

Information On Post-Polio Muscle Atrophy

What is Post-Polio Muscle Atrophy?

In recent years, some patients who had acute poliomyelitis many years ago have experienced deterioration in their muscular strength after having been seemingly stable for a long time. In addition to increasing weakness in muscles known to have been previously damaged, loss of strength and fatigue in muscles which had been functioning well has also been found. Some patients have experienced increasing difficulty in breathing due to weakness of the chest muscles. Very frequently, pain, previously absent, has been reported in muscles and joints.

The finding, many years after ("post") polio, of weakness and shrinkage ("atrophy") in muscles accompanied by pain is being called Post-Polio Muscle Atrophy (PPMA).

How Many People Are Affected?

It is estimated that there are 300,000 survivors of polio still living in the United States. Results of questionnaires directed to small numbers of these survivors have indicated that approximately 25 percent of these have symptoms similar to those in Post-Polio Muscle Atrophy. These numbers have not been verified.

Which Persons Are Most Likely To Be Affected?

The average age of patients with PPMA seems to be approximately 50 years. Symptoms appear 30 to 40 years after the acute attack of polio.

Persons developing the new symptoms seem to be those whose attack of polio was of great severity. Most of them required hospitalization, had paralysis or weakness of all four limbs, needed respiratory assistance (Ventilator) and most were over ten years of age when they contracted polio.

What Other Conditions Are Similar To PPMA?

In evaluating a patient for possible PPMA, other conditions must be excluded. These include arthritis, tendonitis and cartilage damage, all of which are more common when movement and weight-bearing have been altered by the effects of weakened muscles.

What Is The Cause Of PPMA?

Post-Polio Muscle Atrophy is not believed to be a reinfection with the polio virus nor a reactivation of the virus many years after the initial attack. The disease is not starting up again.

The most likely explanation is that PPMA is an acceleration of the aging process in polio survivors. As everyone ages, our bodies experience a decrease in number of cells in the spinal cord which transmit nerve impulses to the muscles and cause them to move as we want them to do. These cells are called anterior horn cells and they are the ones which are destroyed or damaged in the acute attack of poliomyelitis.

Persons who have not had polio can lose a considerable number of anterior horn cells as they age without experiencing any serious muscular weakness. In contrast, polio survivors have already lost some cells in the acute disease process; Other cells, which have not been destroyed, may have been damaged and have a shortened live span. Also, the surviving cells and the muscles they innervate are put under

unusual stress as they are required to take over the functions of the cells which were destroyed. This may cause them to wear out much sooner than would be expected.

What Should Polio Survivors Do If They Are Losing Strength Or Experiencing Pain?

Polio survivors who believe they are having symptoms of PPMA (weakness, fatigue, and pain) should be thoroughly evaluated by experts at a center for rehabilitation medicine. It may be that changes in braces, decrease in activity or treatment of conditions such as arthritis will lessen or eliminate the symptoms.

What Should Polio Survivors Not Do Before Their Symptoms Are Evaluated And Diagnosed?

Polio survivors who may have PPMA should not increase their activities in exercise or in daily living in the hope that this will strengthen their muscles. This might place additional strain on the anterior horn cells and the muscles, causing them to become weaker.

If a polio survivor has received complete immunization using the Salk or Sabin vaccine, there is no known reason to give a booster dose.



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