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# Have a Great Summer



## My Polio Story

*Peter is our youngest member. He is also our web master and loyal supporter of Polio Regina. Here is Peter Huang's Polio Story.*

### Peter Huang

I was born in Suzhou Jiangsu province PR China. I am 49 years old. I decided to immigrate to Canada around 2003 because I really wanted to improve my English at that time. On the other hand, I was interested in different cultures including western culture. That was why I chose to apply for immigration. I eventually landed in Calgary in 2005.

I was living in Suzhou China when I got polio. I don't remember how old I was when I had polio. I must have been very young, I guess less than one year old.

I have no exact idea how I got infected because I was too young at that time. However, my aunts said it could be related to malnutrition because my mother stopped breast feeding me one month after I was born. At that time, I guess there was probably no formula milk powder in China. My grandparents fed me with milk. I just threw up. I was told I was always sick and went to hospital frequently. That could be the possible reason because polio virus carriers were mostly at hospital too.



I have never been told I was ever hospitalized with any of my relatives. I was told by my aunts and my grandfather that they were so worried that they brought me to see many doctors in the city. I was told my grandfather eventually brought me to see a Chinese medicine doctor and he treated me with acupuncture for a very long time.

I was told my one leg was paralyzed, however, I just cannot remember which leg it was. I still have some blurry memories that I was not able to walk and I had to rely on a small stool to move my body. I did not have a wheelchair. It was probably too expensive for my parents to afford at that time. I still remember that I was always the slowest and last person to reach the finish line when I was in a 60 meter dash test or other events in physical education class when

### IN THIS ISSUE

My Polio Story – Peter Huang . . . . .	1
At the Meetings. . . . .	3
Dementia Friendly Communities . . . . .	3
Seniors House Calls Program . . . . .	5
Fatigue and Memory . . . . .	7
Word Finding Difficulty . . . . .	7
Post-Polio Brain Fatigue. . . . .	9
False Positives in Polio Survivors. . . . .	10
Too Liberal Use of Oxygen. . . . .	13
On the topic of Medications for Osteoporosis . . .	13
Hip Replacement. . . . .	14
Nonopioid Drugs. . . . .	15
You Are Invited. . . . .	16
Membership Application. . . . .	16

I started elementary school. My legs and body were just too weak. The difference was huge.

My physical condition is always not good. I have many medical problems. I just don't know why. After reading the polio research book, I believe there should be some connection, especially the brain damage caused by polio virus.

I recall a couple of senior age doctors in China in the past when I was still young did tell me that polio survivors will have brain numbness feeling, lack of alertness, and not feeling themselves etc. when they are getting older. I think that is probably true based on my own experience. Those senior doctors must have seen many polio patients before and gained the knowledge from the grown-up patients. At that time, the scientists in the States probably just started the post-polio research.

I am working in an engineering firm as an electrical engineer/designer. As a minority immigrant and polio survivor of my age, I am facing a lot of challenges such as language barriers, culture differences, discrimination and racism, and fast deteriorating health condition and so on.

I didn't know anything about PPS until I met Carole and Wilf Tiefenbach at church probably five years back. From that time, I started to do the research about PPS from the books and internet. Now I have started to realize that PPS could possibly be applied to polio survivors including myself.

I always got tired very easily. Many times I feel fatigued even when I am doing nothing. I just feel my brain does not function well enough to deal with my daily life and work. I feel like my brain cannot be activated if I don't go to gym to work out. I just have no energy or even negative energy. Lifting light weight is only thing I am doing now to make me feel better.

I went to see my family physician, some neurologist, and a physiatrist. The neurologist told me he has no idea about PPS. My problem is mostly related to my age. My physician seemingly has heard about PPS, but has very limited knowledge. The physiatrist did some tests on me and told me I had no polio before. I asked him how come one of my legs was paralyzed. He said it could be misdiagnosed. He said he has been seeing polio patients for over 30 years. His answer

definitely made no sense to me. I also contacted Dr Ming Chan who was a polio researcher in Alberta. He told me 80% of polio survivors have the PPS based on their research. They have seen over 4,000 polio survivors and came to this conclusion. Alberta had a polio clinic before, by the way. Dr Ming Chan also indicated there is no polio specialist in our province so far. I also touched base with Dr. Richard Bruno once. In general, I did not get any practical help from any professionals so far.

I always feel so tired and exhausted and my brain is confused. Therefore, I go to gym to lift light weight, or a bit of medium weight occasionally to help me feel better. It is actually revealed by some recent post-polio researchers like Dr. Ming Chan that light weight lifting could improve post polio syndrome. Some of my co-workers always asked me what happened to me if I don't go to gym in the morning. I know that I look and feel very bad. But I don't know how to explain to them though I know it is because of my brain problem.

