



## Bruno “Bytes” – October, 2017

(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 using a “Patch” to Deliver the Polio Vaccine (10/14/2017)

Dr. Bruno’s Original Post: I love Science !

This is just drops of live, attenuated vaccine that can mutate and cause paralysis. The vaccine isn't live, it is attenuated poliovirus. It's killed like the “Salk” vaccine.

- An attenuated vaccine is a vaccine created by reducing the virulence of a pathogen, but still keeping it viable (or “live”). Attenuation takes an infectious agent and alters it so that it becomes harmless or less virulent. These vaccines contrast to those produced by “killing” the virus (inactivated vaccine).

A Study: This Novel patch can better deliver Polio Vaccines



The microscopic vaccine delivery platform called Nanopatch is a significant step forward in the efforts to rid the world of polio, researchers said.

Queensland, Australia (Scicasts) — Efforts to rid the world of polio have taken another significant step, thanks to research led by University of Queensland bioscience experts and funding from the World Health Organisation (WHO).

A fresh study of the Nanopatch - a microscopic vaccine delivery platform first developed by UQ researchers - has shown the device more effectively combats poliovirus than needles and syringes. Head of UQ's School of Chemistry and Molecular Biosciences Professor Paul Young said the breakthrough provided the next step in consigning polio to history.

“Polio was one of the most dreaded childhood diseases of the 20th century, resulting in limb disfigurement and irreversible paralysis in tens of millions of cases,” Professor Young said. “This most recent study showed the Nanopatch enhanced responses to all three types of inactivated poliovirus vaccines (IPV) - a necessary advancement from using the current live oral vaccine.

“We are extremely grateful to the WHO (World Health Organization) for providing funding to Vaxxas Pty Ltd, the biotechnology company commercializing the Nanopatch. “The support specifically assists pre-clinical studies and good manufacturing practices.” Patch inventor Professor Mark Kendall said the study exhibited a key advantage of the Nanopatch. “It targets the abundant immune cell populations in the skin's outer layers, rather than muscle, resulting in a more efficient vaccine delivery system,” Professor Kendall said. “The ease of administration, coupled with dose reduction observed in this study suggests that the Nanopatch could facilitate inexpensive vaccination of inactivated poliovirus vaccines.”

UQ Australian Institute for Biotechnology and Nanotechnology researcher Dr. David Muller said effectively translating the dose could dramatically reduce the cost. “A simple, easy-to-administer polio Nanopatch vaccine could increase the availability of the IPV vaccine and facilitate its administration in door-to-door and mass vaccination campaigns,” said Dr. Muller. “As recently as 1988, more than 350,000 cases occurred every year in more than 125 endemic countries. “Concerted efforts to eradicate the disease have reduced

incidence by more than 99 per cent." "Efforts are being intensified to eradicate the remaining strains of transmission once and for all."

Data from the study encourages efforts by Vaxxas - established by UQ's commercialization company UniQuest - to bring the technology to use for human vaccinations. "The research we are undertaking in conjunction with UQ and WHO can improve the reach of life-saving vaccines to children everywhere," Vaxxas chief executive officer David Hoey said.

Findings of recent research have been published in the journal Scientific Reports.

Article adapted from a University of Queensland news release.

Read more at:

[//economictimes.indiatimes.com/articleshow/61003527.cms?utm\\_source=contentofinterest&utm\\_medium=ext&utm\\_campaign=cppst](http://economictimes.indiatimes.com/articleshow/61003527.cms?utm_source=contentofinterest&utm_medium=ext&utm_campaign=cppst)

There is an additional article "Research Finds Nanopatch Polio Vaccine Delivers" from Nanotechnology in Australia, [HERE](#)

### On the topic of ALS and "Other" Diagnosis and PPS (10/17/2017)

Original Post: Has anyone also been diagnosed with ALS running concurrently with PPS? My husband has really gone downhill this past year and has weakness in his hands, no grip, can barely stand up with crutches, his voice has gotten weak and is having trouble swallowing. ALS was mentioned to us a year ago, but we kind of let it drop thinking all the things he was exhibiting were from PPS. Does anyone know the percentage of people who develop PPS? I know other health issues can mask themselves when they are probably PPS showing up.

