

**FIRST AFTERNOON SESSIONS (6 days) SUNDAY, April 23rd – FRIDAY, April 28th
(Johnson)**

CME: 9.0 CME Credits. (The total time for the above 6 sessions is a maximum of 540 minutes. Based on content review by the CME provider, a total of 540 minutes has been designated for CME credit)

TIMES and DATES: 2:00 – 3:30 pm, SUN 4.23 to FRI 4.28, 2016

COURSE LEADER: Susan R. Johnson, MD

TITLE: Integrative Pediatric Developmental Assessment—Screening for Developmental and Learning Problems

DESCRIPTION:

This course will provide an in-depth look at the way in which a child senses and relates to his or her own body, through the experiences of touch, balance (the vestibular sense), movement (the proprioceptive sense) as well as a general sense of well-being (which we will explore as the “life” sense). The course will also explore how these foundational senses are related to the development of learning and thinking in the older child, and how they are needed for the continued development of higher intellectual and moral capacities in adulthood. The chronology of these developmental pathways will be explored, and how later academic challenges can be greatly helped by strengthening these body-oriented sense capacities.

The course will provide a deeper, holistic understanding of the imbalances that stand behind many of the diagnostic labels given to children today (such as ADD, Autistic Spectrum Disorders and Dyslexia), and will provide methods for assessing whether children are reading phonetically (by sounding-out words), or by sight memory (a spatial recognition of words). The course will also offer practical assessment of eye tracking, eye convergence, retained early reflexes, balance, proprioception, bilateral integration, and integration of vertical and horizontal mid lines.

Objectives:

- Review the basic anatomy and physiology of the senses of touch, balance and movement.

- Explore ways in which a child develops a healthy sense of touch, as well as signs of touch hyper-sensitivity and hypo-sensitivity (hyperesthesia and hypoesthesia).
- Explore ways in which a child develops a healthy sense of balance, as well as signs of an over-active or under-active vestibular sense.
- Provide instruction, including practice session time, for learning techniques for assessing balance.
- Provide instruction, including practice session time, for learning assessment tools to evaluate auditory processing.
- Explore ways in which a child develops a healthy sense of movement and how this is related to proprioception and bilateral integration.
- Provide instruction, including practice session time, for assessment techniques for proprioceptive pathways.
- Provide instruction, including practice session time, for the assessment of the bilateral integration pathways.
- Review the anatomy and basic physiologic activity of the autonomic nervous system, and how this relates to an overall sense of contentment or agitation.
- Explore ways to assess a child's connection to this autonomic functioning through the lens of a "life" sense.
- Provide instruction, including practice session time, for learning to read and assess spatial/visual and phonetic learning.
- Provide instruction, including practice session time, for learning practical assessment of eye tracking and convergence.
- Provide instruction, including practice session time, for learning practical assessment of retained early reflexes.
- Synthesis of main elements and instruction in a 30-minute screen of a child's development and pre-reading or reading skills.

References:

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2. Dyslexia-specific brain activation profile becomes normal following successful remedial training. Simos PG, Fletcher JM, Bergman E, Breier JI, Foorman BR, Castillo EM, Davis RN, Fitzgerald M, Papanicolaou AC. Neurology. 2002 Apr 23;58(8):1203-13. <http://www.ncbi.nlm.nih.gov/pubmed/11971088>
3. White Matter Microstructure is Associated with Auditory and Tactile Processing in Children with and without Sensory Processing Disorder. Chang YS, Gratiot M, Owen JP, Brandes-Aitken A, Desai SS, Hill SS,

- Arnett AB, Harris J, Marco EJ, Mukherjee P. *Front Neuroanat.* 2016 Jan 26;9:169. doi: 10.3389/fnana.2015.00169. eCollection 2015.
<http://www.ncbi.nlm.nih.gov/pubmed/26858611>
4. Influence of Relative Age on Diagnosis and Treatment of Attention-Deficit Hyperactivity Disorder in Taiwanese Children. Chen MH, Lan WH, Bai YM, Huang KL, Su TP, Tsai SJ, Li CT, Lin WC, Chang WH, Pan TL, Chen TJ, Hsu JW. *J Pediatr.* 2016 May;172:162-167.e1. doi: 10.1016/j.jpeds.2016.02.012. Epub 2016 Mar 10.
<http://www.ncbi.nlm.nih.gov/pubmed/26973148>
 5. Physically Active Math and Language Lessons Improve Academic Achievement: A Cluster Randomized Controlled Trial. Mullender-Wijnsma MJ, Hartman E, de Greeff JW, Doolaard S, Bosker RJ, Visscher C. *Pediatrics.* 2016 Mar;137(3):e20152743. doi: 10.1542/peds.2015-2743. Epub 2016 Feb 24.
<http://www.ncbi.nlm.nih.gov/pubmed/26912206>
 6. "Motor" impairment in Asperger syndrome: evidence for a deficit in proprioception. Weimer AK, Schatz AM, Lincoln A, Ballantyne AO, Trauner DA. *J Dev Behav Pediatr.* 2001 Apr;22(2):92-101.
<http://www.ncbi.nlm.nih.gov/pubmed/11332785>
 7. Children's reading performance is correlated with white matter structure measured by diffusion tensor imaging. Deutsch GK, Dougherty RF, Bammer R, Siok WT, Gabrieli JD, Wandell BA. *Cortex.* 2005 Jun;41(3):354-63. <http://www.ncbi.nlm.nih.gov/pubmed/15871600>
 8. A School Inspired by the Principles of Public Waldorf Education—Results of a Stanford Research Team Study. Beaven L. *Renewal.* Spring/Summer 2016;25:38-40.
 9. Wired for Reading: new scientific findings spell difference, not disability, for struggling readers. Sara Bernard. *Edutopia.org*
 10. Does our Educational System Contribute to Attentional and Learning Difficulties in our Children? Johnson SR. *Research Bulletin*, Spring 2010, Volume 15, #1.
 11. Healing Children who have Attentional, Emotional, and Learning Challenges. Johnson SR. *Waldorf Research Bulletin*, Autumn 2006, Volume 12, #1.