I had a very severe low back injury in November 2014 when I was weight lifting. At that time, I did not have very much post-polio knowledge. I had not yet read PPS books. Therefore, I did lift heavy (to me) weights for a while to try to activate my brain quickly in the busy early morning. Unfortunately, I hurt myself very badly. It was getting worse since then though I keep seeing different doctors. I am so disappointed in the medical system here. My family physician said the damage will not get recovered and it is a permanent disability and could be related my polio history.

I am doing the best I can do to make me survive in Canada. LOL.

I had some sport hobbies before such as badminton, volleyball etc. Nonetheless, I stopped doing any of those things. It is because I feel hardly able to keep up with daily work, house chores and necessary shopping. I just have no extra energy.

What I can advise other polio survivors is to keep active every day. You can do some stretches, swim in warm temperature water, or even lift light weight. Secondly, it is also important to eat healthy diet that includes high protein, whole grain, whole wheat, a lot of vegetables and fruit.

## At the Meetings

**November 2017** - Christmas party: We all enjoyed a turkey dinner with all the trimmings and were able to visit with fellow members after the meal.

**March 2017** – This was our annual general meeting. Treasurer David Cotcher presented the annual financial statement for 2017 with comparative figures for 2016.

Election of executive officers for 2018 -2019.

The following are the Executive Officers of Polio Regina Inc. for 2018-2019:

**President** –Carole Tiefenbach

**Vice-President** – Wilf Tiefenbach

**Secretary** – Ivan Jorgensen

**Treasurer** – David Cotcher

**Phone Co-ordinator** – Carole Tiefenbach

**Archivist/Librarian/Web Master** – Peter Huang

**Post Box Editor** – Ivan Jorgensen

**Director** – Blenda Ramsay

**Open forum:** Diane Lemon introduced Donavon Ljurić who was joined later by his colleague Wendy, paramedics from Senior's House Calls Program, who were our guest speakers. They spoke about the program which provides support to seniors who have great difficulty getting out of the home to access health care services as well as follow up, in the comfort of their homes. More information is included later in this issue.

**April 2017** - Location and times of future meetings. We decided that we will continue to hold the meetings at Nicky's Café. The fall meetings will be Thursday, September 27th and Thursday, October 25th, both at 3:30 p.m. The date and time for the Christmas party will be decided at a later date.

**Open Forum:** The open forum was chaired by Diane Lemon who introduced our guest speaker Abby Wolfe who is the Public Awareness Co-ordinator from the Alzheimer's Association. Abby talked about dementia and shared information about the Dementia Friends program and the Dementia Friendly Communities initiative. A summary of Abby's presentation is included later in this issue.

## Dementia Friendly Communities

*Presentation, April 26th, 2018*

*Presenter: Abby Wolfe, Public Awareness Co-ordinator, Alzheimer Society of Saskatchewan*

On April 26th, Abby Wolfe, Public Awareness Co-ordinator at the ASOS, attended the Polio Regina Inc. meeting to present on dementia, and to share information about the Dementia Friends program and the Dementia Friendly Communities initiative. Abby enjoyed the opportunity to share information and meet some of the Polio Regina Inc. members, below is an overview of some key messages addressed in the presentation.

The Alzheimer Society of Saskatchewan is the provinces leading non-profit providing support, education and information to people affected by dementia. Core services of the Alzheimer Society of Saskatchewan (ASOS) focus on support, education, advocacy, awareness and funding research. The ASOS provincial office is located in Regina, but several additional Resource Centres are also located in areas around the province.

Does someone need to have a diagnosis to contact the Alzheimer Society? It is not mandatory to have a diagnosis to contact the Alzheimer Society – if someone is concerned about changes they are noticing in themselves or others, the ASOS can provide information about the warning signs as well as helpful resources such as the Getting a Diagnosis Toolkit which can help someone to prepare to talk to their doctor. Friends, family members, and care partners of someone with dementia may also connect with the Alzheimer Society to learn more about dementia, and ways to support the person to live well with dementia. The ASOS also provides public education via presentations such as the one today, our Evening of Education presented in January, and others throughout the year. Our warning signs campaign, the ABC's of Dementia, is also geared towards the general public. If someone does have a diagnosis, the ASOS may support them and their care partners by providing information that can help them understand their diagnosis, considerations for planning ahead, discussing strategies for communication and day-to-day care, and connecting them to opportunities for peer support such as Support Groups.

What is dementia, and how is it different than Alzheimer's disease? Dementia can be understood as an umbrella term that describes a set of symptoms. These symptoms may include memory loss and difficulties with comprehension, problem-solving, judgement, or language, but dementia is not a specific disease in itself. Alzheimer's disease is one type of dementia. There are many different types of dementia: Frontotemporal dementia, Vascular dementia, mixed dementia, dementia with Lewy Bodies to name a few, but this is not an exhaustive list. These are called progressive, neurodegenerative conditions because they affect the physical structure of the brain, symptoms progress over time, and there is currently no known cure.

