



Rolfing[®] Structural Integration

ALINE NEWTON

BRET NYE

RUSSELL STOLZOFF

Origins and History

Rolfing Structural Integration was developed by Ida P. Rolf, PhD (1896-1979). Dr. Rolf was born in New York in 1896, graduated from Barnard College in 1916, and received her doctorate in biological chemistry from the College of Physicians and Surgeons of Columbia University. Until the late 1920s she worked as a researcher at the Rockefeller Institute. Dr. Rolf evolved her methods over several decades and was profoundly influenced by the theories and practices of yoga, osteopathy, and homeopathy, which she used for her own health. Initially, Dr. Rolf was attracted to yoga because its theories were aimed at evoking human potential—physically, mentally, and emotionally.

In her early work she used various yoga and other movement exercises to create length across the joints of the body. Dr. Rolf also subscribed to a core concept from osteopathy—that body structure determines its function—and she adopted this principle in the creation of her methods of manipulation. However, she disagreed with the osteopathic emphasis that focused solely on freeing joint restrictions because it left out the crucial role that soft tissues play in determining body structure and function. Instead, Rolf developed the idea that bones are held in place by the body's pervasive network of soft tissues: muscles, fascia, ligaments, and tendons. She saw that chronic shortening in the body's soft tissues from strain, injury, and faulty habits creates compensatory adjustments throughout the body structure, including the misalignment of bones and their joints. She also pioneered the viewpoint that bodies are only balanced to the extent that they are organized vertically with respect to gravity. Imbalances are exacerbated by the compressive effects of gravity.

In the 1950s, after many years of experimentation with her patients, Rolf created and refined a 10-session sequence of myofascial manipulations that could be used to teach students to organize and balance misaligned body structure and thereby improve its function. In the mid-1960s, during the burgeoning human potential movement at the Esalen Insti-

tute in Big Sur, California, Rolf's methods became famous for transformational change. Dr. Rolf founded the Rolf Institute in 1971 in Boulder, Colorado, choosing some of her students from that time to teach and carry on her work. Today the Rolf Institute is a flourishing teaching and research center with its international headquarters in Boulder, Colorado and training centers in Washington, D.C., Germany, Brazil, and Australia.

Since Ida Rolf's death in 1979 the work of Rolfig structural integration has evolved to include a variety of soft tissue techniques (for example, deep connective tissue, craniosacral, visceral, and nonthrust joint techniques), all used in service of the principle of freeing compensations and organizing a body in gravity. Along with the original sequence of 10 sessions, principles have evolved that enable a more individualized and effective approach to changing a person's patterns of structure and function. Some Rolfers also are trained in Rolf Movement Integration, a method that enables them to assist patients in developing more effective habits of movement to support the structural changes that occur in the course of a Rolfig series.

Mechanism of Action According to Its Own Theory

The objectives of Rolfig—integration of human structure and improvement in human functioning—are accomplished primarily by a systematic manipulation of the connective tissues of the body. These connective tissues contain various proportions of collagenous fibers and fluid matrix. Selective deposition and resorption of connective tissue elements in response to internal and external environmental influences allows for the plasticity inherent in the human shape. Random, disruptive events of life (injuries, prolonged sitting, poor movement patterns, postural manifestations of psychologic stressors, and so on) can result in dysfunctional fixations and structural relationships with consequent loss of ease and range of motion. However, this plasticity of connective tissue also enables a Rolfer to selectively alter connective tissue structures in support of greater structural integration. By selective release and alteration of connective tissue structures the Rolfer accomplishes the task of structural integration. Dr. Rolf theorized that through the careful application of energy (in the form of pressure exerted by the practitioner's fingertips, knuckles, or elbow), it was possible to fundamentally change the tension matrix in these connective tissues. The release of fixations in the connective tissue network (what Dr. Rolf called "the organ of shape") and the resultant increased continuity and balance are primary goals of Rolfig.

