



## Bruno “Bytes” – April, 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 medications (4/2/2017)

Original Post: Does anyone take meds or vitamins for fatigue?

Dr. Bruno’s Response: There is NO supplement or vitamin that reduces Post-Polio Fatigue.

Please don’t waste your money and your polio-damaged neurons.

### On the topic of Sleep Disturbance and Bone Formation (4/2/2017)

Dr. Bruno’s Original Post: We frequently talk about sleep apnea and hypopneas disturbing sleep. Here's a study that links poor sleep with bone loss...

Every polio survivor – Men *AND* Women! -- should have a bone scan for osteoporosis and talk to their physician about treatment if any is required.

#### **Prolonged sleep disturbance can lead to lower bone formation**

From the [Endocrine Society](http://www.endocrine.org)

ORLANDO - Insufficient sleep, a common problem that has been linked to chronic disease risk, might also be an unrecognized risk factor for bone loss. Results of a new study will be presented Saturday at the Endocrine Society’s 99th annual meeting in Orlando, Fla.

The study investigators found that healthy men had reduced levels of a marker of bone formation in their blood after three weeks of cumulative sleep restriction and circadian disruption, similar to that seen in jet lag or shift work, while a biological marker of bone resorption, or breakdown, was unchanged.

“This altered bone balance creates a potential bone loss window that could lead to osteoporosis and bone fractures,” lead investigator Christine Swanson, M.D., an assistant professor at the University of Colorado in Aurora, Colo., said. Swanson completed the research while she was a fellow at Oregon Health & Science University in Portland, Ore., with Drs. Eric S. Orwoll and Steven A. Shea.

“If chronic sleep disturbance is identified as a new risk factor for osteoporosis, it could help explain why there is no clear cause for osteoporosis in the approximately 50 percent of the estimated 54 million Americans with low bone mass or osteoporosis,” Swanson said.

Inadequate sleep is also prevalent, affecting more than 25 percent of the U.S. population occasionally and 10 percent frequently, the Centers for Disease Control and Prevention report.

The 10 men in this study were part of a larger study that some of Swanson’s co-authors conducted in 2012 at Brigham and Women’s Hospital in Boston, Mass. That study evaluated health consequences of sleep restriction combined with circadian disruption. Swanson defined circadian disruption as “a mismatch between your internal body clock and the environment caused by living on a shorter or longer day than 24 hours.”

Study subjects stayed in a lab, where for three weeks they went to sleep each day four hours later than the prior day, resulting in a 28-hour “day.” Swanson likened this change to “flying four time zones west every day for three weeks.” The men were allowed to sleep only 5.6 hours per 24-hour period, since short sleep is also common for night and shift workers. While awake, the men ate the same amounts of calories and nutrients throughout the study. Blood samples were obtained at baseline and again after the three weeks of sleep manipulation for measurement of bone biomarkers. Six of the men were ages 20 to 27, and the other four were ages 55 to 65. Limited funding prevented the examination of serum from the women in this study initially, but the group plans to investigate sex differences in the sleep-bone relationship in subsequent studies.

After three weeks, all men had significantly reduced levels of a bone formation marker called P1NP compared with baseline, the researchers reported. This decline was greater for the younger men than the older men: a 27 percent versus 18 percent decrease. She added that levels of the bone resorption marker CTX remained unchanged, an indication that old bone could break down without new bone being formed.

"These data suggest that sleep disruption may be most detrimental to bone metabolism earlier in life, when bone growth and accrual are crucial for long-term skeletal health," she said. "Further studies are needed to confirm these findings and to explore if there are differences in women."

This study received funding from the National Institute of Arthritis and Musculoskeletal and Skin Diseases, the National Institute on Aging and the Medical Research Foundation of Oregon.

### On the topic of Bone Density medications (4/6/2017)

Original Post: Is it advisable for us to take the medication for osteoporosis that is supposed to build up the bone?

Dr. Bruno's Response: There isn't a polio or post-polio reason not to. But, you have to research the meds and always talk to your physician.

