



## Bruno “Bytes” – November, 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 Fatigue and the need for a Sleep Study (11/9/2017)

Dr. Bruno’s Original Post: Another reason all polio survivors with fatigue should have an overnight sleep study in a hospital or sleep center. This article's reporting slow brain waves in sleep deprived individuals is exactly what we saw when we measured EEG in polio survivors with fatigue.

Note: (Medicare) usually requires the home study prior to the overnight.

“Not only YOU are sleep deprived, your BRAIN is sleep deprived”. Dr. Itzhak Fried

### **Blame Tired Brain Cells for Mental Lapses After Poor Sleep**

#### **UCLA-led study shows sleep deprivation disrupts brain-cell communication**

Article ID: 684535

Released: 3-Nov-2017 8:00 AM EDT

Source Newsroom: [University of California, Los Angeles \(UCLA\), Health Sciences](http://www.ucla.edu/newsroom)

Newswise — Ever sleep poorly and then walk out of the house without your keys? Or space out on the highway and nearly hit a stalled car?

A new study is the first to reveal how sleep deprivation disrupts our brain cells’ ability to communicate with each other, leading to temporary mental lapses that affect memory and visual perception. (Nature Medicine published the findings in its Nov. 6 advance online edition).

“We discovered that starving the body of sleep also robs neurons of the ability to function properly,”

said senior author Dr. Itzhak Fried, professor of neurosurgery at the David Geffen School of Medicine at UCLA and Tel Aviv University. “This paves the way for cognitive lapses in how we perceive and react to the world around us.”

Fried led an international team in studying 12 UCLA epileptic patients who had electrodes implanted in their brains in order to pinpoint the origin of their seizures prior to surgery. Because lack of sleep can provoke seizures, these patients stay awake all night to speed the onset of an epileptic episode and shorten their hospital stay.

The team asked the patients to categorize a variety of images as fast as possible while their electrodes recorded the firing of nearly 1,500 single brain cells across the group in real time. The scientists zeroed in on the temporal lobe, which regulates visual perception and memory. Performing the task grew more challenging as the patients grew sleepier. As the patients slowed down, their brain cells did, too. “We were fascinated to observe how sleep deprivation dampened brain cell activity,” said lead author Dr. Yuval Nir of Tel-Aviv University. “Unlike the usual rapid reaction, the neurons responded slowly, fired more weakly and their transmissions dragged on longer than usual.”

Lack of sleep interfered with the neurons’ ability to encode information and translate visual input into conscious thought. Fried offered the example of a sleep-deprived driver who suddenly notices a pedestrian stepping in front of his car. “The very act of seeing the pedestrian slows down in the driver’s over-tired brain,” he explained. “It takes longer for his brain to register what he is perceiving.”

In a second finding, the researchers discovered that slower brain waves accompanied sluggish cellular activity in the same regions of the patients’ brains. “Slow sleep-like waves disrupted the patients’ brain activity and performance of tasks,” said Fried. “This phenomenon suggests that select regions of the patients’ brains were dozing, causing mental lapses, while the rest of the brain was awake and running as usual.”

The study’s findings provoke questions for how society views sleep deprivation. “Inadequate sleep exerts a similar influence on the brain as drinking too much,” said Fried. “Yet no legal or medical standards exist for identifying over-tired drivers on the road the same way we target drunk drivers.” Fried and his colleagues plan to probe(?) more deeply into the benefits of sleep. Future studies aim to unravel the mechanism responsible for the cellular glitches that precede mental lapses.

Previous studies have tied sleep deprivation to a heightened risk of depression, obesity, diabetes, heart attacks and stroke. Research has also shown that medical residents who work long shifts without sleep may be prone to make errors in patient care.

The research was supported by the National Institute of Neurological Disorders and Stroke, the National Institute of Mental Health, the Human Frontier Science Program Organization, the Israel Science Foundation, the Marie Curie Career Integration Grant, the Adelis Foundation and the French Operations Research and Decision Support Society.

