



ABOUT INTEGRATIVE LEARNING CENTER OF MID AMERICA

Integrative Learning Center of Mid-America (ILCMA) is a non-profit organization with IRS 501.3(c) status. A young grassroots organization, ILCMA is not tied to any geographical location. Instead, programs are held where they are needed.

Our Mission: To nurture the health and development of individuals, through educational centers, enabling them to serve as active partners within the global community. Our Somatic Education center seeks to create lines of inquiry between the research/scientific, medical, somatic and holistic communities. Programming is designed to bring professionals, from a variety of fields, into a rich learning environment leading to collective exploration.

Our on-line library and journal "Science and Somatics" features medical animations and articles designed to bridge between the traditional medical model and somatics. The journal is free to all.

We are actively seeking other geographical locations in which to sponsor our programming. ILCMA is accepting donations specifically for research projects and scholarships for individuals with financial challenges.

ABOUT THE AUTHORS



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For your training needs in the *Feldenkrais Method*[®], *Bones for Life*, or *Integral Human Gait*[™]: www.ilcma.com
Explore.ilcma.com: Our Blog for podcasts, videocasts, on-line journal-*Science and Somatics*, and more

Gait as an Assessment and Intervention Tool

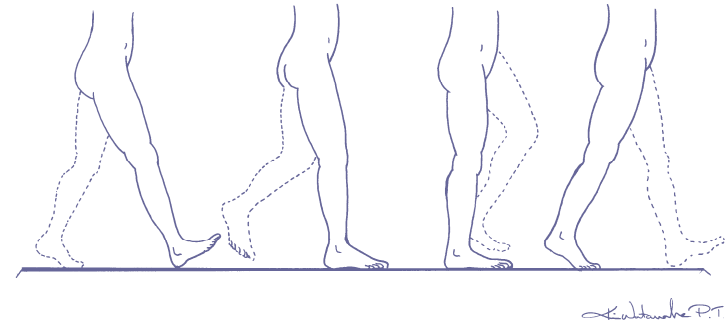
A Case Study

by Cynthia M. Allen and Carol A. Montgomery
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Abstract

BACKGROUND AND PURPOSE

It is our belief that the primacy of gait has been vastly overlooked both in identifying its vital components as well as understanding its effect on human health. We have developed a theory called Integral Human Gait™ (IHG). IHG probes unexplored lines of thought in the kinetic analysis of gait including ground reaction forces (GRF) in various positions, the uncoiling/spring power of counter rotation throughout a closed system, and the value of using sensory experiences. In this case study, IHG theory was used to guide the assessment and intervention with a client who had underlying musculoskeletal dysfunctions from long-standing scoliosis and more recently, a full thickness rotator cuff tear, both of which contributed to significant functional limitations.

METHODS

Judy referred herself to **Improving the Gait**, a 3-day workshop, due to an increasing undesirable feeling of “dragging my body around” and an increasing need for rest. The workshop was on Integral Human Gait™ using a didactic and experiential format that included *Awareness Through Movement* lessons, Bones for Life® processes, and physical therapy exercises. IHG explores ground reaction forces using the vertical power line of the heel and its impact on spinal alignment and counter rotation at various points from foot to head. Post workshop Judy received five *Functional Integration*® (FI) lessons. Tests administered included Timed Up Go (TUG), One Legged Standing Test with Eyes Closed (OLST) and several tests selected from the Berg Balance Scale. Tests were not specifically selected for this case study but used because directly prior to the workshop, Judy volunteered as a participant in an inter/intra reliability pilot. Videotape of Judy’s gait was also recorded.

RESULTS

Improvements were measured at 3 days and sustained at 1 week in the following tests: Timed 360° both directions (360x2); Timed Alternate Placement of Foot on Step (STEP); Timed Tandem Stance (TS); and Timed Standing on the Left Foot (FOOT). No significant changes were measured in TUG, OLST or Right FOOT. Improvements in standing rotation were demonstrated. Her gait displayed subtle but increasing levels of counter rotation between pelvis/lower extremities; pelvis-lower ribs/shoulder girdle; and

head/shoulder girdle. Counter rotation of the arms was increasingly generated by trunk rotation instead of movement at the glenohumeral and elbow joints in the sagittal plane. Judy’s need to rest “on a regular basis” decreased from 2-3 hours to no more than ½ hr daily. She reported depression over the decline of her physical body lifting. “I know it is possible to move securely even if I get up in the morning and feel out of alignment. I know the path I can use for moving forward confidently.” Judy further reported standing longer in choir performances without having her “back go out.” Results related to her shoulder have been variable.

DISCUSSION

With the intervention Judy learned how to recognize and transmit GRF from the vertical power line of the heel to the head. We theorize that the transmitted GRF served both as feedback and feedforward input into the nervous system allowing decompression of the scoliotic spine. The decompression restored the biomechanical possibility for counter rotation, both locally between the vertebrae, and globally with the head, shoulder and pelvic girdles. Both decompression and counter rotation are needed to perform well in 360x2, TS, STEP and FOOT. The lack of improvement in TUG and OLST seems appropriate. The components of rising from a chair quickly, fast walking, and peripheral proprioceptive balance input were not specifically addressed in the Gait Workshop. Using gait as an instrument to assess change and design interventions, Judy experienced improvement in stamina, emotional outlook and back comfort with standing and walking. She is currently continuing with FI lessons and open to surgical intervention if needed.

While the *Feldenkrais*® community understands gait from a broader perspective as compared to a traditional model, IHG theory creates a template for discovery of previously unexplored aspects of gait, thus enabling the practitioner and client to experience more focused outcomes. Additionally, people with scoliosis have more difficulty and energy expenditure in moving than is commonly understood. It is a novel idea to consider that a person’s scoliosis could contribute to a rotator cuff tear; and how, if left unaddressed, it may lead to a change in function. Innovative and less observed in the health care community, is the examination of “how” a person walks, and the impact that this “how” has on one’s overall health and sense of well being.