Dr. Bruno's Response: Eventually, 100% of polio survivors will have some symptom related to their having had polio. Of the thousands of PPS patients we treated, we had one with ALS. The weak voice and having trouble swallowing likely are what his physician has focused on. He probably will need an EMG and an evaluation by medical center neurologists who knows ALS.

Additional Response from Dr. John McFarlane: Richard is absolutely right. All polio Survivors will eventually present with some symptom of PPS. Studies that have been published over the years give the incidence of PPS in polio Survivors ranging from as low as 20% (Norway) to some as high as 80%. Some people seem to be fortunate in not presenting with, or not admitting, symptoms. Every person is different and as we are finding there are many siblings who did not present with paralysis in the chronic phase who are now showing same signs as a sibling who had paralysis. It would be great if we could ever find a certain way of diagnosis as opposed to one of exclusion.

Dr. Bruno's Response: Agreed, John. But the fact that "non-paralytic" polio survivors (and even undiagnosed "polio suspects" as discussed in The Polio Paradox) show PPS symptoms demonstrates how hard it would be to come up with a diagnostic test to "count" and measure the reduced functioning of remaining, poliovirus-damaged neurons that is causing fatigue and muscle weakness.

People commonly say that polio survivors who were most affected by the polio are the ones who get PPS. That's absolutely not true and makes no sense. If your legs were completely paralyzed in 1952 and they been paralyzed ever since you're not going to develop a leg muscle weakness later in life. It's the folk who were

severely affected and then recovered almost completely who had the fewest number of poliovirus-damaged but overworked neurons to lose.

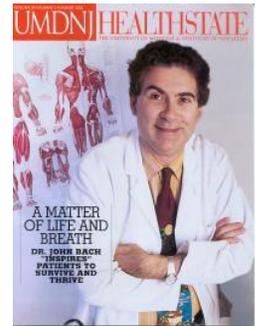
[On the topic of an article about Dr. John Bach](#) (10/24/2017)

Dr. Bruno's Original Post: Here's a new article from John Bach, Lord of the Lungs.

The Hazards of Oxygen

By Dr. John Bach

"One of the most common treatment errors for people with neuromuscular disorders is oxygen therapy, which Bach likens to "putting a Band-Aid on a cancer." He says that oxygen should never be used for people with neuromuscular conditions unless pneumonia has resulted in the need for intubation and intensive care. Oxygen turns off the brain's drive to breathe and greatly increases the likelihood of ventilatory failure, basically allowing the blood's carbon dioxide to increase to levels that render a person unconscious and cause him to stop breathing entirely (respiratory arrest).



Usually decreases in blood oxygen levels are caused by airway secretions that the patient is not strong enough to clear without training in Bach's methods and the secretions themselves can also result in respiratory arrest.

About Dr. John Bach:

Moving Beyond the Iron Lung

Bach found his life's work while a resident at Goldwater Memorial Hospital on New York's Roosevelt Island. For years, Goldwater was well known as a facility for polio patients. In the aftermath of the polio epidemic, many polio patients across the country and around the world were kept alive by iron lungs. The iron lung was a large metal cylinder often likened to a coffin. It works like a bellows to "breathe" for its occupant. Physicians at Goldwater took a different approach, exploring other innovative breathing aids. In the 1980s, mouthpiece ventilatory support was used by 270 Goldwater patients with great success. To say patients were greatly relieved to get out of the iron lung was a vast understatement. If these methods worked for polio patients, why not for other patients?

In 1981, Bach went to France as a technical advisor and introduced mouthpiece ventilatory support to French colleagues at the University of Poitiers. The physicians then began experimenting with non-invasive nasal ventilation. "We hooked up two urinary drainage catheters to a ventilator and put them in our noses," Bach recalls. "We found they worked very well." They then utilized them on DMD patients for both daytime and nighttime assistance with good results.

