Making the Connection between...

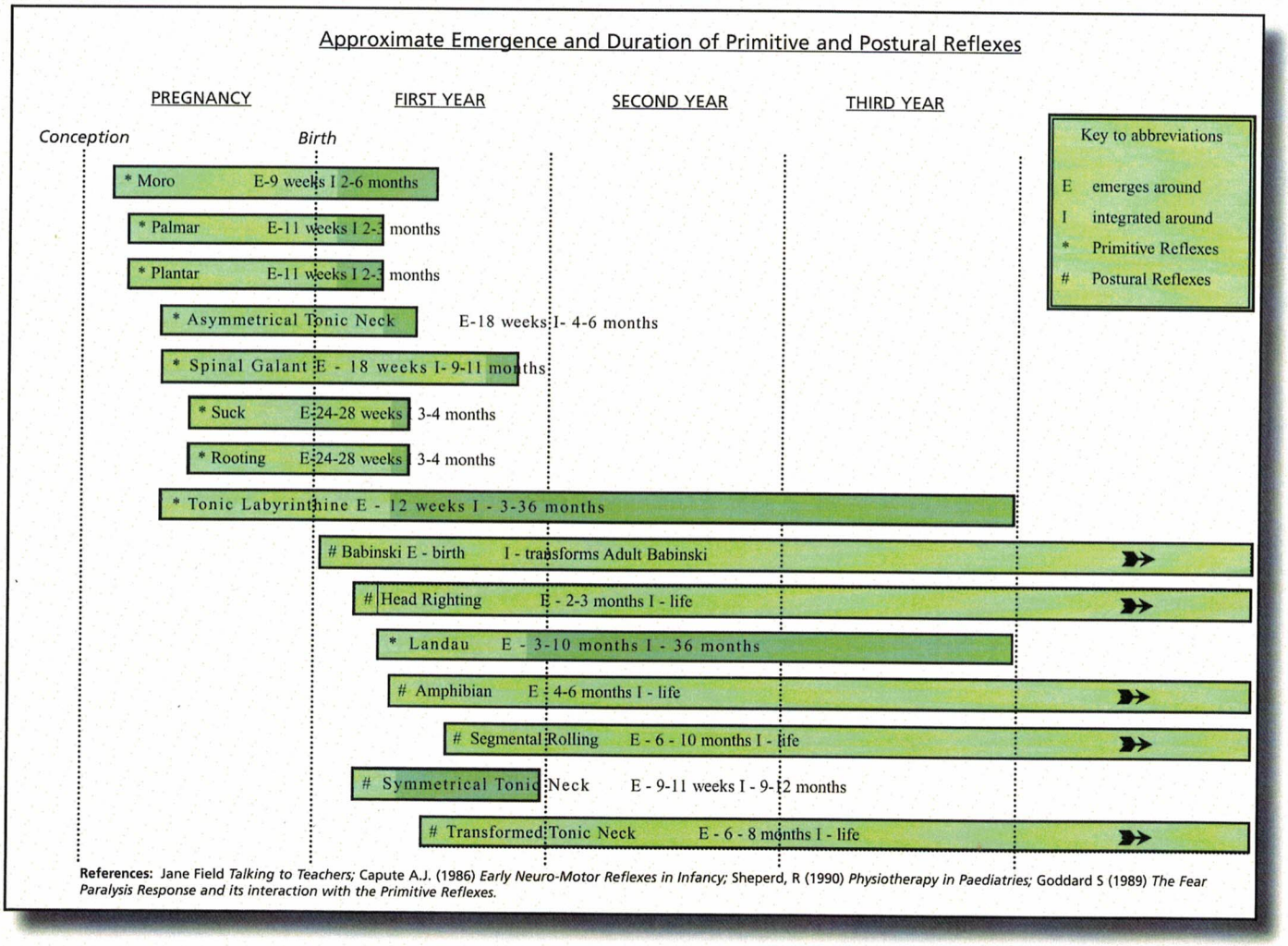
Primitive Reflexes, Sensory Processing Disorder, and Chiropractic Solutions

By Charles W. Chapple, DC, FICPAr

Editor's Note: *Many of our readers will remember Dr. Chapple's S.I. Focus article in Autumn 2005, in which he introduced us to the benefits of a biomechanical approach for improving sensory, motor, and neurological function. This new article will help us see the importance of addressing retained primitive reflexes. To learn more about the biomechanical approach, you may read Dr. Chapple's first article in its entirety by visiting our website at www.SIfocus.com and clicking on Sample Articles.*

Sensory processing disorders encompass any condition which demonstrates the inability to process information through the senses. Any person who has spent quality time with an individual diagnosed with Sensory Processing Disorders (SPD), Autistic Spectrum Disorder (ASD), Attention Deficit Disorders (ADD/ADHD), and Pervasive Developmental Delay (PDD) acknowledges the presence of irregularities in sensory processing. Whether it be rocking, heightened impulsiveness, awkward balance, or an aversion to or a fixation on a noise or an object, at its core is the ineffective communication between internal and external environments.