It is important to understand that there are many different types of dementia because different types may affect different areas of the brain, causing different symptoms. With some types of dementia, memory loss might not be the first warning sign to appear. Types may also progress differently than each other. There are also some treatable conditions which may cause dementia-like symptoms, including: untreated infections (such as a Urinary Tract Infection), medication interactions, or a severe vitamin deficiency.

Not every older person develops dementia, and not every person with dementia is older. While age is a risk factor, it is not the only risk factor, and people have been diagnosed with dementia in their 60's, 50's and 40's.

What does it mean to be a Dementia Friend? The presentation also highlighted the new Dementia Friends program and encouraged attendees to consider signing up as a Dementia Friend. Dementia Friends learn more about dementia and what they can do to be more supportive and inclusive in their everyday interactions. A Dementia Friend recognizes that dementia is about more than just memory, and that a person with dementia might experience changes in Abilities, Behaviour, and Communication. Dementia Friends receive monthly newsletters from the Alzheimer Society of Saskatchewan which provide information, practical tips and communication strategies that can help them learn more. Dementia Friends are not required to volunteer or donate,

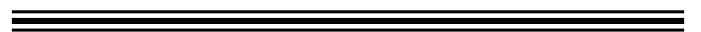
instead, they are simply committing to learn more. Becoming a Dementia Friend is an important way to help reduce stigma and help build dementia friendly communities... one Friend at a time!

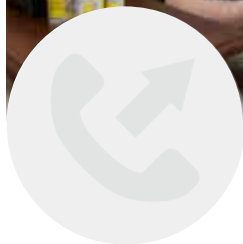
What is the Dementia Friendly Communities initiative? As a partner in the Reducing Isolation of Seniors Collective (RISC), the Alzheimer Society of Saskatchewan is undertaking projects that aim to reduce the social isolation of seniors in Saskatchewan by raising awareness and understanding of dementia, reducing stigma, and supporting people affected by dementia to live well. While the Dementia Friends program aims to reduce stigma and build understanding on an individual level, the Dementia Friendly Communities initiative aims to engage groups to become more dementia friendly.

The general definition of a Dementia Friendly Community is a place where "people with dementia are supported to live well and participate to the fullest extent possible." To become more dementia friendly, communities can start to address both their social environment, and physical environment.

People affected by dementia can encounter both social and physical barriers that impact their participation in community and increase their risk of social isolation. Communities can better support people affected by dementia to live well by addressing these barriers and becoming more inclusive, supportive, and accessible. This might include raising awareness and understanding by sharing information with group members and refraining from stigmatizing jokes, or incorporating considerations for signage and dementia friendly design that can make it easier to navigate spaces more independently. Groups of all types and sizes can become involved in the Dementia Friendly Communities initiative, from cities and towns to social groups and book clubs!

If someone is interested in learning more about either the Dementia Friends program or the Dementia Friendly Communities initiative, they may visit [www.DementiaFriendlySaskatchewan.ca](http://www.DementiaFriendlySaskatchewan.ca) or contact Abby Wolfe, Public Awareness Coordinator at the Alzheimer Society of Saskatchewan.





## SENIORS HOUSE CALLS PROGRAM

*The Seniors House Calls program was created within the Regina Qu'Appelle Health Region to support seniors to be well in the comfort of their homes. The team includes nurse practitioners, paramedics and pharmacists.*

### HOW TO ACCESS THIS PROGRAM:

*Call 306-766-6280 to refer.*

Clients can be referred to this program by a current health care provider such as a physician, nurse practitioner, nurse, homecare etc. Patients and their families can also refer themselves to the program.

Seniors House Calls operates 7 days per week, 6:00am until 11:00pm. Information is also available at [www.rqhealth.ca/SHC](http://www.rqhealth.ca/SHC)

Please note that Clients need to provide consent to be seen by a provider on the Seniors House Call Team

### PROGRAM REQUIREMENTS:

- 65 years old or older
- Typically frail and home/housebound or with great difficulty getting out of the home to access primary health care services
- Needing in home assessment and treatment
- Experiencing an acute event that is urgent but not a true Emergency needing Hospital Services
- Needing follow-up in home assessment and treatment after a hospital visit
- Living in Regina



## SERVICES:

There is no limit to the services we provide. If you feel your patient has a gap in care or access, call us to see what services we can provide. Some common services are:

- Partner with family physicians and other care providers to provide clients in home urgent medical assessment, diagnosis and treatment of acute / chronic health issues
- Develop care plans with clients and caregivers
- Provide in home vaccinations and immunizations for home bound clients
- Short term follow-up in home for clients after an ER visit or hospital admission
- System navigation support for clients needing to access additional health services such as home care, chronic disease management etc

