



## Bruno “Bytes” – October, 2015

(Bits and Tidbits from the Post-Polio Coffee House)

Available through a “link” from [www.postpolioinfo.com](http://www.postpolioinfo.com) (or) directly through <http://www.papolionetwork.org/bruno-bytes.html>

### On the topic of chronic breathing issues (10/29/2015)

Original Post: I was born with polio. I was in a hospital for one year; that was 1949, and there was no vaccine. I am now 66 years old, and I am having chronic breathing problems, and am on oxygen 24 hours a day; I am having trouble breathing without oxygen, and although some improvement with oxygen, I still feel like I'm not breathing easily or completely.

Dr. Bruno’s Response: You need to be evaluated by a Doctor who knows polio survivors. All of the above posts are correct in that oxygen can actually decrease your drive to breathe and in fact makes your lungs functionally smaller if you retain carbon dioxide.

You may have a condition having nothing to do with polio that requires oxygen. But without a Doctor who knows polio you may be getting exactly the opposite treatment that you need.

Dr. John Bach’s website - <http://www.doctorbach.com/about.htm>

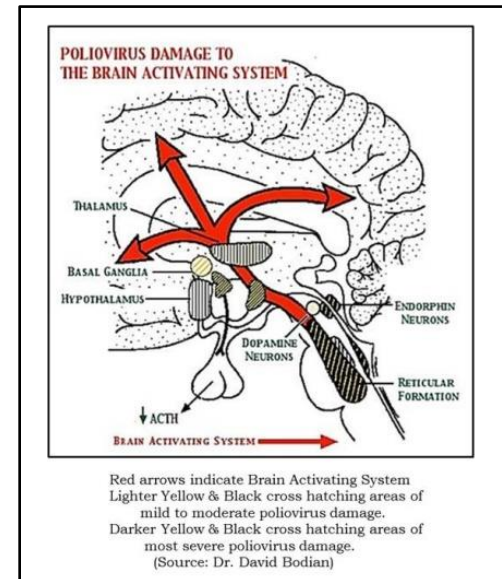
### On the topic of motor neurons and brain stem deterioration (10/29/2015)

Original Post: Dr. Bruno, are motor neurons and the brain stem affected by Post- Polio deterioration? What I don't know is if damaged and surviving brain neurons deteriorate later because of use! (Exercise for motor neurons could be stress).

Dr. Bruno’s Response: The Polio Virus influenced a lot more than we ever imagined.

Overuse of brain neurons is obviously different than overuse of motor neurons. Thinking too much doesn't stress brain neurons the way that walking too much stresses and damages spinal cord motor neurons. Certain drugs, like amphetamines, will force polio damaged neurons to overwork by "squeezing" them to produce more neurotransmitters.

And, where people who had polio but refused to conserve to preserve have been shown to lose 7% of their motor neurons every year (versus people who didn't have polio lose 1% per year after the age of 60), even people who didn't have polio lose about a third of their dopamine, brain activating neurons by the time they're 50.



The bottom line: Never mess with dopamine producing neurons or dopamine receptors in the brain.

Check out the info in the Post-Polio Library – [www.postpolioinfo.com](http://www.postpolioinfo.com)

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### On the topic of Knee Replacement Surgery (10/27/2015)

Original Post: I have a question about "Polio Leg" Knee Replacement. I realize I must provide my Doctor with Anesthesia documentation prior to any surgery. What about limitations in rehab? Is there anything else you recommend?

Dr. Bruno's Response: The recommendation would be to do non-fatiguing exercise after the surgery. The goal is to increase range of motion so that you get to at least 90° so that you can sit. The idea is not to strengthen your hamstrings or your quadriceps. Take a look at the surgical precautions article in the post- polio library at [www.postpolioinfo.com](http://www.postpolioinfo.com)

### On the topic of the Polio Virus staying active inside your body (10/25/2015)

Original Post: It's my understanding that once you've had polio the virus stays in your body. If this is correct, can your unborn child get it from you while you are pregnant? I'm concerned about my 4 adult children having the virus in their bodies. I had polio when I was about 3.

Dr. Bruno's Response: This is absolutely not correct. The polio virus is gone from your body within 30 days unless your immune system is suppressed and you can't make antibodies to it (as has been seen in the US in the United Kingdom lately).

The chances of your unborn child contracting polio during the time that the virus is in your body and you are experiencing polio symptoms is very, very small.

### On the topic of Polio survivors having a high threshold for pain (10/24/2015)

Original Post: My doctors have often told me I have a high tolerance to pain. What are your thoughts? I reference this article: <http://www.neuroscientistnews.com/research-news/people-can-raise-pain-threshold-altering-brain-chemistry-study-shows>

Dr. Bruno's Response: Our 1984 study showed polio survivors are TWICE as sensitive to pain as non-polio survivors. You have to have a higher tolerance or you couldn't survive.

The article says, "It has been known for a long time that we have receptors in our brains that respond to natural painkilling opiates such as endorphins, but these receptors increase in number to help cope with long-term, severe pain...the more opiate receptors there are in the brain, the higher the ability to withstand the pain."

The problem for polio survivors is that the poliovirus killed off the neurons that produce the body's own morphine-like opiates - endorphins and enkephalins -- in the brain and spinal cord. So polio survivors can't "medicate" themselves against pain no matter how many more opiate receptors they produce.

It's like having 10, one dollar bills (i.e., endorphins and enkephalins) and 100 banks (i.e., anti-pain opiate receptors) that want them. The \$10 only goes so far; 90 banks are going to go without. That's why polio survivors need more pain medication than non-polio survivors...to fill the empty opiate receptors.