The paper's other coauthors were Thomas Andrillon of the École Normale Supérieure in Paris; Amit Marmelshtein of Tel Aviv University; Nanthia Suthana of UCLA; and Giulio Tononi and Chiara Cirelli of the University of Wisconsin, Madison.

<http://www.newswise.com/articles/view/684535/?sc=mwhn>

## On the topic of Blood Pressure Guidelines (11/15/2017)

Dr. Bruno's Original Post: Will Dropping Blood Pressure to 130/80 Cause Polio Survivors to Drop?

My concern is that doctors will follow the guidelines, and not treat the patient. Doctors will prescribe anti-hypertensive medications, for example beta blockers -- which drop polio survivors' heart rates and blood pressures and can cause fatigue -- the goal being a "perfect" blood pressure of 130/80 without considering other issues. For example, autonomic dysfunction in polio survivors -- or anyone over 60 -- can itself cause orthostatic hypotension, especially in the middle of the night, causing people who get up quickly to go to the bathroom to fall down when their blood pressure drops.

(This article is a must read. Please talk to your doc if he/she wants to medicate you for blood pressure issues.)



"Under New Guidelines, Millions More Americans Will Need to Lower Blood Pressure."  
This is the type of headline that raises my blood pressure to dangerously high levels.

For years, doctors were told to aim for a systolic blood pressure of less than 140. (The first of the two blood pressure numbers.) Then, in 2013, recommendations were relaxed to less than 150 for patients age 60 and older. Now they have been tightened, to less than 130 for anyone with at least a 10 percent risk of heart attack or stroke in the next decade. That means that nearly half of all adults in the United States are now considered to have high blood pressure. I bet I'm not the only doctor whose blood pressure jumped upon hearing this news. Disclosure: I'm an advocate of less medicine and living a more healthy life, and I worry we get too focused on numbers. But to make that case I'll need to use some numbers.

The new recommendation is principally in response to the results of a large, federally funded study called SPRINT that was published in 2015 in The New England Journal of Medicine. SPRINT was a high-quality, well-done study. It randomly assigned high blood pressure patients age 50 and older to one of two treatment targets: systolic blood pressure of less than 140 or one of less than 120. The primary finding was that the lower target led to a 25 percent reduction in cardiovascular events — the combined rate of heart attacks, strokes, heart failures and cardiovascular deaths.

Relative changes — like a 25 percent reduction — always sound impressive. Relative changes, however, need to be put in perspective; the underlying numbers are important. Consider the patients in SPRINT's high target group (less than 140): About 8 percent had one of these cardiovascular events over four years. The corresponding number in the low target group (less than 120) was around 6 percent. Eight percent versus 6 percent. That's your 25 percent reduction.

The effect was small enough that The New England Journal used a special pair of graphical displays used for health events that occur rarely. One display focused on those participants suffering the cardiovascular events (8 percent versus 6 percent); the other shows the big picture — highlighting the fact that most did not (92 percent versus 94 percent).

Oh, and did I mention that to be eligible for SPRINT, participants were required to be at higher-than-average risk for cardiovascular events? That means the benefit for average patients would be even smaller. But the problem with using SPRINT to guide practice goes well beyond its small effect. Blood pressure is an exceptionally volatile biologic variable — blood pressure changes in response to activity, stress and your surroundings, like being in a doctor's office. In short, how it is measured matters. For the study, blood pressure was taken as an average of three measurements during an office visit while the patient was seated and after five minutes of quiet rest with no staff members in the room. When was the last time your doctor measured your blood pressure that way?

While this may be an ideal way to measure it, that's not what happens in most doctors' offices. A blood pressure of 130 in the Sprint study may be equivalent to a blood pressure of 140, even 150, in a busy clinic. A national goal of 130 as measured in actual practice may lead many to be overmedicated — making their blood pressures too low.