## INFORMATION NEEDED BY THE REFERRING PERSON:

No forms required. To refer, call 306-766-6280 and verbally provide content which may include:

### Client Information:

- Client's name, age, date of birth and health card number
- Client's Next of Kin
- Client's Address

### Provider Information:

- Name of person referring and contact information
- Family Physician and Contact #
- Other Care Providers Involved
- Reason for Referral/Current State/Goals

### Medical History and other Information:

- Urgency (Within 4 hours, 8 hours, today, tomorrow, etc.)
- Diagnosis
- Care attempted to date
- Recent set of vital signs including a recent blood sugar reading
- Current Medication List
- Allergies
- Any contact or safety concerns
- Other relevant medical or surgical history



The following articles have been reproduced with permission from Bruno "Bytes" by Dr. Richard Bruno, Chairman of the International Centre for Polio Education, Host of The Harvest Center's Post-Polio Coffee House. Available through a "link" from Dr. Bruno's website: [www.postpolioinfo.com](http://www.postpolioinfo.com) (or) directly through <http://www.papolionetwork.org/bruno-bytes.html>

**Bruno "Bytes"** share his Tips and Tidbits of PPS information as he shares them online. Every issue of Bruno "Bytes" is available in PDF format, along with an Index that covers each article by Subject. Feel free to print and share these with other survivors.

## Fatigue and Memory

**Original Post:** Does anyone else suffer with cognition issues such as memory issues, concentration and focus problems? Could post-polio be contributing to these problems?

**Additional Post:** I thought I had early dementia, now am told that memory, word finding and concentration loss are common symptoms of PPS.

**Additional Post:** I have problems with word retrieval and a bit of forgetfulness especially when tired.

**Additional Post:** Dr. Bruno, I wonder if it has to do with the fatigue we get from not pacing ourselves? The more tired I am, the less my brain copes. I call it 'Brain Fog'.

**Dr. Bruno's Response:** Our research has shown that word finding difficulty is NOT a symptom of dementia in polio survivors. And, yes, fatigue contributes to problems with thinking, memory and word finding.

## ARTICLES...

### Word Finding Difficulty.

[http://www.papolionetwork.org/uploads/9/9/7/0/99704804/word\\_finding\\_difficulty\\_and\\_pps\\_\\_abbrev\\_\\_11-2017\\_.pdf](http://www.papolionetwork.org/uploads/9/9/7/0/99704804/word_finding_difficulty_and_pps__abbrev__11-2017_.pdf)

**Post-Polio Brain Fatigue: A Little Spot Means A Lot.**

[http://www.papolionetwork.org/uploads/9/9/7/0/99704804/brain\\_fatigue.pdf](http://www.papolionetwork.org/uploads/9/9/7/0/99704804/brain_fatigue.pdf)

### Neuropsychology of PPS.

<http://www.postpolioinfo.com/library/neuropsych.pdf>

### Dopamine and WFD.

<http://www.postpolioinfo.com/library/DRUG.pdf>

## Word Finding Difficulty as a Post-Polio Sequelae

(Rev. 2017: Abbreviated from the original)

By: Drs. Richard L. Bruno and Jerald R. Zimmerman  
The Post-Polio Institute and The International Centre for Post-Polio Education and Research  
Cf. *American Journal of Physical Medicine and Rehabilitation*, 2000; 79:343-348.

Of all Post-Polio Sequelae, fatigue is the most commonly reported and most debilitating symptom. In the 1985 National Post-Polio Survey, 91% of respondents reported new or increased fatigue, 41% reported fatigue interfering with performing or completing their work and 25% reported fatigue interfering with self-care activities (1-5). Importantly, polio survivors differentiate between physical tiredness and what they describe as "brain fatigue" associated with thinking difficulties. In the 1990 National Post-Polio Survey, between 70% and 96% of respondents with fatigue reported difficulty with concentration, focusing attention, mind wandering, memory, thinking clearly and word-finding, with 77% percent reporting moderate to severe difficulty with these problems (6). Of these cognitive symptoms, word finding difficulty was least expected. Of all polio survivors surveyed, 79% reported difficulty "thinking of words I want to say," with 37% reporting frequent, moderate to severe word finding difficulty (6). Further, the frequency and severity of word finding difficulty were significantly correlated with all of the other subjective cognitive difficulties listed above.

