



Polio Survivors' Page

From the March 1995 Newsletter of the (Downey, CA) Rancho Los Amigos Post-Polio Support Group

POLIO IN PERSPECTIVE FOR 1995 With Dr. Jacquelin Perry

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Jacquelin Perry, M.D., Chief of Pathokinesiology and Polio Services at Rancho Los Amigos Medical Center was the featured speaker at the Rancho Los Amigos Post-Polio Support Group meeting in Downey, CA on December 10, 1994.

During the beginning portion of this lecture, Dr. Perry reviewed some basic medical questions regarding post-polio syndrome, such as: who gets PPS; what causes it; how is it diagnosed. She went on to explain muscle weakness in more detail before discussing lifestyle modification, tips for saving your shoulders, and exercise guidelines. She concluded by telling us what we can do, along with some cautions.

POST-POLIO GROUPINGS

Many people assume that post-polio syndrome (PPS) is inevitable but it is not. Although 95% of the people who come to the Rancho Polio Clinic do have a problem, there are a curious 5% of clinic patients who ask, "Do I have a problem?" Since people who do not have a problem do not come to the clinic, Dr. Perry divides polio survivors into three groups.

Group 1 - ASYMPTOMATIC (History of polio with no current symptoms). These people can continue their activities as usual. But if they start having problems, they need to cut back on their activity level.

Group 2 - POST-POLIO SYNDROME (new symptoms of pain, fatigue, or function). These patients say, "My leg hurts," or "My thighs hurt," or "My calves ache." For this group, the patient's lifestyle has exceeded their physical capacity so they must make a change.

Group 3 - POST-POLIO SEQUELAE (Post-Polio joint degeneration from overuse). These people may experience joint tenderness, joint pain, deformity, and/or degeneration that can be seen on x-rays. They say, "My ankle hurts," or "My foot hurts."

WHY DID THIS HAPPEN?

During the acute phase of polio, 95% of the patient's anterior horn cells were either injured or destroyed by the polio virus. (These are the nerve cells that ultimately control muscles.) Within a month, 12% to 91% of these cells began to recover. Although many people seemed to "recover," the majority do not have as many motor nerve cells as normal. Therefore, their motor system is not as strong as normal. So with fewer motor units, the muscles have been working harder than normal trying to meet regular demands.

This results in overuse of the system and weakness develops, regardless if it is due to a nerve problem or a muscle problem. "If you cannot relate your symptoms to weakness of the breathing muscles, or weakness of the arm muscles, etc., then it is something else." So when you visit your doctor, don't try to bias him by saying the cause of all your problems is PPS. Be sure your doctor rules out other problems because there is no one sign, examination, or laboratory test that will confirm a diagnosis of PPS. Since a lot of physicians do not understand PPS, the patient must put what they say in perspective. Nevertheless, it has been Dr.

Perry's experience that the patients who come to see her and announce that they have PPS are usually the ones who do not!

DIAGNOSING PPS

Dr. Perry bases a diagnosis of PPS on three things:

1. a history of polio;
2. a period of some recovery followed by new loss of function;
3. a physical examination that reveals:
 - A. scattered muscle weakness (observed during an extensive manual muscle test from head to toe);
 - B. normal sensations;
 - C. reflexes that are normal (2+) for strong muscles and depressed for weak muscles.

MUSCLE MATTERS

- * Recovered muscles (post-polio) are less efficient since there are fewer motor units as well as larger motor units.
- * If muscle weakness is revealed on a manual muscle test of the upper leg, probably 1/3 to 1/2 of that muscle has been lost.
- * The weaker the muscle, the less frequently it should be used.
- * Every muscle can be overused - even those of athletes and marathoners!
- * If you do not have strong enough muscles for normal activities you cannot do the same activities as people with normal muscle.

For normal muscles only 20% of the fibers are at work at any one time so there is less fatigue. For polios, some muscles' fibers may be working 100% at any given time so they get no rest and fatigue very quickly. If less than 20% of the muscle fiber is working at a given time, the muscle gets full oxygenation and works fine. As the percentage of muscle fiber in use increases "the less rest they get, the less oxygen they get, the less they have a capacity to repair themselves."