One of the most impressive findings in Sprint was that few patients had problems with low blood pressure like becoming lightheaded from overmedication and then falling. But one of the most important principles in medicine is that the effects seen in a meticulously managed randomized trial may not be replicated in the messy world of actual clinical practice.

Serious falls are common among older adults. In the real world, will a nationwide target of 130, and the side effects of medication lowering blood pressure, lead to more hip fractures? Ask your doctors. See what they think.

Let me be clear: Using medications to lower very high blood pressure is the most important preventive intervention we doctors do. But more medications and lower blood pressures are not always better for everyone.

I suspect many primary-care practitioners will want to ignore this new target. They understand the downsides of the relentless expansion of medical care into the lives of more people. At the same time, I fear many will be coerced into compliance as the health care industry's middle management translates the 130 target into a measure of physician performance. That will push doctors to meet the target using whatever means necessary — and that usually means more medications.

So focusing on the number 130 not only will involve millions of people but also will involve millions of new prescriptions and millions of dollars. And it will further distract doctors and their patients from activities that aren't easily measured by numbers, yet are more important to health — real food, regular movement and finding meaning in life. These matter whatever your blood pressure is.

H. Gilbert Welch is a professor of medicine at the Dartmouth Institute for Health Policy and Clinical Practice and the author of "Less Medicine, More Health: 7 Assumptions That Drive Too Much Medical Care."

<https://www.nytimes.com/2017/11/15/opinion/blood-pressure-guidelines.html?ref=todayspaper>

### [On the topic of Polio and the Temporal Lobe](#) (11/17/2017)

Original Post: Do you have any information on the temporal lobe that I can find and read more about?

Dr. Bruno's Response: You may want to read the article about word finding difficulty and poliovirus-damage to the temporal lobe in the [post polio library](#). It's all about the (usually) left temporal lobe.

Reduced concentration and word finding are THE symptoms related to a poliovirus-damaged brain stem and temporal lobe. Too little dopamine is the problem. (In all of the research that we have done we have never found a relationship between having had polio and learning disorders.)

From "[Word Finding Difficulty as a Post-Polio Sequelae](#)" by Drs. Richard L. Bruno and Jerald R. Zimmerman

"The reports of an association between word finding difficulty, subjective cognitive difficulties and fatigue supports the hypothesis that a common pathophysiology underlies the symptoms of post-polio "brain fatigue"

This study was undertaken to objectively document polio survivors' word finding difficulty and to identify its relationship to fatigue, neuropsychologic processes requiring cortical activation and a peripheral marker for brain dopamine secretion."

### [On the topic of those Currently on an Iron Lung](#) (11/21/2017)

Dr. Bruno's Original Post: For those you know who are "anti-vaxxer" or "I don't care about Polio anyway"  
The Last of the Iron Lungs

<https://gizmodo.com/the-last-of-the-iron-lungs-1819079169>



## On the topic of the "Last" Iron Lung Users (11/21/2017)

Dr. Bruno's Original Post: The Iron Lung Abandonments Story Isn't new. This is from the AARP Bulletin in 2004

**YOUR HEALTH**

# On Borrowed Time

**The last iron lung users face a future without repair service**

BY ROXANNE NELSON

Dolores Thompson hasn't slept in a regular bed since 1950. That was the year Thompson, now 64, contracted polio when an epidemic swept through her hometown of Wytheville, Va., in the Blue Ridge Mountains. An iron lung kept her alive during the acute phase of her illness, which damaged her diaphragm, and an iron lung still regulates her breathing when she rests and sleeps.

Thompson and about 40 other polio survivors may soon be forced to give up their trusty iron lungs, a symbol of the '50s epidemics, and try to adapt to more modern devices. Respiration Colorado of Thornton, Colo., the only company that provides and services iron lungs, stopped guaranteeing parts and repairs for the equipment on March 1. The manufacturer, J.H. Emerson Co. of Cambridge, Mass., hasn't made the apparatus since 1970.