Understanding the nervous system helps the parent and practitioner to find solutions. Acknowledging and evaluating persistent primitive reflexes or retained primitive reflexes (RPR) and their relationship to the nervous system along with their impact on sensory



References: Jane Field *Talking to Teachers;* Capute A.J. (1986) *Early Neuro-Motor Reflexes in Infancy;* Sheperd, R (1990) *Physiotherapy in Paediatries;* Goddard S (1989) *The Fear Paralysis Response and its interaction with the Primitive Reflexes.*

processing can be a critical aspect of diagnosis, cause and treatment for these individuals.

An equally integrated function of the CNS is the body's interpretation and application from the senses, as well as its transition from the primitive reflexes seen in the newborn, such as the "sword fighter's stance," to the more mature postural reflexes of the older infant and toddler, such as protective movements that maintain safety and balance. Our "far senses" respond to a stimulus outside of our body. These senses allow interactions with what we hear, taste, touch, smell and feel. Our "near senses" or "hidden senses" automatically respond to a stimulus within our body. These senses enable body awareness and balance. Our primitive reflexes and sensory systems facilitate our first interactions of life.

Primitive reflexes are automatic survival responses to stimuli, which develop during uterine life and should be fully present at birth. (See chart). These reflexes are typically inhibited by the higher brain in the first 6-12 months of postnatal life. These higher brain centers regulate postural reflexes, which are involved in voluntary and developmental movement. In essence, gross motor development must precede fine motor development, which fosters an ordered learning. From primitive to postural reflexes, to subsequent motor patterns, to perception, to language, to awareness and then to academics, a learning "hierarchy" is built.

Retained primitive reflexes (RPRs) are reflexes that have remained when the postural reflexes do not fully develop. Therefore, the body remains under the influence of the involuntary instead of voluntary control. RPRs have been related to difficulty with movement and balance, irregular visual and auditory perception, and irregular sensory processing. Subsequently, an individual with RPRs could appear clumsy, have difficulty utilizing both sides of the body involving a task, and have poor visual tracking and judgment, as well as attention, behavioral and socialization difficulties.

The role of the CNS is to sort through this maze of neurological impulses, and route them to the correct destinations. Although no health care is guaranteed or without risk, Chiropractic and Craniosacral therapy (CST) can be a safe, non-invasive, and effective way to improve the CNS's supportive structure and therefore enhance its function. Chiropractic and CST may be beneficial in improving the integration of RPRs into the more developmentally mature postural responses, allowing the child to experience improved movement and sensory function.

An individual is defined as having problems with sensory processing concerns when he exhibits variations in sensory activity in frequency, intensity and/or duration. The effects of these variations are seen as underresponsivity and overresponsivity. An individual with SPD, ASD, ADD/ADHD and PDD, and other CNS imbalances may experience a worsening of symptoms of these conditions as a result of subluxations. Subluxations are characterized by 1) irregular boney mechanics of spinal misalignments, 2) nerve imbalances, 3) muscle irritation, 4) tissue inflammation and 5) degenerative wear. Subluxation results in poor motor, sensory and neurological function. Additional challenges might manifest in numerous forms, possibly accentuating an underresponsivity or overresponsivity.

Ultimately, a biomechanical approach to facilitate reflex, sensory, motor and neurological function for these special-needs individuals can be benefited by bioenergetic, biochemical/nutritional, and bioemotional components. Within this complementary approach, which would ideally involve many separate health care practitioners and health care approaches, a person's total health, either separately or shared, are not meant to be a cure for individuals with SPD, ASD, ADD/ADHD and PDD. However, functional, behavioral, emotional and educational gains are legitimate goals whenever structure is improved and function follows. ✦

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Dr. Charles W. Chapple completed his undergraduate studies at Nazareth College of Rochester, NY receiving a Bachelor degree in Biology before earning his Doctorate degree in Chiropractic from National College of Chiropractic in 1991. For more information, visit: www.drchapple.com