LIFESTYLE MODIFICATION

- * "If you have symptoms and you've overused your muscles, what do you do about it? You modify your lifestyle and remove the strain."
- * Find ways to make tasks easier or get rid of the tasks.
- * Break up activities with rest periods.
- * Stop doing heavy tasks.
- * Look at the number of activities you have per day. Many people feel better with fewer activities.
- * Polio survivors "do not have enough muscles to live the usual vigorous lifestyle. So you have to make your lifestyle match your muscle strength."
- * Extra body weight is like carrying around a spare tire. The recommendation is to reduce body weight by

re-educating your taste buds. Dr. Perry compares this to visiting a new country and learning to eat new food. She suggests convincing yourself there are other flavors in life!

SAVING SHOULDERS

* The shoulder is the most mobile joint in the body. It must have muscles to support it: The deltoid muscle lifts the arm; the rotator cuff stabilizes the shoulder.

* Polio patients activate twice as much of the muscle as a normal person to lift up an arm, so the muscle has less rest and fatigues more easily. You must find ways to rest your shoulder and not use it all the time.

* The arm is heavy; it weighs about 5% of your body weight (3.5 kg or about 8 pounds). It is like having an eight pound weight hanging from each shoulder. You can take pressure off your shoulders by bending your elbow and bringing your arm and hand closer to your body.

* Leaning on your arm is like leaning on your shoulder. When you push yourself up with your hands you push through the wrist, push through the elbows, push through the shoulders. This can cause impingement.

* When you push yourself up with your hands the pectoral muscles are involved. The pectoral muscles are a new area of focus that have not had much attention in the past.

* People who use crutches can wear out their shoulders. Their rotator cuff can be repaired and will be ok if the person quits using the crutches and rides thereafter. (It's like wearing out a sock and then darning it. But you don't get a new pair of socks.)

* So how can you save your shoulders?

1. Reduce reaching;
2. Support your arms;
3. Lean back about 10 degrees when sitting (with back support) and bring the work up to you.
4. Get others to do the job.

EXERCISE

* When your lifestyle gives you a margin of muscle capacity that is not being used, then exercise can be considered. If there is no margin, there should be no exercise.

* Muscles that test as 3+ are markedly hypertrophied (enlarged). They have to work double time for normal activities so they tire easily. These 3+ muscles are very good for short periods but they do not need more exercise.

* Only muscles that test grade 4 or 5 should be considered for exercise. Even some grade 4 muscles are questionable - you must be sure your lifestyle gives a margin of muscle that is not being used before considering exercise for it.

* If a muscle qualifies for exercise, it should be done for only 5 repetitions at 50% to 70% of capacity.

"Remember, all exercise is overload"; so don't push or make muscles sore. Polio muscles will never be normal.

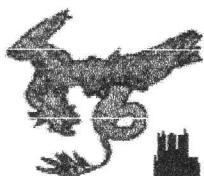
WHAT CAN A POLIO SURVIVOR DO?

* Dr. Perry says you can do anything as long as it causes no pain or fatigue that lasts more than ten

minutes.

- * When injured, tell the doctors you don't have any muscles and need to start "teasing" the muscles right away in order to regain movement.
- * Be aware that people who use electric carts or scooters can develop shoulder and wrist problems. (Some vehicles can be retrofitted to avoid having to extend an arm to reach the control piece; the vehicle can then be operated with a person's arm remaining next to his body.)
- * Keep in mind that recovery from fatigue is slow if you have "pushed" yourself.
- * "The more you face the facts and make your lifestyle planned, the more comfortable you will be."
- * Remember, that all polios have the same perception of fatigue, whether they have PPS or not. Polios are "not hypersensitive to pain. When you hurt, you hurt! So don't talk yourself out of it - protect yourself instead."
- * Don't forget that PPS is due to accumulated strain from chronic overuse. "So get rid of the chronic overuse."
- * Dr. Perry's motto: "Be an Intelligent Hypochondriac!"

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