

James L. Oschman, Ph.D.  
9 George Street  
Woods Hole, Mass. 02543  
617-540-1079

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## RESEARCH ON ROLFING

Dear Friends,

The purpose of this letter is to summarize a research proposal that is being submitted to the Rolf Institute. The title of the project is:

THE MUSCULO-SKELETAL RESEARCH PROJECT  
PART I  
A MOIRÉ CONTOUROGRAPHIC STUDY  
OF THE EFFECTS OF ROLFING  
AND ROLFING-MOVEMENT INTEGRATION  
ON SPINAL GEOMETRY

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### BACKGROUND

Last year the Aspen Research Institute submitted to the Rolf Institute a proposal called THE MUSCULO-SKELETAL RESEARCH PROJECT. Developed by Dr. Julian Silverman, the aim of that project is an integrated exploration of the effects of musculo-skeletal balance upon the various systems within the body. One aspect of the research proposed was to study the effects of Rolfing on human structure. Structure is a large subject, so it seemed appropriate to narrow the focus to a specific study and set of goals with defined clinical significance.

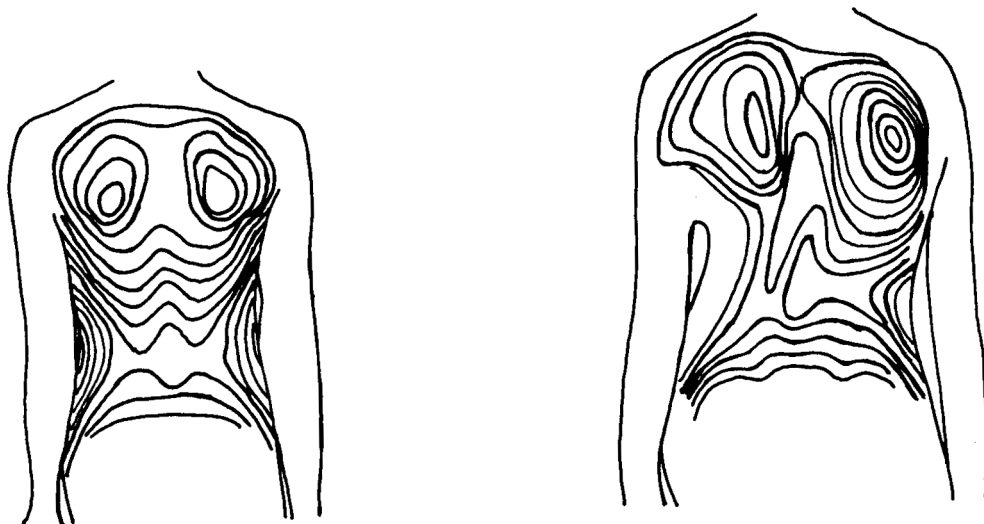
### ACKNOWLEDGMENTS

Continuation of this research design process has been made possible by the support of Myron M. Kaplan and Annette Hollander, M.D., of Weehawken, New Jersey, and by a contribution from Marilyn Thursby, Ph.D. The original work on the project by Dr. Silverman and myself was supported by the Aspen Research Institute established by Dean and Laurie Rollings. The North Eastern Region is sponsoring a presentation of the project at this year's Annual Meeting.

## BIOSTEREOMETRICS

The problem is deceptively simple. How to accurately measure the shape of an irregular, three-dimensional form such as a human body? In fact, the search for a convenient and accurate way to make such measurements has been under way for centuries. The research proposal gives a survey of the history of biostereometric measurement that has led to the development of the Moiré method. Moiré contourography is the least complicated and therefore least expensive of the photo-optical measuring techniques, and is now in increasing use in clinical practice.

In the Moiré method, a light is projected on the back of the subject through an evenly-spaced screen made up of parallel horizontal nylon strings. The screen casts a shadow on the back. If the back were perfectly flat, the lines on the back would be parallel to each other. Since the back is an irregular surface, the result is a set of curved lines similar to those on a topographical map. Like a topographic map, the lines on the Moiré image have a spacing that represents a specific distance or contour interval. One therefore obtains an accurate structural recording from which quantitative data can be obtained. Examples of Moiré tracings from a balanced back and a scoliotic back are shown below.



