



PHYSICAL THERAPY and POST POLIO SEQUELAE (PPS)

Shanti Chacko Molayal, PT, DPT

For almost ten years, I had the opportunity to work in a clinic that took a multi-disciplinary approach towards working with patients who have PPS. I wanted to share with you what physical therapy aimed to do in the clinic, what information was important for us to know about the patients we worked with, what PT's evaluated, and what our treatment interventions were.

GENERAL GOALS OF PPS PHYSICAL THERAPY

Our goals as PT's working with the PPS population.

- 1) Decrease symptoms of pain and weakness;
- 2) Teach activity modification and energy conservation techniques; and
- 3) Promote safety and efficiency with mobility and daily function.

GETTING TO KNOW YOU

Information from a patient with PPS that is helpful to take with them to their first physical therapy evaluation.

(I suggest that you write down this information prior to the first visit).

- The areas of your body or the physical functions that were originally impaired by Polio
- If you had OR currently use a leg brace
- If you use any adaptive equipment or assistive devices
- If you have any new pain or muscle weakness
- If you have frequent falls or balance issues
- If you have difficulty walking or difficulty with stair negotiation
- If you have difficulty with bed mobility and transfers
- If you have difficulty performing self-care tasks such as dressing or bathing
- If you have difficulty performing tasks inside or outside of the home
- If you have decreased energy, endurance or have poor sleep quality
- Your social history (i.e. work, retired, living situation)
- Past and current medical/surgical history, test results and medications

PPS PHYSICAL THERAPY EVALUATION

After reviewing the "GETTING TO KNOW YOU" information with the patient, the PT will direct their evaluation towards what the patient's areas of limitation are. Many times the PT Evaluation is a combination of both an orthopedic/neuromuscular evaluation and a functional evaluation because the patient often has joint or muscle pain along with a limitation in their ability to function or mobilize. The PT will assess the ability to stand and sit, the technique of getting in and out of bed, the ability to perform stairs safely, measure leg muscle circumference and leg length, test balance and upper and lower extremity muscle strength, and observe gait and posture.

PPS TREATMENT INTERVENTION

Based on the physical therapy evaluation and consideration of the patient's goals, the treatment plan could include (but not be limited to) the following areas of focus:

Safety with Mobility. It's important to assess whether a patient needs an assistive device for mobilizing in the community or at home. This can be a wheel chair, chair lift, walker, or a forearm crutch amongst many other mobility devices. It can also come in the form of a lower extremity brace (orthosis). It's important for the therapist to assess muscle strength, fatigue levels, balance, fall history, pain, home environment, and the patient's support system when recommending the proper device or orthosis, to make mobilizing safe and efficient. With regards to leg braces, work with your rehabilitative physician and PT to help you find a licensed orthotist whom you can easily access and has experience in working with patients with neuromuscular conditions.

(continued)

Physical Therapy and PPS (continued)

Energy Conservation: A common issue amongst patients with PPS is fatigue. Some Polio survivors also have respiratory impairments that cause shortness of breath with activity and even with rest. Completing activity logs where you can correlate possible relationships of shortness of breath, pain and fatigue with your everyday activity is an effective method of determining whether you need to eliminate or modify the performance of your daily tasks, use adaptive equipment, OR take more rest breaks throughout your day. (We know these logs can be time consuming and onerous, but they have proven to be very effective in providing the information that can help your PT, OT and Rehabilitative Physician direct your care.)

Pain Management: In addition to pain medications that your physician may prescribe, they may also refer you to a physical therapist to assist with pain that they suspect is from a musculoskeletal/ neuromuscular source. If your pain stems from postural dysfunction, overuse or compensatory strategies secondary to longstanding weakness, PT's will educate you on proper posture and positioning with your static and dynamic activities. This can include (but is not limited to) the use of lumbar cushions for sitting, cervical pillows for sleeping, or making your workstation more ergonomic. If your pain is of an orthopedic nature, PT's can teach you non fatiguing flexibility and stabilization exercises to help restore or maintain function. Modalities such as ultrasound or heat can provide temporary relief and are primarily utilized as an adjunct to manual therapy or exercise.

Your PT may also choose to use manual therapy techniques such as joint and soft tissue mobilization, myofascial release, or gentle muscle energy techniques which can be helpful to address restricted mobility.

Functional Activity Training: Patients with PPS can have difficulty with getting in/ out of bed, or standing up from lower surfaces or standing to cook amongst other limitations not mentioned here. Physical therapy treatment may focus on safe techniques to perform those everyday tasks. Additionally your PT may also recommend durable medical equipment and adaptive devices to make those tasks less painful, require less effort and most importantly are SAFE for patients.

EXERCISE AND THE PPS POPULATION

Many of you may be wondering about aerobic or strengthening exercise in the PPS population. Since many of our patients came to our clinic being very symptomatic with increased fatigue, new pain and weakness, as well as having difficulty performing their daily activities, our recommendation was that they suspend aerobic or strengthening exercises during their time in our program. Our goal was to reduce the pain and overuse of weakened muscles and focus on conservation.

It would be my recommendation to review the latest research related to exercise prescription recommendations for the PPS population. However, if you feel more fatigue, more pain, or more weakness with exercise or *any* activity – LISTEN TO YOUR BODY and stop doing it!

LOOKING FOR A PHYSICAL THERAPIST?

I would recommend that you work with a therapist that has experience with orthopedic and neuromuscular conditions who can work with you. Obviously it would be a PLUS if they have experience with the PPS population OR can do the research to understand the pathophysiology of the polio virus, late onset problems, and treatment of the polio survivor.

It would also be helpful if the PT has working relationships with the following:

- 1) a licensed orthotist if you are a candidate for a leg brace; and
- 2) an occupational therapist if you need to address limitations in activities of daily living performance or wheel chair management.

Shanti Chacko Molayal, PT, DPT was the lead physical therapist
at the Post-Polio Institute in Englewood, NJ., directed by [Dr. Richard L. Bruno, HD, PhD](#)