From the outset, Dr. Rolf stressed that structural integration was an educational process. The relationship between connective tissue structures and the nervous system is not completely understood. It was apparent to Dr. Rolf that there is significant interaction between these two systems and that that change in one would manifest as corresponding change in the other. As Rolfig changes the shape of a patient's body, integrating its segments by releasing connective tissue fixations, it often elicits pronounced shifts in awareness of bodily sensations, proprioception, and emotions. The mechanism by which this happens is not known, but the integrin system, which links the extracellular matrix (connective tissue) to the biochemistry and behavior of individual cells, represents a promising pathway.¹

As the theory and practice of Rolfing has evolved over the years, there have been many techniques developed that take advantage of the concept of motility. Whereas mobility is voluntary bodily motion used primarily in locomotion, *motility* describes more subtle and involuntary motion in the body's tissues. Although the concept of motility was first described in the osteopathic literature and still is used in many osteopathic manipulative techniques, Rolfers have developed many uniquely Rolfing-based manipulative techniques that acknowledge and use the body's inherent motility and thus can evoke structural change with a minimum of effort and patient discomfort.

Biologic Mechanism of Action

Given these evolutions in the theory and practice of Rolfing, it is unclear at this point to what extent the changes elicited by Rolfing are a result of the following three proposed mechanisms:

1. Physically elongating the patient's connective tissues and freeing fixations in the patient's structures by application of direct pressure and movement;
2. "Educating" the neuromuscular network to operate more efficiently and at a lower level of tonus; and
3. Evoking an inherent negentropic organizational process by contacting and facilitating the restoration of the patient's own motility.

In all likelihood, all three mechanisms are at play in varying proportions depending on the unique needs of each patient and the aptitudes and inclinations that both the patient and Rolfer bring to the process.

Forms of Therapy

Rolfing is a service mark of the Rolf Institute of Structural Integration. The generic work is known as Structural Integration. Several schools of Structural Integration have evolved, all deriving from the work of Dr. Rolf, and each with a slightly different emphasis (for example, more psychologic or stricter adherence to the original 10 session sequence) and different educational prerequisites and training. The Rolf Institute training program is the most extensive and requires mandatory continuing education.

Demographics

Practitioners of Rolfing-Structural Integration can be found worldwide. In the U.S., Rolfers practice in nearly all 50 states, with concentrations on the East and West Coast and in Colorado. Patient population ranges from infancy to old age and is distributed equally between genders. It is estimated that more than 1 million people have received Rolfing work.

Indications and Reasons for Referral

People seek Rolfing as a way to improve posture, ease chronic musculoskeletal pain and stress, and improve performance in their professional and daily activities. Classic reasons for referral include the following:

- Postural conditions such as poor posture, hyperlordosis, kyphosis, and scoliosis
- Chronic musculoskeletal conditions such as back pain, neck pain, joint restrictions, and chronic tension
- Cervicogenic (stress or tension) headaches
- Radicular pain such as sciatica, carpal tunnel, and neck-shoulder-arm syndromes
- Stress
- Limited range of motion and flexibility
- Poor coordination
- Postinjury or postsurgery rehabilitation
- Aftereffects of old physical and emotional trauma (the “never-quite-right again” syndrome)
- Occupational injuries such as repetitive strain injuries (RSI), carpal tunnel, and back problems
- Improvement in athletic performance

Typically Rolfers see patients who have already consulted an MD and may have tried a pharmacologic approach or treatments such as chiropractic, massage, and a variety of physical therapy modalities, with little or no abatement in their symptoms.

The Rolfing model suggests that a wide variety of symptoms actually may reflect general structural imbalances or bad habits of movement and posture held in place by restrictions in the connective tissue “web.” These problems, which tend not to respond to local treatment, often are effectively addressed by identifying and releasing the overall imbalances and restrictions in the soft tissue network.

Office Applications

A simple ranking of conditions responsive to this form of therapy is as follows. As with all alternative therapies, use of Rolfing does not preclude the use of mainstream medical therapies in addition.

