

David H. Durrant, DC, PhD(c), FACSP Chiropractic Neurologist

Dr. Durrant is the current Director of the Chicago Neuroscience Institute. After his doctoral training Dr. Durrant completed a residency and achieved board certification in neurology. He is pursuing a PhD in Health Services with emphasis on the application of molecular imaging in neurology. Dr. Durrant has maintained active Diplomate status with the American Chiropractic Board of Neurology. Dr. Durrant has attained prestigious Fellow status with American College of Spine Physicians and Fellow status with the International Academy of Clinical Neurology. He is the current President of the American Academy of Spine Physicians. Dr. Durrant has a longstanding interest in the area of neurology and sports medicine. He spent time observing and studying physical performance testing protocols at the United States Olympic Camp.



Professional Experience

- Board Certified Chiropractic Neurologist
- Director of Chicago Neuroscience Institute
- President of the American Academy of Spine Physicians
- Board Member of the International Spine Association
- Fellow of International Academy of Chiropractic Neurology
- Diplomate of the American Board of Chiropractic Neurology
- Author of a benchmark Neurology Textbook
- Prior Advisor to the Board of the Marine Military Academy
- Prior consultant to the Human Performance Lab at the Marine Military Academy
- Physician consultant to Elite and Olympic athletes

Chicago Neuroscience Institute

The Chicago Neuroscience Institute (CNI) is dedicated to diagnostic neurology and bringing hope and opportunity to individuals with neurological disorders and related complications. The Institute is committed to the evaluation, preservation, and enhancement of neurological function and physical performance.

To fulfill its mission, the Chicago Neuroscience Institute strives for excellence in diagnostic neurology, patient care and neuroscience education. The Institute is recognized for educating health care providers and for its pioneering work in the field of neuro-orthopedics, a subspecialty concerned with the relationship between the nervous system and physical performance.

Most of the patients seen at CNI are referred for diagnostic consultation or sports performance evaluation. CNI has served over 300 referring physicians of various disciplines.

Diagnostic Divisions

- Clinical Neurology
- Neuro-orthopedics
- Neurophysiology
- Neurocardiology
- Neuroendocrinology
- Neuroimaging
- Neurogenetics



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Human Performance Laboratory



The human body contains over 600 muscles, more than 300 joints, and billions of nerves which influence movement.....



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Human Performance Evaluation at the Institute

The Division of Neuro-Orthopedics of the Chicago Neuroscience Institute (CNI) houses a World Class Human Performance Laboratory (HPL). The lab is used to quantify physical limitations secondary to neurological compromise and to evaluate athletic performance. The physical performance evaluation serves as an extension of the history and physical examination.

The HPL is integrated with other diagnostic services at CNI to help determine how a neurological or neuromuscular disorder impacts an individual's physical performance. A workup may involve assessing the functional significance of abnormalities on advanced neuroimaging studies such as CT or MRI.

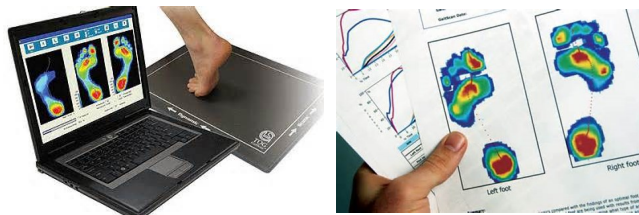
Chicago Neuroscience Institute	
Age	35
Height	175
Weight	75
BMI	24.5
Body Fat %	12.5
Lean Body Mass	65.5
Water	48.1



Body Composition Analysis

Body composition analysis refers to the quantitative assessment of the distribution of muscle, fat, and water in the body. The distribution plays an important role in health and performance. Excess body fat and abnormal distribution of body fat increases the risk of acquiring many different diseases. Excess fat or an abnormal ratio of fat to muscle impairs physical performance and places more stress on the spine and extremity joints. CNI uses state of the art bio-impedance technology to assess lean body mass, fat mass, water distribution, body mass index (BMI), percent body fat (PBF) and extremity muscle distribution.

Technology at the Institute



Foot Biomechanics



Gait and Balance Testing



Lower Body Testing

Upper Body Testing



Motion Analysis

Nerve Disorders and Performance Testing

Nerve compromise often results in a loss of nerve signal to muscle. This leads to varying degrees of muscle incoordination, muscle weakness, and muscle atrophy. CNI has developed special testing protocols to assess muscular performance associated with neurological compromise. Mild nerve compromise usually presents with exertional muscular fatigue, a finding which is not obvious during routine physical examination. Testing in the Human Performance Lab can be used to assess:

- Body Composition
- Strength
- Power
- Endurance
- Balance
- Muscle Mass
- Coordination
- Reaction Time
- Range of Motion
- Integrated Movement

Nerve compromise often results in varying degrees of impaired sensation. CNI subsequently offers special tests and protocols to evaluate and record sensory integrity. This approach is referred to as quantitative sensory testing (QST).

An objective baseline of sensory and muscular testing can be used to follow disease progression, to evaluate treatment outcome, and to assess the impact of training on athletes.

Gait and Motion Analysis

The CNI Division of Neuro-orthopedics includes a Gait Lab where CNI staff has an opportunity to assess how a patient walks under different circumstances. A comprehensive gait evaluation typically includes balance assessment, analysis of pressure distribution under the foot and observation of the mechanics of walking on a treadmill. Video recording and computer analysis may be used for detailed biomechanical evaluation. Findings in the lab can be used to help develop orthotics, guide treatment, and direct intervention.

