



Frederick M. Maynard, MD

Ask Dr. Maynard

Send your questions for Dr. Maynard
to info@post-polio.org.

See other questions at
www.post-polio.org/edu/askdrmay.html.

Question: *About a year ago, I was diagnosed with Parkinson's Disease (PD). Then recently, when providing medical history to a new eye doctor and reporting that I had polio as a child, I learned from him that he and a colleague authored a letter which was published in NEJM (New England Journal of Medicine) about polio and PD. My father also had PD. I learned from the medical record of my hospital admission for polio that the doctor documented my father had polio as a child with some residual in a leg. (I remember his misshapen foot and atrophied leg.) Although Dr. Raymond Roos at the University of Chicago Post-Polio Clinic did not diagnose PPS, I believe that I definitely have some of the late effects. Some of the PD symptoms are similar, as you may know. I am interested to know what experiences you may have had with others who have had a polio history and now PD. Is there a connection? There can't be many folks who fit into the category.*

Answer: There have been many cases of adults with a history of childhood polio developing PD. One of the first reports of this is in a 1978 *NEJM* article¹ and may have been co-authored by the eye doctor you met! A relationship has long been observed between PD and a history of previous encephalitis due to several different types of viruses that may cause damage to the brain, particularly to the substantia nigra (SN) which is a small area of the brainstem that develops a deficiency of dopamine production in patients with PD and is thought responsible for most PD symptoms. Bodian documented polio virus damage to the SN in autopsy cases during the 1940s.² More recently an MRI study on a child with acute wild polio in India documented changes in the SN.³ Therefore, it is certainly plausible that previous polio virus-caused encephalomyelitis can affect the SN and predispose it to later-life degenerative dysfunction resulting in PD. A 2010 epidemiologic report from Denmark actually documented a 2.3 times higher risk of developing PD among people with a history of polio compared to controls matched for age, gender and geographic location.³

In light of these facts from the medical literature review of PD and polio that your question initiated, I think it is likely more than coincidental that you and your father both developed PD many years after having had childhood polio. I have personally seen a handful of patients with your two diagnoses, and I don't recall any unusual problems they shared in common. Both conditions can benefit from individualized exercise programs to slow down symptom progression and from rehabilitation strategies to preserve and/or enhance functional capacities. [n](#)

1. Vincent FM, Myers WG. Poliomyelitis and Parkinsonism. *N Engl J Med*. 1978;298:688-689.

2. Bodian D. Histopathologic basis of clinical findings in poliomyelitis. *Am J Med*. 1949;6:563-577.

3. Nielsen NM, Rostgaard K et al. *JAMA*. 2002;287:1650-1651