<http://www.doctorbach.com/>

\*\*Editor's Note: Dr. John Bach, MD's article is next two those written by Dr. Richard L. Bruno, PhD. in the updated Anesthesia Warning Cards. Both articles have a direct "link" from the cards available [HERE](#)  
<http://www.papolionetwork.org/-anesthesia-warning.html>

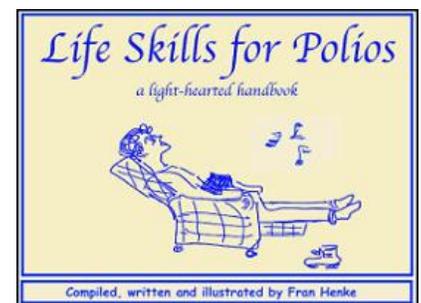
[On the topic of a New Book](#) (10/24/2017)

Dr. Bruno's Original Post: There's a wonderful NEW E-BOOK FOR POLIO SURVIVORS!

"Life Skills for Polios: A light-hearted handbook"

From "Down Under," Australian journalist, artist, author and polio survivor Fran Henke presents the ideal book for polio survivors wanting to know how to manage, not only post-polio symptoms, but also how gracefully to:

- Downsize home and life.



- Demand the right chair.
- Find much needed sleep.
- Exercise without overdoing it.
- Avoid falls and worse problems.
- Manage the “Big Four” painful body parts.
- Shopping when supermarkets are too big & far.

Life Skills also addresses hard-to-talk-about and unexpected issues like incontinence, dealing with anesthetists, recognizing heat and cold intolerance, embracing the brace and coping with childhood abuse.

In 128 packed pages, Fran Henke has gathered the latest information from world polio experts and "lived it" experts -- polio survivors themselves -- to bring together a wide range of solutions to the diverse issues that affect "polios." Life Skills, with Fran's quirky illustrations, may also help families and caregivers understand and appreciate what's going on with PPS.

You can purchase and download it from here: <http://www.postpolioinfo.com/lifeskills.php>

### On the topic of Exercise (10/26/2017)

Original Post: Can those of us with PPS do exercise? If so what kind? Some say no exercise and some say go ahead and exercise. I'm getting confused.

Additional Post: In my experience, I've learned that only your physiatrist or a Physical Therapist with knowledge of PPS can really give you a definitive answer.

We are all uniquely different.

Additional Post: We must exercise in some way to keep what we've got left viable. As Dr Bruno says, not muscle strengthening but something you enjoy that puts you in touch with people of like mind and body. I swim weekly which really enjoy, whole body gentle exercise at my own pace in warm water. I tried seated class, also tai chi. Find something that suits you and please stop if hurts.

Dr. Bruno's Response: The position of the Post-Polio Institute is there should be absolutely no muscle strengthening exercise. Whatever the activity STOP BEFORE you have fatigue, muscle weakness or pain. Stopping AFTER you experience any of these means you've done damage. Pain -- and muscle weakness and fatigue -- are your body's way of yelling STOP! You don't stop after your car hits a tree. You stop before. Same goes for your body.

Additional Post: The problem with me is I don't know when my body is tired as for pain I wear two leg braces so I don't have pain, unless I fall and I have been doing that a lot more than usual lately.

Dr. Bruno's Response: "... unless I fall and I have been doing that a lot more than usual lately."

This is a great conversation -- my concern is that you still think exercise is a good idea?

### On the topic of Flu and Pneumonia Vaccines (10/30/2017)

Dr. Bruno's Original Post: Here is something to think about and talk to your local doctor about:

There is no polio or PPS reason not to be vaccinated against flu or pneumonia.

<http://www.newswise.com/articles/view/683856/?sc=mwhn>

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

Would you like to see Dr. Bruno in "action"? The video from his 2015 Conference is now available.

Looking for a particular topic? Check out the Bruno Bytes "[Index by Subject](#)"