

# A Neuro-Postural Approach to Learning Disabilities: A Pre-Requisite to Sensory Integration Treatment



## Clinical Observation of Posture and Developmental Aspects

Generally, children with disorganization show a fairly consistent profile. They often present with low normal postural tone, asymmetry in body alignment, selected areas of tightness usually in proximal areas, poor structural stability of the arches of the hands and feet, and a lack of good stability of the trunk. Postural and movement characteristics seen in children with postural disorganization are compensatory patterns that develop over time. The relationships between developmental experience and later observed characteristics seen in children with postural and movement disorganization are important to understand in order to fully appreciate the compensatory structure and function often observed in these children.

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These patterns result from inefficiency in organizing basic postural mechanisms and a mismatching of proprioceptive information from the visual, vestibular and cervical-somatic systems.

Mismatches in the organization of the Visual-Vestibulo-Cervical Triad (VVC) can be the result of developmental factors of low postural tone including the musculature of the visual system, lack of experience in weight-bearing postures, inadequate development of rotation, and inefficient postural stability of the body and visual system. These developmental factors influence the development of structure, alignment, midline control, central stability and overall efficient sensorimotor performance.

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## Integrating Neural Systems: Improving Performance in Children with Learning Disabilities

The concept of neural systems integration is a dynamic weighting and re-weighting process between systems that provides the foundation for skilled performance and learning. The concept of the visual-vestibular-cervical triad as a basis for neural system organization and integration will assist in the understanding of how neural systems interact. A problem in one system can result in compensatory inefficiencies. Each system leads, and is lead by the other systems, through the process of weighting and re-weighting. These concepts will provide a more dynamic understanding of how we can interact clinically in a more specific and successful way.

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## Analyzing Movement and Posture Disorganization in Children with Learning Disabilities

An observational protocol to analyze movement and posture disorganization in children with learning disabilities. Movement sequences, postural alignment, and analysis of movement components are presented. Normal responses are contrasted with disorganized motor performance. The viewer is guided through administration, observation, interpretation, and treatment implications.

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## The Treatment of Movement and Posture Disorganization

Children with learning problems are too often labeled and categorized without a careful analysis of their functional learning skills. The ability for children to be successful in developing learning strategies depends in large part on the integration of their sensorimotor processes. These processes require the organization of movement and posture and the sensory components involved in the task. Integrated motor patterns are most likely to develop when proper alignment, postural tone, weight distribution, and mechanical advantage for efficient muscle synergies are facilitated through active physical handling. Direct physical handling and facilitation techniques for establishing a neuropostural foundation for children with motor disorganization are clearly discussed and demonstrated.

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## Learning Objectives

1. Describe the basic characteristics of alignment and its importance.
2. Identify the basic postural characteristics in children with movement and posture disorganization.
3. Describe the importance of weight distribution on alignment and movement organization.
4. Explain the importance of establishing a neuro-postural base prior to sensory integration activities.
5. Describe the importance of developmental experiences to functional skills.
6. Describe the implications of poor quality developmental experiences.
7. Describe the importance of midline development.

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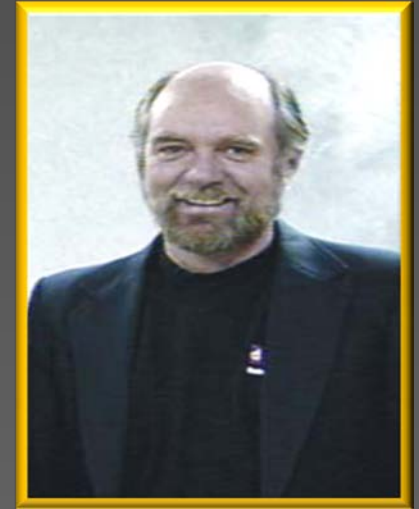


## Learning Objectives

8. Describe the importance of the development of the hands and feet.
9. Describe the importance of the Visual-Vestibular-Cervical Triad
10. Describe the importance of the neck.
11. Describe the importance of the visual system.
12. Describe the importance of somatic-vestibular proprioception.
13. Describe the observational analysis of each subtest.
14. Describe the basic concepts of treatment.
15. Describe the use of preparation techniques to enhance alignment and postural readiness.
16. Describe the importance of establishing good rotational movement components.