### On the topic of Vitamin D (4/11/2017)

Dr. Bruno's Original Post:

HEALTH

The New York Times



### *Why Are So Many People Popping Vitamin D?*

By GINA KOLATA APRIL 10, 2017

Article [HERE](#)

[https://www.nytimes.com/2017/04/10/health/vitamin-d-deficiency-supplements.html?rref=collection%2Fbyline%2Fgina-kolata&action=click&contentCollection=undefined&region=stream&module=stream\\_unit&version=latest&contentPlacement=1&pgtype=collection&\\_r=0](https://www.nytimes.com/2017/04/10/health/vitamin-d-deficiency-supplements.html?rref=collection%2Fbyline%2Fgina-kolata&action=click&contentCollection=undefined&region=stream&module=stream_unit&version=latest&contentPlacement=1&pgtype=collection&_r=0)

### On the topic of Tax Deductions (4/6/2017)

Dr. Bruno's original post: IT'S TAX TIME!!!! The IRS AND DISABILITY:

What can you deduct as a medical expense?

> Prescribed items, of course.

> Services that "prevent or alleviate a disease or disability (an aide, food shopper)."

> "An item ordinarily used for personal, living, and family purposes (e.g., an electric can opener) will be recognized as an item purchased primarily for medical care...only if it is readily apparent that it prevents or alleviates a disease or disability."

Credit for the Elderly or the Disabled: [HERE](#)

<http://www.irs.gov/pub/irs-pdf/p524.pdf>

What You Can Deduct as a Medical Expense: [HERE](#)

<http://www.irs.gov/pub/irs-pdf/p907.pdf>

### On the topic of One Crutch or Two? (4/11/2017)

Original Post: Polio left me with an atrophied Gastrocnemius muscle on my right leg, paralyzed toes on my right foot, a foot that turned in prior to tarsal surgery as a child, and foot drop on the right leg. I wear an AFO, but have been having problems falling. Would a cane or crutch on the opposite side help to stabilize me and prevent some of the falls?

Dr. Bruno's Response: At the Post-Polio Institute, we usually always found that this formula worked:

AFO? Cane in opposite hand.

KAFO? Two forearm crutches.

Two KAFOs: Wheelchair!

## On the topic of Steroid Use (4/13/2017)

Dr. Bruno's Original Post:

HIGHER RATE OF SERIOUS PROBLEMS SEEN IN ADULTS WHO TAKE SHORT-TERM STEROIDS.

Broken bones, dangerous clots and sepsis all higher – though still rare – in those who were prescribed oral prednisone or other corticosteroids for 30 days or less.

(Steroids can be life-saving, especially when you have a lung infection. But we've talked about long-term steroid use being a problem for polio survivors since steroids block neurons' use of blood sugar (their only fuel) and cause bone loss. So long-term use of steroids, say for hip pain, is a bad idea.

This study suggests that even short-term steroids, like the week-long Medrol "dose pak" for back pain, could be a danger in other ways. Another reminder to make your doctor TALK to you and question everything...)

## Research

### **Short term use of oral corticosteroids and related harms among adults in the United States: population based cohort study**

BMJ 2017; 357 doi: <https://doi.org/10.1136/bmj.j1415> (Published 12 April 2017)

Cite this as: BMJ 2017;357:j1415

<http://www.bmj.com/content/357/bmj.j1415>

ANN ARBOR, MI – Millions of times a year, Americans get prescriptions for a week's worth of steroid pills, hoping to ease a backache or quell a nagging cough or allergy symptoms. But a new study suggests that they and their doctors might want to pay a bit more attention to the potential side effects of this medication.

People taking the pills were more likely to break a bone, have a potentially dangerous blood clot or suffer a life-threatening bout of sepsis in the months after their treatment, compared with similar adults who didn't use corticosteroids, researchers from the University of Michigan report in a new paper in the journal BMJ.

Though only a small percentage of both groups went to the hospital for these serious health threats, the higher rates seen among people who took steroids for even a few days are cause for caution and even concern, the researchers say.

The study used data from 1.5 million non-elderly American adults with private insurance. One in 5 of them filled a short-term prescription for oral corticosteroids such as prednisone sometime in the three-year study period. While the rates of the serious events were highest in the first 30 days after a prescription, they stayed elevated even three months later.

The researchers call for better education of prescribers and the public about the potential risks, and the most appropriate uses and doses, for short-term courses of steroids. The U.S. Food and Drug Administration require drug makers to list the possible side effects of prednisone and other corticosteroids, but the rate of these events among short-term users has not been well characterized.

"Although physicians focus on the long-term consequences of steroids, they don't tend to think about potential risks from short-term use," says Akbar Waljee, M.D., M.Sc., the study's lead author. "We see a clear signal of higher rates of these three serious events within 30 days of filling a prescription. We need to understand that steroids do have a real risk and that we may use them more than we really need to. This is so important because of how often these drugs are used."

