control over movement. The baby responds to sensation through the primitive reflexes."
Each one of us is born with a set of primitive reflexes (sometimes known as "survival reflexes"), which should be inhibited or controlled by a higher part of the brain during the first year of life. Every normal developing baby, irrespective of race or culture, and at approximately the same stage of development, will make a series of automatic stereotyped, rhythmical movements. These are mediated by the brain stem (the lowest, most primitive part of the brain). Their job is to control basic survival functions necessary for the first few months of life.
If these are not inhibited during specific times in infant/child development, they remain "active" in the body, and may impede subsequent motor control, eye functioning, eye hand coordination and perceptual skills. Frustration, hyperactivity and hypersensitivity may be further symptoms, as the child finds it difficult to perform daily tasks to his true level of potential, while to all outward appearances he is perfectly "normal".
Primitive and postural reflexes allow many aspects of development and brain function to occur. During typical development in the first six months of life, a baby will rapidly gain control of the primitive reflexes, and lay the foundations for later voluntary movement. As maturation occurs, Primitive Reflexes begin to diminish or are replaced by Postural Reflexes. As this occurs early survival patterns are inhibited to allow more mature patterns of response, (the postural reflexes), to develop.
The postural reflexes are regulated by the cerebellum, which acts as a tape recorder, recording every movement. Later on, movement patterns are played back and adjusted to meet the demands of the task being performed. It is only as postural reflexes replace primitive reflexes that the infant begins to gain control of the body and body movements.
Children who do not develop typically or who are delayed in their development due to prematurity, illnesses or other developmental delays can be profoundly affected. For instance, children with cerebral palsy (CP) never makes the transition from primitive to postural reflexes,

and so movements remain random and uncontrolled. (Goddard, S., 1998) If children with developmental delays fail to gain control, some of the primitive reflexes may remain present and the postural reflexes do not develop fully. These children are not cerebral palsied, but they do have enormous difficulty with voluntary movement patterns as the body remains under the influence of involuntary response. If there is a cluster of primitive reflexes these will affect learning, concentration and coordination.
Retained primitive reflexes will affect a child's sensory perceptions, causing hypersensitivity in some areas and hyposensitivity in others. If both sensory input and motor response are impaired, conceptualization of certain movements becomes impossible.
This can affect not just arms and legs, but eye functioning, visual perception, balance and the processing of auditory information.

It is hardly surprising therefore that many of these children experience difficulties at school, or that some adults cannot cope well with stress and often over react.

Primitive and Postural Reflexes - Studies & Evidence
In 1970 at the University of Kansas, an occupational therapist (Gustafsson) was able to isolate learning difficulties children purely by the presence of a cluster of primitive reflexes.
In 1972, also at the University of Kansas, an associate professor (Barbara Rider) performed a similar study.
Both Gustafsson and Rider not only isolated the learning difficulties in children, but those with only a few primitive reflexes were found to be the underachievers and/or emotionally disturbed children.
At the University of Newcastle upon Tyne in 1994, Gwen Wilkinson, went into three classrooms without knowing anything about the children beforehand. She tested for the presence of four of the major primitive reflexes. Not only did she isolate the LD children, but the underachievers were also identified.
These, and other studies, together with mounting empirical evidence, suggest that primitive reflexes can play a significant role in learning difficulties.
At the University of Missouri, Esther Thelen, one of the leading experts in motor development, found that all children, irrespective of race or culture, do in fact make the same stereotyped, rhythmical movements at approximately the same stage in development. Thelen observed that kicking movements peak just before the baby begins to crawl, as if the rhythmic kicking were a part of the preparation for crawling. Her work has helped those working in the field of development to see the patterns and order in the apparently random movements of the young infant.
These stereotyped, rhythmical movements help the developing brain to control the reflexes - not only does the lower part of the brain (brain stem and medulla) contain the primitive reflexes, but it also contains a movements pattern which helps the brain to inhibit that reflex. This inhibition of the primitive reflex is necessary prior to the postural reflexes to come forth.