## MOIRE CONTOUROGRAPHY AND SPINAL STRUCTURE

The main clinical application of the Moiré method has been in the study of spinal deformity. Two international symposia have been held on this subject, in 1980 and 1982. Much of the current focus is in using this method to screen large numbers of school children for the presence of scoliosis and other types of spinal deformity. In Japan all school children are screened in this way and those who are discovered to have spinal problems are treated. There is a strong push to employ this methodology in the U.S. to screen school children. The method has been employed on trial basis in many states.

There are several companies manufacturing Moiré contourographs. Much research is being done to demonstrate the accuracy of the measurements, to show that they provide information comparable to that obtained with X-rays, and to develop computer interfaces with the measuring system.

In view of the current interest in this area, the Moiré method is recommended for the Rolfing project. I have studied the instruments available for Moiré contourography, and am recommending the system manufactured by Otal Precision Company, in Ottawa, Canada. This instrument was developed in collaboration with the National Research Council of Canada. The clinical model costs \$8,875 (Canadian).

There are a number of home-made contourographs that could be constructed, but I am recommending that we use an instrument that has been proven in clinical practice.

## THE RESEARCH

An objective of the study is to obtain data on spinal geometry from individuals before and after Rolfing and Rolfing-Movement Integration. Moiré contourographs can be taken in the same amount of time that is required for the usual photographic documentation used by Rolfers and Movement Teachers.

Details of the types of subjects and controls, and of the logistics of the study have not been worked out. It has been proposed to have as paid consultants on the project several Rolfers and Movement Teachers so that we can together work out a detailed plan of measurement and the logistics of the study. The proposal includes a request for transportation funds so that the instrument can be moved about to the locations where classes are being held if it is decided to use the class models as subjects. I am also waiting for the arrival of the proceedings of the Second International Conference on Moire Contourography and Spine Deformity (1982) before selecting a specific measurement protocol.

The result of the study will be a series of measurements of anatomical symmetry (or assymetry) about specific points on the surface of the back. From these points spinal curvature and rotation will be quantifiable. Considerable care will be given to controls, since living structure is dynamic and ever-changing. It will be interesting to study the day-to-day variation in individual structure over a period of time without any Rolfing or Movement work.

The results will be reported in terms of the number of individuals for whom a significant balancing of spinal structure occurred following Rolfing and/or Movement Integration sessions. Quantitative data on the changes will be included. A computer provided by the Aspen Research Institute will be used to process the numerical and graphic data. Particular interest will be given to individuals with scoliotic, lordotic, or kyphotic conditions. Follow-up measurements made a year or more after the sessions are an important part of the study, since it is of interest to determine if the effects of Rolfing and Movement work are progressive and lasting. To allow for the follow-ups, the study is to last for 3 years.

#### SIGNIFICANCE

This research should accomplish several things. First, it will provide a beginning for the Musculo-Skeletal Research Project by documenting the structural changes that result from Rolfing and Movement Integration. Further research, to be done by others, may consider changes that occur in other physiological systems.

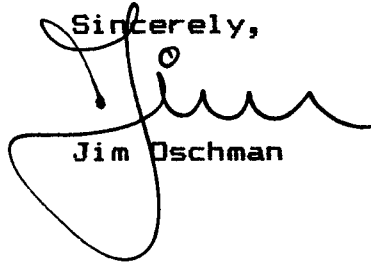
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Secondly, the results could have an impact in an area that has clinical significance, ie. the resolution of scoliotic, kyphotic, or lordotic conditions in relation to back pain. It is possible that the results will be of interest to insurance companies and other organizations that are affected economically by chronic back problems.

STATUS OF THE PROJECT

We are now following the Guidelines for Projects established by the Board of Directors. Reviews from outside experts are being sought, and these will be submitted with the project to the Rolf Institute Board of Directors. Any comments or questions you may have about any of this would be greatly appreciated, both by me and by those who represent you. And you are urged to attend the discussion of the project that will be held at the Annual Meeting.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Oschman". The signature is stylized with a large, looping initial "J" and a long, horizontal flourish extending to the right. Below the signature, the name "Jim Oschman" is printed in a simple, sans-serif font.

Jim Oschman