Waljee is an assistant professor of gastroenterology at the U-M Medical School and research scientist at the VA Ann Arbor Healthcare System, as well as a member of the Michigan Integrated Center for Health Analytics and Medical Prediction (MiCHAMP), the U-M Institute for Healthcare Policy and Innovation and the VA Center for Clinical Management Research.

As a specialist in inflammatory bowel diseases, he prescribes steroids often to patients seeking relief from chronic digestive tract issues. But the new study focused on short-term use and risks.

#### Who's using short-term steroids?

Using anonymous insurance claims data that IHPI purchased for use by U-M health care researchers, they found that half of the people who received oral steroids had gotten them for just six diagnoses, related to back pain, allergies or respiratory tract infections including bronchitis.

Nearly half received a six-day prepackaged methylprednisolone "dosepak," which tapers the dose of steroids from highest to lowest. Dr. Waljee notes that sold as individual pills, oral steroids can cost less than a dollar for a seven-day course, but the prepackaged form can cost several times that. He also notes that the prepackaged form starts with a relatively high dose that may not always be necessary.

Users of short-term steroids were more likely to be in the older age range under age 65, white, female and to have multiple health conditions. More than half lived in the southern U.S.

The researchers excluded from the study anyone who took steroids in the year before the study period began, anyone who took inhaled or injected steroids during the study years, and anyone who took oral steroids for more than 30 days, as well as people who had cancer or transplants.

#### Differences in danger

Waljee and his colleagues found higher rates of sepsis, venous thromboembolism (VTE) and fractures among short-term steroid users using multiple different statistical approaches to ensure their findings were as robust as possible.

First, they compared short-term steroid users with non-steroid users, looking for the three serious issues in the 5 to 90 days after either the clinic visit closest to when the steroid prescription was filled, or a routine clinic visit for non-steroid users. This gives what's called an absolute risk.

They saw that 0.05 percent of those who got steroids were admitted to a hospital with a primary diagnosis of sepsis, compared with 0.02 percent of non-steroid users. For clots, it was 0.14 percent compared with 0.09 percent, and for fracture, it was 0.51 percent compared with 0.39 percent. However, this analysis was unable to account for all the individual differences between steroid users and non-users.

For that comparison, they then looked at rates of the three complications among short-term steroid users before and after they received steroids. Sepsis rates were five times higher in the 30 days after a steroid prescription, VTE clot rates were more than three times as high, and fracture rates were nearly twice as high as those that did not take steroids.

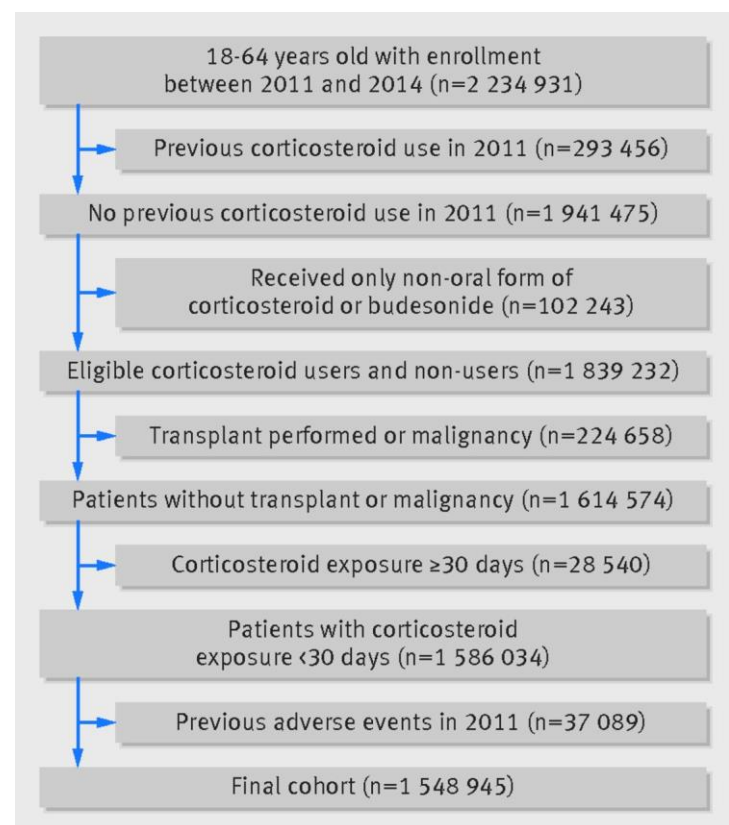
Finally, the researchers compared the steroid users with a sample of non-steroid users who had the same respiratory conditions. The difference in rates of all three health problems were still higher, as expressed by a quantity called the incidence rate ratio. Steroid users had more than five times the rate of sepsis, nearly three times the rate of VTE clots and two times the rate of fracture.