We studied 33 polio survivors and administered the Post-Polio Fatigue Questionnaire, Animal Naming and FAS Tests, plus tests of attention and information processing speed. Plasma prolactin was also measured as a marker for brain dopamine secretion since, as prolactin increases in the brain, dopamine decreases:

- 1) Subjects reporting high fatigue severity and word finding difficulty had clinically abnormal or significantly lower Animal Naming Test scores as compared to subjects with low symptom severity;
- 2) Impaired performance on the most difficult tests of attention and information processing speed were

also associated with lower scores on the word finding tests;

3) A significant inverse relationship between Animal Naming Test scores and plasma prolactin suggests that a reduction in brain dopamine secretion is related to reduced animal naming ability. These data support the hypothesis that decreased dopamine secretion, possibly secondary to poliovirus damage to the basal ganglia, may underlie not only fatigue and impaired attention but also word finding difficulty in polio survivors.

Clinically, polio survivors report a “tip-of-the-tongue” phenomenon characterized by difficulty naming familiar objects and people (sometimes even family members), difficulty that increases as fatigue worsens. This complaint is similar to that in Parkinson’s disease patients, who also report “tip-of-the-tongue” word finding difficulty well as “excessive” and sometimes disabling fatigue (7-9). Parkinson’s patients and polio survivors are similar in that both have damage to the basal ganglia and dopamine producing neurons (6,10-12).

In a previous study, we found that slowing of right hemisphere electroencephalographic (EEG) activity in polio survivors, an indicator of decreased cortical activation, was significantly positively correlated with both daily fatigue severity and plasma prolactin, which were themselves significantly positively correlated (13). The association between word finding difficulty, subjective and measured impairment of attention and cognitive difficulties with “brain fatigue” supports the hypothesis that symptoms of post-polio brain fatigue are related to a decrease in dopamine release, causing a decrease in brain activation, and are not symptoms dementia (6,12-15).

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## Post-Polio Brain Fatigue

*By Dr. Richard L. Bruno, HD., PhD. Director,  
International Centre for Polio Education  
www.PostPolioInfo.com*

### LITTLE SPOTS MEAN A LOT.

Fatigue and “brain brownout” -- difficulty focusing attention and word finding associated with fatigue are the most commonly reported, most disabling and, unfortunately, the least believed of all Post-Polio Sequelae (PPS). The biggest problem is that there is no medical test to prove that you have fatigue. Research that we began in 1993 on the post-polio brain has documented damage done by the original poliovirus infection that prevents survivors from activating their brains and thereby causes fatigue and brain brownout. There are three new studies that support our findings.

A summary of the first study begins with a sentence that warms my heart: “While individuals with post-polio syndrome do not have diminished mental function when they are well rested, their mental function declines considerably after even moderate mental fatigue.” Researchers at the US Uniformed Services University of the Health Sciences asked 65-year-old polio survivors to complete computerized neuropsychological tests of attention, thinking or memory once, and then again one hour later. The so-called “practice effect” typically improves scores the second time anyone takes neuropsychological tests. However, more than 40 percent of polio survivors had a decrease in performance on the second administration of seven of the eight computerized tests, while 50 percent did more poorly on at least three tests. Subjects didn’t make more mistakes the second time; they were just much slower performing the tests after being fatigued by taking the first set of tests. Slower performance on neuropsychological tests is exactly what our studies found, that polio survivors reporting severe daily fatigue required 23 percent to 67 percent more time to complete tasks requiring attention than did polio survivors with no or mild fatigue.

Why has our neuropsychological research and this new study found brain brownout to be related to

fatigue in polio survivors? In our others studies, we used magnetic resonance imaging (MRI) to look inside the brains of polio survivors. We found small individual or multiple “white spots” (technically called hyper intense signal) in the brain activating system of 55 percent of polio survivors reporting moderate or higher daily fatigue, and no spots in those with mild or no fatigue. The more white spots, the more severe were polio survivors’ fatigue, problems with memory, thinking clearly, staying awake, mind wandering, attention and concentration.

Recently, researchers at Duke University published a study using both regular MRI, which we used, and a new, more sensitive imaging technique (called DTI) to look at white spots in the brains of individuals 60 and older without polio or any neurological disease. The study found that visible white spots on regular MRI may be just the tip of the iceberg, since DTI found that damage to the brain under the white spots was larger than the spots themselves. What’s more, the researchers concluded that those with white spots in one part of the brain may have invisible damage in brain areas where spots have not yet become visible on regular MRI, and that this damage may be preventing brain neurons to talk to each other. This could possibly explain why 45 percent of polio survivors with significant fatigue in our study had no visible spots on regular MRI. When it comes to seeing damage on MRI in polio survivors’ brain activating system, apparently little spots mean a lot.