"They've left us high and dry," says Thompson, who now lives in San Diego. "I haven't had a lot of problems with the iron lung, but it is a machine. I'm living on borrowed time."

Terminating the service guarantee "is immoral and unethical," says Richard L. Bruno, director of the Post-Polio Institute, Englewood Hospital and Medical Center in New Jersey. Respiration "made a commitment to these people, and they need to keep their word."

He is perplexed why the company doesn't provide fully for the small and rapidly diminishing group of users. "How expensive can it be to maintain [the iron lungs]?" he asks. "The iron lung is as simple as a washing machine. It's not like they have to maintain the space shuttle."

Although since 1996 Respiration, under an arrangement with the March of Dimes, has supported the needs of post-polio patients, says Tim Murphy, the company's vice president and controller, "that was an agreement to support the equipment needs and the service needs, but it was never an agreement to support a specific piece of equipment or model."

The company and the nonprofit pulling the user's chest wall outward to allow air into the lungs and then reversing the pressure within the chamber to allow exhalation. Introduced at Children's Hospital, Boston, in 1928, iron lungs crammed hospital polio wards by the dozens during midcentury epidemics.

Some newer ventilators use positive pressure, forcing air directly into lungs. Others operate like the iron lung, and some of them are small and light enough to allow users to go out and even travel while wearing them.

Jerry McCready of North Little Rock, Ark., used to sleep in an iron lung but about six months ago switched to a stationary fiberglass model that is smaller and lighter. "I breathe much better in it," he says, "and it's also easier for me to get in and out of because it's lower to the ground. Some people are afraid to make the change. I urge people to try it out and not be afraid of it."

Other iron lung users have been unable to switch because they can't breathe as well with newer devices or fear suffocating in their sleep. "I don't know if it's possible for some people to switch," says Dolores Thompson. "It'll be a death sentence for those who can't adjust."

Marilyn Rogers of Minneapolis, confined to an iron lung around the clock since 1949, hasn't been able to switch, but she has obtained a backup iron lung. Thompson, who has also unsuccessfully tried various models over the years, remains unsure of what she will do.

"I'm going to sit down with my pulmonologist and discuss my options," she says. "This is the reality, so I'm not wasting my remaining time on bitterness and anger. I'll just have to find something else that works." ■

ROXANNE NELSON is a freelance medical writer based in Seattle.



**'This is the reality, so I'm not wasting my remaining time on bitterness and anger.'**  
—DOLORES THOMPSON

Post-Polio Health International are searching for iron lungs that can be used as substitutes and for parts. Respiration has offered to donate iron lungs to users who will assume responsibility for maintenance. "As an FDA-regulated company, we have limitations on the suppliers and repair sources that we can accept into our system," Murphy says. "But if the patient assumes ownership, then they can seek repairs from a nonregulated third party."

About 7 feet long and weighing 700 pounds, an iron lung is a cylindrical steel drum that encloses the entire body except the head. It works on negative pressure, in effect

20 / AARP BULLETIN / SEPTEMBER 2004

## On the topic of IVIG (Intravenous Immunoglobulin) and PPS (11/25/2017)

Dr. Bruno's Original Post: It's Back !

This failed "drug treatment for Inflammation as the cause of PPS" has been bouncing from drug company to drug company, country to country, for more than 13 years. Now it's in the U.S. Study [HERE](#)

"A Multicenter, Prospective, Randomized, Placebo-controlled, Double-blind, Parallel-Group Clinical Trial to Assess the Efficacy and Safety of Immune Globulin Intravenous (Human) Flebogamma? 5% DIF in Patients With Post-Polio Syndrome."

Please read the attached if your interested. And suspicious.

[INTRAVENOUS IMMUNOGLOBULIN \(IVIG\) DOES NOT TREAT PPS](#)

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](#)”