The consistent findings across the three approaches are important given the frequent use of these drugs and potential implications for patients. Waljee notes that the reason for this broad effect of steroids on complications may have its roots in how the drugs work: they mimic hormones produced by the body, to reduce inflammation but this can also induce changes that put patients at additional risk of serious events.

Studies in populations like the one in the BMJ paper can help guide researchers looking for dangerous side effects once drugs are on the market. Waljee notes the FDA is also conducting these initiatives through the "Sentinel Initiative". These studies can also provide insight into the possible mechanisms that might drive these side effects.

"When we have a medication that's being given to a large population, we can pick up signals that might inform us of some potentially harmful side effects that we might otherwise miss in smaller studies," he says. "Analyzing large data sets like this is a goal of groups like MiCHAMP and can help us see these trends sooner, highlighting the importance of this type of research on Big Data."

In the meantime, based on the new results, he advises patients and prescribers to use the smallest amount of corticosteroids possible based on the condition being treated. "If there are alternatives to steroids, we should use those when possible," he says. "Steroids may work faster, but they aren't as risk-free as you might think."



### On the topic of Home Therapy after Knee or Hip Replacement (4/25/2017)

Dr. Bruno's Original Post: I am surprised to see in this article that injections of hyaluronic acid (Synisc), steroids and opioid painkillers are not effective in postponing knee replacements, but that physical therapy, nonsteroidal anti-inflammatory drugs and the painkiller tramadol are helpful. (Please note that home post-op discharge with PT may not be possible for polio survivors. . . )

## AFTER KNEE OR HIP REPLACEMENT: POPULAR “POSTPONING” TREATMENTS NOT EFFECTIVE, POST-OP HOME THERAPY BETTER THAN HOSPITAL STAY....

### *After Knee or Hip Replacement, No Place Like Home*

The New York Times

#### Personal Health

By JANE E. BRODY APRIL 24, 2017

Growing numbers of Americans are outliving their joints. More than a million operations are done annually to replace worn-out knees and hips, and that number is expected to skyrocket in the coming decades as the population ages. Joint replacements typically restore lost mobility, making it possible for people to get health-enhancing exercise and enjoy countless activities that require movement.

As someone who has had both knees replaced, I can attest to the vast improvement in quality of life the surgery bestowed. I can walk and cycle for miles and swim daily without pain, and I can sit through operas, plays and concerts without stiffness. I can also underscore the general futility of some popular efforts to postpone needed joint replacements, including injections of hyaluronic acid and corticosteroids, braces, shoe inserts and opioid painkillers like OxyContin and fentanyl, none of which are recommended by the [American Academy of Orthopaedic Surgeons](#).

In a study published [earlier this year](#) in The Journal of Arthroplasty, medical researchers at the University of Iowa and the University of Texas reported that patients with knee arthritis who use treatments before surgery that the academy does not recommend may be increasing costs by 45 percent. (The academy guidelines strongly recommend only three of the eight preoperative treatments studied — physical therapy, nonsteroidal anti-inflammatory drugs and the painkiller tramadol.)

Ultimately, many, if not most, patients with painful bone-on-bone arthritis opt for a joint replacement. But as the number of these replacements grows (the rate nearly doubled from 2000 to 2010, when an estimated 693,400 total knee replacements were performed), so does the cost to the health care system, prompting some experts to look for ways to minimize the expense of the procedures without compromising the well-being of patients who need them. The latest research — on the value of inpatient rehabilitation for large numbers of patients — offers a promising route to less costly care with no loss of benefit.

It may surprise many to learn that, even if joint replacement patients live alone, the overwhelming majority recover equally well and may experience fewer complications if they go home directly from the hospital and get outpatient rehabilitation instead of spending days or weeks in a costly rehab facility.