### On the topic of PPS Symptoms "leveling off" (10/24/2015)

Original Post: Do the symptoms of PPS stop progressing at some point?

Dr. Bruno's Response: Thirty years of research shows that symptoms either plateau or decrease once polio survivors start to listen to their bodies and take care of themselves. That doesn't mean that new symptoms won't pop up, but you can manage pain, weakness and fatigue.

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### On the topic of what percentage of survivors actually get PPS (10/22/2015)

Original Post: I was wondering what percentage of people who had Paralytic Polio in the 50s actually get by later in life with no symptoms of PPS? Do we all have something?

Dr. Bruno's Response: Nearly 30 years ago, the early survey numbers showed that 75% of paralytic polio survivors got PPS. As time goes on, yes, everybody gets something that they can relate back to having had polio. We now know for sure that "non-paralytic" polio survivors had damage to their central nervous systems, and they also get PPS.

### On the topic of the "Thermostat" of a Polio Survivor (10/20/2015)

Original Post: We know that our thermostats are "nuts" - and so often we are unreasonably cold. What about constantly being really hot?

Dr. Bruno's Response: There is no question that polio messed with the thermostat. But any changes in your ability to tolerate temperature, like having hot flashes in men and women, should be checked out with your local doctor.

### On the topic of muscle "Cramps" vs muscle "Spasms" (10/20/2015)

Dr. Bruno's Post: CRAMPS vs. SPASMS

A muscle CRAMP is a short-lived, very painful, involuntary contraction of an entire muscle or a relatively large portion of a muscle, usually a leg muscle and sometimes a forearm muscle. Who hasn't had a screamingly painful cramp of the calf muscle that pulls your toes downward and forces you to stand to stretch it out?

A muscle SPASM feels hard, sometimes as hard as bone, and can be as small as an M&M or as big as the entire side of your neck or your low back. No one knows what spasms are or why they can hurt so badly! Spasms seem to be muscle fibers in a small area contracting into a dense knot and usually occur in postural muscles in the neck and back. But, in a 1990 study I did, there was NO relationship between how hard a muscle spasm was, muscle electrical activity and pain. So, a small, not-so-dense spasm in a neck muscle can cause a headache that puts you in bed for hours, in a dark room after driving the porcelain bus. But a large, dense rock of a spasm in your neck or back may not hurt at all even when a physical therapist puts her thumb in it.

Bottom line: Muscle OVERUSE causes cramps and muscle MISUSE (e.g., poor posture) causes spasms. See the POLIO SURVIVORS HANDBOOK in at [www.postpolioinfo.com](http://www.postpolioinfo.com) for chapters on preventing cramps and spasms.

### On the topic of the Parasympathetic Nervous System (10/8/2015)

Original Post: Dr. Bruno, could you give me a lesson that I can understand on the parasympathetic nervous system, what it controls, and how polio may affect it, and if there is any advice for PSNS failure? My neurologist did testing and said the sympathetic nervous system tested ok but not the parasympathetic nervous system. My assumption is that it is probably polio related. Is that correct? Everything I find to read on the subject is a bit too technical and my eyes glaze over.

Dr. Bruno's Response: Thank you for asking! Studying the sympathetic and the parasympathetic nervous systems is what I did at Columbia P&S and as the autonomic nervous system fellow at Presbyterian Hospital from 1977 to 1985. It's how I got interested in polio survivors with their cold and purple polio feet.

The poliovirus damaged both the sympathetic nervous system (causing polio feet) and the parasympathetic nervous system (causing constipation, difficulty swallowing, and fainting) in the portions of the brain stem that  
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control their activity and the nerves themselves. It's much easier to test the parasympathetic nervous system (you can do it by taking someone's pulse for a minute while they breathe deeply) than it is to test the sympathetic side (for which you need expensive equipment).

Very simply the sympathetic nervous system is the gas pedal that turns your body on and is responsible for the "fight or flight response."

The parasympathetic nervous system, through your vagus nerve, is your body's brake, responsible for subduing the sympathetic nervous system (preventing your heart rate from going to 175 if you see a rattlesnake in front of you) and for activating your intestines and allowing you to absorb nourishment so that you have the energy to run away from the rattlesnake.

This is covered in more detail in *The Polio Paradox*.

2<sup>nd</sup> Post: So, the damage to the vagus nerve is actually through the parasympathetic nervous system, which is also damaged in some people? In other words, both are damaged if you have symptoms like rapid heart rate or lower heart rate?

Dr. Bruno's Response: Vagus/parasympathetic and sympathetic centers are damaged in *all* polio survivors. The symptoms vary depending on the location and severity of the damage to brain stem.

### On the topic of Physical Therapy and Medicare (10/7/2015)

Original Post: Does anyone know of a list that Social Security has for PPS that is under preventive care aid? I am looking for something like this to print off and give to my Doctor.

Dr. Bruno's Response: Medicare will cover both therapeutic and reoccurring/preventative physical therapy which could very well include myofascial release with heat and ultrasound.

2<sup>nd</sup> Post: Is there a limit on this physical therapy? I'm always told I'm running up against limits on PT and I should save it in case a rehab need arises.

Dr. Bruno's Response: You don't even need to be at "risk" or "reached maximum medical benefit" to get PT through Medicare. People with disabilities can continue with maintenance PT.

Polio survivors have two ways to receive prolonged PT, OT and speech therapy:

<https://www.medicare.gov/coverage/pt-and-ot-and-speech-language-pathology.html>

Additional Bruno "Bytes" are available for you to share by going to:

<http://www.papolionetwork.org/bruno-bytes.html>

Scroll down the page (through the Current Month posts).

Previous months are located there, and are available by "clicking" on them, in easily printable PDF format.