So, there actually is physical evidence that poliovirus damage is related to brain brownout in fatigued survivors. But listen to this: Mayo Clinic researchers studied a virus in the same family as the poliovirus -- the virus that causes the common cold. They infected some mice with cold virus and not others. Both groups had their memory tested by completing a maze. Virus-infected mice made more errors and couldn’t figure out where they were going. (Sound familiar?) The mice that made the most errors had greater damage to their brains. The study concluded that even the cold virus could cause “at least some degree of neurologic deficit” in humans. If having a cold can cause brain damage, how can so many doctors still say that the poliovirus, a known killer of brain neurons, couldn’t possibly cause polio survivors to have brain brownout and fatigue? Time

for doctors to read a medical journal or two and start seeing the spots.

Fear of Alzheimer's Asked one polio survivor, "When I am very fatigued or stressed I will totally forget the word I was going to use. I'm frightened. Am I getting Alzheimer's disease?" Nope. You are experiencing word-finding difficulty, a problem for polio survivors that has nothing to do with memory loss or Alzheimer's disease. In our 1990 National Survey, 79 percent of polio survivors reported difficulty "thinking of words I want to say." Thirty-seven percent reported frequent, moderate-to-severe wordfinding difficulty. In the American Journal of Physical Medicine and Rehabilitation, we describe testing polio survivors and finding that they do indeed have the "tip-of-the-tongue" experience--knowing the word you want to say but not being able to say it. Polio survivors have difficulty with naming objects and sometimes even people they know well. Our results indicated that word-finding difficulty was not associated with memory or thinking difficulty -- symptoms of Alzheimer's disease -- but was related to trouble focusing attention, a characteristic symptom of post-polio fatigue. We also found that difficulty with word finding and focusing attention were related to polio survivors' brains making less dopamine. Low dopamine is the cause of Parkinson's disease, and we found that word-finding difficulty was identical in both polio survivors and Parkinson's patients, even though polio survivors do not experience the tremor and rigidity of Parkinson's. In 1996, we published a study in the same journal showing that bromocriptine, a dopamine-replacing drug, reduced word-finding difficulty, attention problems and fatigue in polio survivors. However, medication is not necessary to treat word-finding difficulty or any PPS symptom. Reducing physical and emotional stress decreases all PPS symptoms. So don't worry that you have Alzheimer's disease. If you're having trouble thinking of a word that you want to say, try to "talk around" the word by describing what you're trying to name. If you are forgetting your friends' names, try calling everyone "Buddy" or "Honey."

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## On the topic of "Brain Fog" and Mental Status Exams

**Original Post:** I did a book review for my book club. It was a challenging book and I was well prepared. This used to be easy for me but I talked cautiously and felt brain "foggy" at times. I just couldn't think very fast. I generally feel my mind is good but I guess the stress of doing the presentation was too much.

**Dr. Bruno's Response:** A polio survivor with "Brain Fog?" You're not alone! Here in the U.S., Medicare pays for a MMSE (Mini-Mental State Examination) at primary care checkups for everyone over 65. These tests ask questions like day & month, counting backwards and repeating simple words/phrases. Those results could in fact be skewed by PPS fatigue.

### **CAUTION: False Positives in Polio Survivors with Post-Polio Sequelae Who Are Given Mental Status Examinations.**

*By Dr. Richard L. Bruno, HD., PHD.  
The Post-Polio Institute and The International Centre  
for Post-Polio Education  
[https://www.papolionetwork.org/  
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caution.pdf](https://www.papolionetwork.org/uploads/9/9/7/0/99704804/mental_status_exam_caution.pdf)*

In our 37 years of studying and treating more than 6,000 polio survivors, the most prominent and disabling Post-Polio Sequelae is fatigue. This fatigue is not just physical but what polio survivors describe as "brain fatigue." In the 1990 International Post-Polio Survey, between 70% and 96% of respondents having fatigue also reported difficulty with concentration, focusing attention, mind wandering, memory, thinking quickly and word finding; 77% reporting moderate to severe difficulty with these cognitive tasks (1). Importantly, these reported impairments were seen in polio survivors in their 40s and never were associated with dementia.

**LABORATORY FINDINGS:** Our studies have uncovered a relationship between fatigue, impairment of brain activation and cognitive symptoms:

1) Subjects reporting severe fatigue and word finding difficulty had clinically abnormal or significantly lower Animal Naming Test scores as compared to subjects with mild fatigue (2);

2) Slowed performance on the most difficult tests of attention and information processing speed were associated with lower scores on word finding tests (3);

3) A significant inverse relationship between Animal Naming Test scores and plasma prolactin suggests that a reduction in brain dopamine secretion is related to impaired naming ability and support decreased dopamine secretion, possibly secondary to poliovirus damage to the basal ganglia, underlying not only fatigue and impaired attention but also word finding difficulty (4).

4) Polio survivors report a “tip-of-the-tongue” phenomenon characterized by difficulty naming familiar objects and people (sometimes even family members), difficulty that increases as fatigue worsens (5). This complaint is similar to that in Parkinson’s disease patients who also report “tip-of-the-tongue” word finding difficulty well as “excessive” and sometimes disabling fatigue. Parkinson’s patients and polio survivors are similar in that both have damage to dopamine producing neurons.