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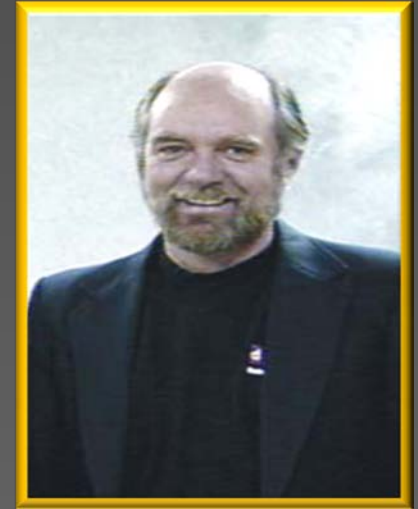
W. Michael Magrun holds a Masters Degree in Occupational Therapy from the State University of New York at Buffalo and bachelors degrees in Management Science and Journalism from the State University of New York at Buffalo and the University of Arkansas at Little Rock, respectively. Mr. Magrun is a former instructor of occupational therapy at SUNY at Buffalo, and the University of Central Arkansas. He served as President of the Arkansas State Occupational Therapy Association, and served on the AOTA Committee of State Association Presidents. He is a recipient of the Award of Merit for his clinical work from the Arkansas Occupational Therapy Association, and the Achievement in Science Award from the Neuro-Optometric Rehabilitation Association. Mr. Magrun has served as a consultant for Easter Seals Society and the United Cerebral Palsy Association.





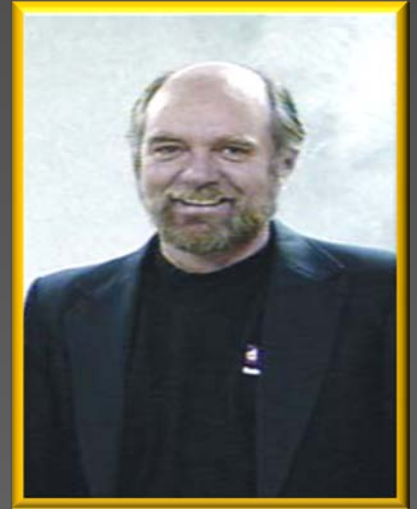
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Mr. Magrun attended one of the first certification courses in sensory integration treatment in 1979. He studied under Christine A. Nelson ,OTR, Ph.D., and received his certification in neurodevelopmental treatment (NDT) in 1979. He studied under Mary B. Quinton, PT, M.C.S.P., MBE and received his advanced certification in NDT baby treatment in 1982. He completed courses with Dr. Rex Baer, D.O. in the areas of muscle energy, and joint mobilization, as well as completing courses in soft tissue mobilization and myotherapy. Mr. Magrun collaborated with with Dr. William M. Ludlam. O.D., Dr. William V. Padula, O.D., and Dr. Richard Glonek, O.D., in the understanding of the important influence of the visual system. Additionally Mr. Magrun has worked closely with Raquel Benabib, M.S., COVT, in the implementation of visual intervention and physical handling as a combined treatment.



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Mr. Magrun has published articles in the American Journal of Occupational Therapy, the Somatics Journal, and the Occupational Therapy Journal of Health Care. He has authored manuals and clinical videos on various aspects of pediatric assessment and treatment. Currently, Mr. Magrun serves as Vice President and CE Administrator for Clinician's View®. Mr. Magrun is currently in private practice.



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## Topic Index

Text 1: Clinical Observation of Posture and Developmental Aspects

Video Parts 1-28 (24 min. 25 sec.)

Video: Developmental Difference (51 min. 28 sec.)

Text 2: Neural Systems Integration

Video Parts 1-13: (2 hrs. 50 min.)

Text 3: Evaluating Movement and Posture Disorganization

Video: Analyzing Movement and Posture Disorganization (57 min.)

Text 4: Sensory-Motor Integration in Learning Disabilities

Video: The Treatment of Movement and Posture Disorganization (1 hr.  
30 min.)