PART I
A Case for Re-evaluating Physical Therapy as a Viable Extended Treatment for Polio Individuals in the 1990’s

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Since writing about my history of polio in an article entitled “A Post-Polio Normal’s Reconciliation with the Ghost of Polio Past” in two parts for the Fall 1989 and Winter 1990 issues of Polio Network News, I have gained stamina and muscle strength going significantly beyond what I had summarized at that time. Several post-polio normals wrote to me indicating that they had helped them to establish more credibility in linking their stamina problems to “old polio.” Therefore, I decided that if I wrote an update article, I might now be able to help polio survivors take a more credible stand in convincing their doctors and/or insurance companies of the viability of utilizing physical therapy as an “extended treatment” program. Such a program would draw, in part, on the “acute care” philosophies from years ago stressing exercises geared to the patient’s individual tolerance and which avoid aggressive overtreatment of muscles.

I attribute my steady progress during the past two years to professional physical therapy treatments (utilizing hot packs, cold packs, massage, ultrasound and electro-stim, as well as some traction treatments, where indicated) coordinated with deep breathing and slow muscle stretching as a form of muscle conditioning exercise. In the early months I did these as often as three times a day, holding each repetition for 15 to 20 seconds so that my steadily improving muscle tone would not have a chance to start atrophy and regress. Also, after establishing a 1/4" leg length discrepancy, I began using a 1/4" heel lift for my left leg all the time, making walking virtually pain free. My rest periods are now fewer and shorter and the need for applying heat and/or cold packs to sore and swollen muscles is far less frequent. Also, with continued intermittent therapy treatments, I am now riding a stationary bike with some resistance every day for 20 minutes as opposed to the five minutes a day with no resistance every day in 1989. Most recently, I have been experiencing corresponding increases of strength in my quadriceps. (Breaking up all potentially repetitive activity, be it active or sedentary, with frequent postural changes increases my overall stamina.)

Now, if I were to go on, in this article, to give you the step by step details of my physical therapy program including all the things I did to reinforce my progress, it would be a book in itself. In my opinion, it would have been more self-serving than helpful because it just seemed impossible to establish whether the other post-polio population’s physical problems including my own could be traced directly back to our original bout with polio. However, it is likely that “old polio” has indeed aggravated and/or complicated the way our bodies responded to various additional physical illnesses and/or emotional stress for the past 30 plus years. Because of all these variables, it would be extremely difficult for me to say that my specific plan for physical therapy would be efficient for all survivors to consider. I decided that what I could do is share with you the key factors that helped me develop and shape the mental attitudes that lead to the formulation of a physical therapy approach right for me...along with what motivated me to do whatever I had to do to reach my goals and keep setting new ones. I believe that these key factors can be utilized to varying degrees by all survivors, no matter what the degree of disability.

My minor in college was psychology with emphasis on the study of behavior modification techniques. In the early 1980’s I was a group leader in a weight loss clinic which utilized these techniques. We suggested that clients keep a food journal and begin to tune into individual life-style behavior patterns which could be linked to food consumption. Today, there is a significant body of medical research showing that our biochemical makeup involves a complete inter-relationship between the mind and body in a very real physical sense. When I started having post-polio problems it was natural for me to question my own life-style habits and behaviors because of my experience working in a weight clinic helping people who were searching for reasons as to why their weight had gotten so out of control. This time, however, I did so in ways that included the body mechanics of how I used and/or misused my physical body for the past 30 years creating what many erroneously perceive a “sudden” loss of strength and stamina from old polio.

I want my ideas to inspire those of you reading this, who are survivors, to question your own behavior patterns and to create your own personal strategy for gaining more control over your bodies again. At the same time it is important to me to present suggestions in such a way as to help you establish a balance between being optimistic, yet realistic, in setting goals based on your own highly individual medical histories. Therefore, the remainder of this article will be an itemized outline of the key factors that have helped me and that I hope you will find useful, including a description of reading materials you may want to consider devoting some time to.
I cannot think of a more profound example in the polio literature of how the art of visualization can be applied to all of us as polio survivors in order to appreciate the importance of learning how our muscles work (or do not work!) in order to help ourselves more effectively today.

It was through having access to physical therapy books in my local hospital medical library that I was able to visualize my own muscles better and begin to make additional progress. I was fortunate to come across a book entitled *Muscles: Testing and Function*, by Florence Peterson Kendall, P.T. and Elizabeth Kendall McCrea, B.A., Williams and Wilkins, 1983. This textbook had no specific references to neuromuscular diseases but in my quest to have a better visual understanding in my mind of my own muscles, I personally found the following pages from this book to be indispensable and potentially relevant for others to refer to in mapping out a physical therapy plan: pp. 166-167, 170, 187-188, 270-277, 288, 290-291, 296-297, 301. The chart on p. 296 illustrates among other things that for many people, barring contraindication, it is important to correct even slight leg length discrepancies, whether one has had polio or not. The book can be ordered from the publisher by calling 1/800/638-0672 or writing the publisher at 428 E. Preston, Baltimore, Maryland 21202 USA. This book at the very least will provide an excellent way for you to get a better understanding of how your muscles should work together. It will also help you to evaluate your problem areas more effectively, as not unlike Sister Kenny did, you begin to “see your muscles from the inside out.”