Top level: *A therapy ideally suited for these conditions*

Back pain; carpal tunnel; hyperlordosis; joint restrictions; kyphosis; limited range of motion and flexibility; musculoskeletal tension; neck pain; poor coordination; poor posture; pregnancy (musculoskeletal complaints during and after); rehabilitation (postinjury or postsurgery, including orthopedic intervention or mastectomy); repetitive strain injuries; sciatica; scoliosis; and stress

Second level: *One of the better therapies for these conditions*

Arthritis; chronic pain (musculoskeletal); foot pain; headaches; osteoarthritis; postpartum care; and temporomandibular joint pain syndrome

Third level: *A valuable adjunctive therapy for these conditions*

Asthma; chronic fatigue syndrome; insomnia; and menstrual cramps

Research Base

Evidence Based

Early research in the effects of Rolfing goes back to Dr. Rolf's tenure at the Rockefeller Institute from 1918 to 1927. She published a total of 13 papers, including *Project Breakthrough* at the Foundation for Brain-Injured Children in 1963. The subjects were children with poor coordination and disorganized, immature movement patterns for their age level. They exhibited better muscle tone, better alignment, improved language skills, and social responsiveness after Rolfing. A study of other neurologically compromised subjects, cerebral palsy in this case, published by Perry et al in 1981, documented significant changes in lower extremity passive range of motion, muscle strength, balance, and gait with Rolfing.²

Dr. Valerie Hunt, collaborating with Robert Wagner and Wayne Massey at the University of California-Los Angeles in the late 1970s, published papers that documented, among other things, electromyographic evidence of improved reciprocal inhibition in paired muscle groups after Rolfing; for example, when the biceps flex the elbow, the triceps passively lengthen with diminished resistance to the desired motion.³⁻⁵ This was considered a hallmark finding that documented what Dr. Rolf had observed empirically: That Rolfing resulted in greater ease of motion. In 1988 Rolfer and physical therapist John Cottingham was able to demonstrate increased parasympathetic (and therefore relatively decreased sympathetic) tone following Rolfing⁶ and its relationship to improved pelvic inclination following Rolfing.⁷ In 1997, Cottingham and Rolfer Jeff Maitland, PhD, published a case study illustrating Rolfing's integrative "third paradigm" approach in the treatment of people with chronic, idiopathic low back pain.⁸

Studies in Progress

Based on the remarkable results of a pilot project that reduced worker compensation costs in one manufacturing plant by 88% (primarily by reducing the incidence of and disability from repetitive stress injuries like carpal tunnel syndrome) the Rolf Institute is applying for funding for a larger study in three to five companies. In 1992 at the pilot study plant with 1650 employees, workers' compensation costs were approximately \$1.3 million. In 1996, as a result of implementing an innovative program featuring Rolfing by Siana Goodwin, the figure dropped below \$150,000 with 2400 employees. Another pending research project by John Cottingham will evaluate the effects of Rolfing and Rolfing Movement work on balance, posture, and parasympathetic tone in a group of older adults with balance dysfunction.

Self-Help versus Professional

It is not possible for individuals to "Rolf" themselves. However, Rolfers often are the source for self-help techniques based on an understanding of body function and exercise. It is the goal of the Rolfing practitioner to assist the patient in making lifestyle choices and integrating self-help techniques that will maintain the improvement resulting from the treatment.

Visiting a Professional

A typical first visit to a Rolfer usually involves talking about why the patient is interested in receiving Rolfing. Rolfers want to know the aspects of personal history that are likely to have an impact on body structure and function. Physical and emotional injuries, accidents, surgeries, and illnesses are among the most basic kinds of information needed. Additionally, current information including the type of work done, current levels of stress and pain and the way it is managed, and nutritional and exercise habits will help the Rolfer to further understand how daily life may affect the patient's body and how to proceed effectively. After an initial interview the Rolfer will want to observe the patient standing and in motion. This visual assessment of body structure and movement helps form a strategy that will address individual needs.