**CLINICAL IMPLICATIONS:** The association between subjective and measured impairment of cognitive functions with “brain fatigue” supports the hypothesis that symptoms of post-polio brain fatigue are related to a decrease in dopamine release, causing a reduction in brain activation, and are not symptoms dementia (1-4). Therefore, administration of in-

office mental status testing (such as the Mini-Mental State Examination) to polio survivors may artificially reduce polio survivors’ scores and unnecessarily frighten them with the possibility of having dementia. Any decreased mental status examination test scores on items where concentration and word finding are required (e.g., MMSE items 2, 4, 5, 6,10) should be reported with caveats including the patients’ subjective level of fatigue during testing, time of day, their history of subjective concentration and word finding difficulties and whether they experienced the “tip-of-the-tongue” phenomenon during testing.

### REFERENCES

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# Mini-Mental State Examination (MMSE)

Patient's Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Instructions: Ask the questions in the order listed.**

**Score one point for each correct response within each question or activity.**

Maximum Score	Patient's Score	Questions
5		"What is the year? Season? Date? Day of the week? Month?"
5		"Where are we now: State? County? Town/city? Hospital? Floor?"
3		The examiner names three unrelated objects clearly and slowly, then asks the patient to name all three of them. The patient's response is used for scoring. The examiner repeats them until patient learns all of them, if possible. Number of trials: _____
5		"I would like you to count backward from 100 by sevens." (93, 86, 79, 72, 65, ...) Stop after five answers. Alternative: "Spell WORLD backwards." (D-L-R-O-W)
3		"Earlier I told you the names of three things. Can you tell me what those were?"
2		Show the patient two simple objects, such as a wristwatch and a pencil, and ask the patient to name them.
1		"Repeat the phrase: 'No ifs, ands, or buts.'"
3		"Take the paper in your right hand, fold it in half, and put it on the floor." (The examiner gives the patient a piece of blank paper.)
1		"Please read this and do what it says." (Written instruction is "Close your eyes.")
1		"Make up and write a sentence about anything." (This sentence must contain a noun and a verb.)
1		"Please copy this picture." (The examiner gives the patient a blank piece of paper and asks him/her to draw the symbol below. All 10 angles must be present and two must intersect.) 
30		<b>TOTAL</b>

## **Too liberal use of oxygen increases risk of death in acutely ill adult patients: McMaster**

Hamilton, ON (April 26, 2018) – McMaster University researchers have found there is such a thing as too much oxygen for acutely ill adults.

Extensive data analyses in a study from the university show that supplemental oxygen, when given liberally to these patients, increases the risk of death without improving other health outcomes.

The results were published today in *The Lancet*.

“Supplemental oxygen is administered to millions of acutely unwell patients around the world every day,” said Waleed Alhazzani, senior author of the paper, assistant professor of medicine at McMaster and an intensive care and general internal medicine staff member at St. Joseph’s Healthcare Hamilton.

“Despite this, there is a striking lack of definitive, high-quality evidence related to this common intervention.”

The McMaster-led team of researchers searched electronic academic databases from their inception through to October 2017 for randomized controlled trials done worldwide which compared liberal versus conservative oxygen therapy and death rates, as well as impacts on such aspects as disability, infections and hospital length of stay.

The 25 randomized controlled trials encompassed more than 16,000 adult patients with sepsis, stroke, trauma, emergency surgery, heart attack or cardiac arrest.

Data analysis demonstrated that, compared to the conservative strategy, liberal administration of oxygen resulted in increased in-hospital death by 21 per cent. Additional analyses suggested that the more supplemental oxygen patients were given, the higher their risk was for death. However, the incidence of other conditions, such as infections or length of hospital stay, were similar between the two groups.

The researchers estimated one additional death for every 71 patients treated with a liberal oxygen strategy.

“Our findings are distinct from the pervasive view that liberal oxygen therapy for acute illnesses is at worst, harmless,” said Alhazzani.

The results of the study, called Improving Oxygen Therapy in Acute-illness (IOTA), have immediate and important implications for health-care providers, policymakers and researchers, say the authors.

“Prior practice guidelines and medical directives on oxygen therapy for acute illnesses have been inconsistent,” said Derek Chu, first author of the paper and a McMaster clinical fellow.

“Our results provide much-needed clarification by showing, with high-quality evidence, that administering too much supplemental oxygen increases mortality among a broad range of acute illnesses.

“Currently, patients are frequently given supplemental oxygen and at excessive levels. A simple change to current practice – being more moderate and cautious with how much oxygen is administered to acutely unwell patients – could save lives.”