3. ESTABLISHING PATTERNS OF MUSCLE TIGHTNESS AS WELL AS MUSCLE WEAKNESS IN THE POLIO LITERATURE — Thinking back to the article on Sister Kenny in *The Smithsonian*, I wondered what Kenny’s book entitled *The Kenny Concept of Infantile Paralysis and Its Treatment* co-written with Dr. John Pohl, Minneapolis General Hospital in 1943, had to say about muscle tightness. For a woman so famous the world over, I wondered why we seldom see references to her work by polio specialists. I had heard stories about doctors either completely rejecting her work from the start — never reading her book or implementing her therapy with their patients at all; or the reverse was true with over zealous doctors ordering over-stretching of tight muscles resulting in more pain! I had gotten a few clues from the 1981 article in *The Smithsonian* (well worth your reading) which stressed her incredible “arrogance” in dealings with doctors — even those she had collaborated with on her book!

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Upon reading her book for myself, I was generally impressed by the fact that she did indeed emphasize the importance of stretching tight muscles as well as "re-education" to restore mental awareness of muscles that were not irreversibly damaged by the disease process, in addition to applying moist heat. Unfortunately, instead of devoting the book exclusively to her physical therapy concepts, she weaves a whole new theory on the basic pathology of the disease. Dr. Jacquelin Perry, Rancho Los Amigos, Downey, California, wrote to me on the subject of Sister Kenny's book in September, 1990, in part as follows: "I am very familiar with the Pohl-Kenny book. I am also very familiar with Sister Kenny's concepts and techniques as I was a physical therapist in World War II at the time she came to this ... The reason she was not accepted is because she insisted that the basic pathology was in the tight muscles ... The reality is that the pathology is in the anterior horn cells ... The major contribution that Sister Kenny made to the acute care of polio was a more effective means of pain relief ... These are very valuable contributions ... her clinical program was excellent but she was not a pathologist." In a telephone conversation recently with Florence Kendall, P.T., she agreed with Dr. Perry, adding that one of the problems she and her husband had with Sister Kenny's work was the complete omission of the subject of muscle strength testing. Another major concern of the Kendalls was Sister Kenny's failure to use appropriate splints and braces.

Keeping Dr. Perry's and Mrs. Kendall's input clearly in mind, I believe it is worth your time to read Kenny's work even with its shortcomings just for historical perspective because for all of her arrogance and some of her mistakes, she was undeniably responsible for igniting controversy which drew attention to the aftercare of polio patients that in balance benefited us all.

The book is out of print, but you can get existing copies through inter-library loans or perhaps an older physician in your community may have a copy you can borrow.

Florence Kendall, P.T., and Elizabeth Kendall McCreary, B.A., also had a recurrent theme in their 1983 textbook, cited previously, which emphasized the problems that arise from short tight muscles opposing weak stretched muscles in otherwise "normal" patients. Since so much of the book was useful in working with my physical therapists on my polio problems, I wanted to know more about Florence Kendall. I knew that some years ago she had been a highly respected instructor in Body Mechanics at Johns Hopkins Hospital, School of Nursing. Through the hospital I was able to get in touch with her, and I was pleased to learn that she and her husband, Henry O. Kendall, also a physical therapist, had in fact co-authored a booklet in 1938 entitled Care During The Recovery Period In Paralytic Poliomyelitis prepared by direction of the Surgeon General of the United States Government. She forwarded a copy of the 1939 revised edition to me, and I was fascinated to see that the pages from Muscles: Testing and Function, that she co-authored in 1983 for patients in general that I found so useful, were in fact dealing with some of the same specific areas that were outlined in part in the 1939 revised booklet I read. Those pages from the booklet are as follows: pp. 5-7, 14-21, 86-89, 94-95. Notably, the charts on pp. 87-89 on stretching tight muscles are well worth taking a look at again.

Ms. Kendall also forward to me an article she co-authored with her husband in 1947 entitled, Orthopedic and Physical Therapy Objectives in Poliomyelitis Treatment. It appeared in The Phisiotherapy Review, Vol. 27, No. 3, May-June, 1947. Upon reading the article, I felt that it would be invaluable to post-polio individuals and their doctors by providing them with some common sense general guidelines based on scientifically correct medical data and clinical experience which could be utilized and "individualized" for specific needs in post-polio care today. On pages 4-5, for instance, there is an excellent discussion on muscle weakness and imbalance outlining how to determine when muscle stretching is appropriate and, at the same time, why and how to avoid over-stretching tight muscles. Ms. Kendall, who has 50 plus years experience in the field of body mechanics has agreed to let the International Polio Network in St. Louis distribute the seven page article in its entirety to all who would like a copy.* In my opinion, Ms. Kendall fills an important void that Sister Kenny left due to the controversy in medical circles which surrounded her work before and after her death in 1953. I am optimistic that all of the works I have cited in this article will be seriously reviewed by polio specialists and therapists and ultimately help many other as much as they have helped me.

Due to space limitations, Part II of A Case for Re-evaluating Physical Therapy as a Viable Extended Treatment for Polio Individuals in the 1990's will be published in the Fall 1991 issue of Polio Network News (Vol. 7, No. 4). If you are interested in trying some of Sandra Hughes Grinnell's ideas and do not wish to wait for the second half of her article, please send $2.50 (for photocopying and postage) to

*Send a self-addressed stamped (.29) business-sized envelope to International Polio Network, 4502 Maryland Avenue, St. Louis, MO 63108 USA.