

## ROLFING'S EFFECT ON AUTONOMIC FUNCTION

by John T. Cottingham

We are pleased to announce that Phase I research article, "Rolfing Pelvic Lift Procedure and Associated Changes in Parasympathetic Tone" has been accepted by Physical Therapy, the journal of the American Physical Therapy Association. This represents the first time a paper on Rolfing has been published in a major American medical journal. The Phase I article discusses the effects of pelvic lift on short term parasympathetic activity and is theoretical in nature. However, clinical applications for musculoskeletal disorders associated with autonomic stress are also described in detail. We will notify you through Rolf Lines as soon as a publication date is set and reprints are available.

Phase II of the research is a more ambitious, clinical oriented study that will focus on the long-term influences of Rolfing on autonomic function and stress. This study is a joint venture of the Rolf Institute, Frances Nelson Health Center, and the University of Maryland Development Assessment Laboratory. Phase II was approved at the January 1987 Board of Directors meeting in Tampa and also by the Rolf Institute Research Committee (chaired by Dr. Francis Wenger) in early April. The Board allocated \$6,000 for immediate funding and committed itself to raising another \$6,000 by July 1, 1987.

### BACKGROUND AND OVERVIEW OF PHASE II.

Various somato-techniques (e.g. Rolfing, cranial osteopathy, and acupuncture) have associated their manipulative interventions with changes in the autonomic nervous system. Likewise, stress investigators have proposed that chronic stress can produce autonomic dysfunction. The stress response is usually pushed in the direction of chronic arousal - i.e. increased sympathetic activity. Somato-therapists have further proposed that, through manual therapeutic intervention, such as a chronic arousal condition can be altered towards a more balanced autonomic outflow - associated with an increase in regenerative, parasympathetic activity as well as a reduction in sympathetic tone. Unfortunately, little controlled, experimental research exists to support these theoretical constructs and clinical observations concerning autonomic stress reduction.

One of Dr. Rolf's visions was that research would eventually be conducted to substantiate her hypothesis concerning the connective tissue network and autonomic response - that reorganizing the myofascial system in relation to the gravitational field would, in turn, be reflected in optimum autonomic function:

The role of the autonomic nervous system in establishing and maintaining conditions which make possible the...intrinsic-extrinsic myofascial balance will require further specialized study...these studies will point the way toward a different understanding of the mechanism that is a human being.

In our research project, we are assessing parasympathetic tone from the heart rate pattern associated with breathing - the respiratory sinus arrhythmia (RSA). RSA is the rhythmic increase in heart rate

associated with inspiration and the decrease in heart rate associated with expiration. RSA is mediated by motor fibers of the vagus nerve. (The vagus nerve is a major component of parasympathetic activity.) Hence the amplitude of RSA is an estimate of cardiac parasympathetic tone and is termed vegal tone.

My research associate, Professor Stephen Porges, at the University of Maryland, has developed a micro-computer - the Vegal Tone Monitor. This patented device quantifies respiratory sinus arrhythmia by measuring the changes in the heart rate pattern associated with breathing. The methodology has been experimentally validated using a variety of pharmacological and electrophysiological interventions.

From a diagnostic viewpoint, analysis of heart rate patterns with the Vegal Tone Monitor is currently being utilized to screen newborns at risk in sleep apnea, brain hemorrhages, and other neurological problems. Ongoing investigations concerning diagnostic screening for adults and children include: assessment of neurological status after head injury, assessment of damage from diabetes, assessment of stress levels, assessment of attention disorders, and the assessment of autonomic changes produced by Rolfing (this project).

The vegal tone monitor not only accurately measures parasympathetic activity but also higher brain function. It is, therefore, a very appropriate method for assessing Rolfing's effects on the nervous system.

### OBJECTIVES OF PHASE II.

There are two main objectives in the Phase II investigation - both focus on the long-term influences of Rolfing on autonomic function:

- 1) To examine the effects of individual "core" sessions of the basic Rolfing sequence (e.g. rectus/illio-psoas work of the 5th session) in terms of parasympathetic activity. Vegal tone assessment would be made: before the session, after the session, and one day followup. The clinical implications would include Rolfing as a treatment modality for stress management and for various musculoskeletal problems associated with autonomic dysfunction (e.g., soft tissue pain syndrome, restricted breathing patterns, hyperextensive back and neck patterns, etc.). The theoretical implications would include a better understanding of the autonomic shifts that are associated with a given Rolfing session as well as the mechanisms by which soft tissue manipulation produces these alterations. (We have already been in contact with a medical journal that has expressed interest in publishing this type of investigation.)
- 2) To conduct a longitudinal study of Rolfing involving the assessment of vegal tone before the first session, after the tenth session, and a followup measurement. Hip range of motion and a psychological index will also be assessed. The

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clinical and theoretical implications for this study are similar to those described in objective 1.

The journal articles, that would be based on the data obtained from the Phase II investigations, should have significant impact on Rolwing's status in the health care community, third party insurance, and health maintenance organizations.

We want to again express our deepest thanks for the support that many of you have given towards this project over the past two years and ask that it may continue as we initiate this second phase. \*

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DISCOUNT RATES WERE OMITTED

In the Annual Meeting Registration Packet that was sent to members and students, the special discount rates being offered by Budget-Rent-A-Car were omitted.

The rates below do not include local taxes, refueling charges, and any optional coverages if taken.....

<u>RATES</u>	<u>DAILY</u>	<u>WEEKLY</u>	<u>MILEAGE</u> (in miles)
Economy	\$29	\$129	100 free per day
Compact	\$32	\$139	700 free per week
Intermediate	\$35	\$159	Additional miles 15¢
Full size	\$37	\$179	each on all car
Luxury	\$39.95	\$239	sizes.