With the patient laying on a padded table, sessions begin with the Rolfer assessing the way the body's soft tissues are arranged around the skeletal structure. With the use of gentle yet penetrating manual manipulation of muscles and fascia, Rolfing systematically addresses the underlying causes of chronically tense muscles and motion restrictions in joints. By focusing on the structural relationships between adjacent areas and the body as a whole, these manipulations gradually organize tensional forces in the soft tissues and bring about shifts in body balance that translate into greater ease of posture and movement. Most Rolfers also verbally direct the patient's awareness to areas of the body and may ask the patient to move to help the body change. Most people discover that focusing their attention on the Rolfer's actions helps them to consciously participate in the process by allowing their bodies to respond to the suggestions their Rolfer's hands are making.

The benefits of Rolfing are best realized in a series of sessions. Each session is designed to focus on a particular set of structural relationships at varying levels of depth. In general the sessions proceed from surface structural relationships to deeper ones. As the sessions progress the patient's body structure becomes increasingly balanced and integrated.

An average basic series is comprised of 10 sessions; however, the exact number of sessions needed to for thoroughness can vary greatly depending on the nature and severity of structural issues and the ability of the body to adapt to change. After a basic series of sessions, periodic follow-up sessions may be needed or desired. Rolf Movement Integration sessions also may help to pattern new postural awareness and movement options that can augment the effects of the manipulations. After a period of integration in which the effects of Rolfing continue to unfold through the daily use of the patient's more efficient body, advanced series of sessions may be held to further address remaining structural imbalances and focus on applications of the changes to daily life.

Credentialing

The Rolf Institute is the sole certifying body for Rolfers. It is the organization that trains people as Rolfig practitioners and supports research and public awareness. The Institute sets high standards for its members by monitoring adherence to its code of ethics, standards of practice, and continuing education program.

Training

There are many imitators who provide various forms of work such as deep tissue massage and structural or postural integration. However, only certified Rolfers have gone through the rigorous training program and continuing education that enables Rolfig to maintain the high quality of the service mark. Certified Rolfers can be recognized by their listing in the Rolf Institute Directory for the current year, which is available through the Rolf Institute (see "Associations").

Barriers and Key Issues

Research

The complexity of the Rolfig Structural Integration model does not lend itself easily to the current standards in scientific research. It is difficult to isolate a single interventional factor when the connective tissue web as a whole is the primary means to change. Also, there is a powerful personal and psychologic dimension and an aspect of patient awareness that often plays a part.

Reputation

In the past, Rolfig has had a reputation for being painful. Developments in technique enable the Rolfig practitioner to accomplish the goals of structural integration with significantly less discomfort than was originally the case. However, the image persists somewhat in the public eye.

Lack of Insurance Coverage

Most patients do not receive insurance reimbursement for Rolfig treatments. A Rolfig series requires a significant investment of both time and money. Though it is very effective, it is not a "quick fix" technique.

Unfamiliarity

Rolfig Structural Integration is based on a complex model of structure and movement that is unfamiliar to practitioners of conventional therapies.

References

1. Ingber D: The architecture of life, *Sci Am* 278(1):48-57, 1998.
2. Perry J, Jones MH, Thomas L: Functional evaluation of Rolfing in cerebral palsy, *Develop Med Child Neurol* 23(6):717-729, 1981.
3. Weinberg R, Hunt V: Effects of structural integration on trait-anxiety, *J Clin Psychol* 35(2):319-322, 1979.
4. Hunt V, Massey W: Electromyographic evaluation of structural integration techniques, Los Angeles, 1977, UCLA Press.
5. Hunt V, Massey W: A study of structural integration from neuromuscular, energy field, and emotional approaches, 1977.
6. Cottingham J: Effects of soft tissue mobilization on parasympathetic tone in two age groups, *JAPTA* 68:352-356, 1988.
7. Cottingham J: Shifts in pelvic inclination angle and parasympathetic tone produced by Rolfing soft tissue manipulation, *JAPTA* 68:1364-1370, 1988.
8. Cottingham J, Maitland J: A three-paradigm treatment model using soft tissue mobilization and guided movement-awareness techniques for patients with chronic back pain: a case study, *J Orthop Sports Phys Ther* 26(3):155-167, 1997.