Based on the findings of recent well-designed studies, Dr. Javad Parvizi, chairman of research in orthopedics at Thomas Jefferson University in Philadelphia, maintains that “we need to re-examine who, if anyone, should go to a rehab facility after joint replacement.” Traditionally, Dr. Parvizi said, patients who live alone, those who have both knees or both hips replaced simultaneously, and those with a serious underlying medical condition are automatically sent to a rehab facility after discharge from the hospital. And to be sure, a small percentage of these patients — perhaps those who have both hips or, like me, both knees replaced at once — may benefit from inpatient rehab.

However, according to the findings of a new [Australian study](#), patients who live alone and can perform a home exercise program recover just as well with home-based rehab as patients who spend 10 days in a rehab facility. In the study, 81 knee replacement patients were randomly selected to receive 10 days of inpatient rehabilitation, followed by an eight-week home-based program; 84 patients got only the home-based program, and another 87 patients served as a nonrandomized observation group that did only home-based rehab.

Six months after their surgery, there was no difference in mobility, pain, function or quality of life between those who got inpatient rehab and either of the two groups that got outpatient rehab. In a study published [earlier this year](#) in The Journal of Arthroplasty, medical researchers at the University of Iowa and the University of Texas reported that patients with knee arthritis who use treatments before surgery that the academy does not recommend may be increasing costs by 45 percent. (The academy guidelines strongly recommend only three of the eight preoperative treatments studied — physical therapy, nonsteroidal anti-inflammatory drugs and the painkiller tramadol.)

Ultimately, many, if not most, patients with painful bone-on-bone arthritis opt for a joint replacement. But as the number of these replacements grows (the rate nearly doubled from 2000 to 2010, when an estimated 693,400 total knee replacements were performed), so does the cost to the health care system, prompting some experts to look for ways to minimize the expense of the procedures without compromising the well-being of patients who need them. The latest research — on the value of inpatient rehabilitation for large numbers of patients — offers a promising route to less costly care with no loss of benefit.

It may surprise many to learn that, even if joint replacement patients live alone, the overwhelming majority recover equally well and based on an assessment of the patients' function, pain relief and personal satisfaction three months after their surgery, the team concluded, "Patients living alone can expect a safe recovery, equivalent to those not living alone, when discharged directly home after total joint arthroplasty." Even if patients who lived alone stayed in the hospital an extra day, and some of them got home health services in addition to home-based rehab, the cost was much less than if they had been routinely discharged to a rehab facility, they reported.



Dr. William J. Hozack, an orthopedic surgeon at the Sidney Kimmel Medical College at Thomas Jefferson University, who described the study at the annual meeting of the American Academy of Orthopaedic Surgeons last month, said, "We found that patients living alone were able to safely recover without any increase in the rate of complications. Even more strikingly, patients were generally happy and content being in the comfort of their own home during recovery." Dr. Parvizi noted, "Half or more of the cost of total joint replacements is incurred in the postoperative period. Outpatient rehab is much less expensive."

Without inpatient rehab, and even with an extra day in the hospital before going home, the cost per patient is reduced by more than \$10,000, the researchers reported. Their conclusion: "The substantial post-discharge costs of inpatient rehabilitation, six fold greater than for home discharge, cannot be ignored."

Costs aside, patients who go home directly may be less likely to experience what doctors call "adverse events" – complications like infections, blood clots or worse.

Inpatient rehab is not the idyllic experience many patients expect. An analysis of complications experienced by a nationally representative sample of Medicare patients, conducted in March 2012 by the Office of the Inspector General, found that 29 percent suffered adverse events during their stay in rehab facilities, a rate similar to that incurred in hospitals (27 percent) and in skilled nursing facilities (33 percent). Doctors who reviewed the adverse events that occurred during inpatient rehab determined that nearly half of them were "clearly or likely preventable," most often because of "substandard treatment, inadequate patient monitoring, and failure to provide needed treatment."

Dr. Parvizi said that when patients who live alone are prepared before surgery for going home directly from the hospital, they are much more likely to do well with home-based rehab. "If patients are told they will be going home, they can make preparations beforehand for needed support," he said. "But if they think they will be going to inpatient rehab, they expect that and are not prepared to manage alone."

A version of this article appears in print on [April 25, 2017](#), on Page D5 of the New York edition with the headline: New Hip or Knee? No Place Like Home.

<https://www.nytimes.com/2017/04/24/well/live/after-knee-or-hip-replacement-no-place-like-home.html?ref=todayspaper>

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

Looking for a particular topic? Check out the Bruno Bytes "Index by Subject"