There was no external funding for this study.

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## **On the topic of Medications for Osteoporosis**

Dr. Bruno’s Original Post: Osteoporosis meds and drug holidays. This is something to talk to your doctor about.

Fifteen Percent of Osteoporosis Patients Who Take “Drug Holidays” Suffer Bone Fractures.

Patients who take osteoporosis drugs for long periods typically are advised to temporarily discontinue the drugs to prevent rare but serious side effects to the jaw and thighs. A Loyola Medicine study has found that 15.4 percent of patients who take so-called “drug holidays” from osteoporosis drugs called bisphosphonates experienced bone fractures. During a six-year follow-up period, the yearly incidence of fractures ranged from 3.7 percent to 9.9 percent, with the most fractures occurring during the fourth and fifth years.

The Complete Article is available here:  
[www.newswise.com/articles/view/694065/?sc=mwhn](http://www.newswise.com/articles/view/694065/?sc=mwhn)



## On the topic of Hip Replacement

**Dr. Bruno's Original Post:** "Dual Mobility" hip replacement reduces risk of dislocation and may be a possibility for polio survivors with hip muscle weakness."

More than 330,000 total hip replacements are performed in the United States each year. Overall, it is a highly successful procedure. However, as with all surgeries, a risk for complications exists.

Dislocation is one of the most common complications after hip replacement and the number one reason for revision surgery. A study by Geoffrey Westrich, MD, research director of the Adult Reconstruction and Joint Replacement Service at Hospital for Special Surgery (HSS), found that patients who received a newer implant known as a "dual mobility" hip replacement had zero dislocations. In comparison, study patients who received a traditional fixed bearing hip implant had a dislocation rate of 5 percent.

The research, which focused on patients under 55 years old, was presented today at the American Academy of Orthopaedic Surgeons Annual Meeting in New Orleans. "We were especially interested in seeing how the younger patient population fared because they are generally more active and put more demands and stress on their hip after joint replacement, and this increases the risk of dislocation," Dr. Westrich explained.

Although the concept of dual mobility was originally developed in France in the 1970s, the technology is relatively new in the United States. "Dual mobility" refers to the bearing surface of the implant - where the joint surfaces come together to support one's

body weight.

A hip replacement implant is a ball-and-socket mechanism, designed to simulate a human hip joint. Typical components include a stem that inserts into the femur (thigh bone), a ball that replaces the head of the thigh bone, and a shell that lines the hip socket.

"Dual-mobility hip components provide an additional bearing surface," Dr. Westrich explains. "A large polyethylene plastic head fits inside a polished metal hip socket component, and an additional smaller metal or ceramic head is SNAP-FIT within the polyethylene head. Dual mobility means that there are two areas of motion, improving the range of movement and reducing the risk of dislocation."

Dr. Westrich and colleagues compared the dual mobility system with the traditional fixed bearing system in two age-matched groups of patients who had a primary total hip replacement over the same time period. There were 136 patients in each group with a mean age of 48.

At three-year follow-up, the researchers found that the patients who received the dual mobility implant had no dislocations. In the group receiving the standard fixed bearing implant, seven patients, or 5.1 percent, had a dislocation and needed a revision surgery.

"Total hip replacement is increasingly being performed in younger patients," Dr. Westrich said. "The results of our study are encouraging for this active, high demand group of patients and may lessen concerns for dislocation. More research is needed to see how dual mobility implants perform over the long term."



## On the topic of Opioid Pain Medications

Dr. Bruno's Original Post: I recently posted the study showing how taking the recommended doses of acetaminophen and ibuprofen together were equal to 5mg of oxycodone. Here's a follow-up to that study.

Assuming your kidneys and liver are doing what they should and your stomach can tolerate the irritation from the ibuprofen, this study suggest you can take the combination daily as described on the bottles.

(The "-cet" drugs have been off the market or not prescribed because you can't control the dose of narcotic separate from the dose of acetaminophen, causing people take too much acetaminophen (making livers very unhappy) to get more narcotic. Percocet (or any -cet drug) is a narcotic plus tylenol. Percocet is oxycodone + acetaminophen. (Ultracet is tramadol + acetaminophen.)

### For Arthritis Pain, Nonopioid Drugs Work as Well as Opioids

By *NICHOLAS BAKALAR* MARCH 7, 2018 *New York Times*

Opioids are no better than nonopioid pain relievers for treating the chronic pain of osteoarthritis, a clinical trial has found.

Researchers randomized 240 patients with moderate to severe chronic back pain or hip or knee osteoarthritis to either an opioid (morphine, oxycodone or hydrocodone) or to nonopioid pain relievers (such as Tylenol, topical lidocaine or nonsteroidal anti-inflammatory drugs). The study, in *JAMA*, used 11-point pain and function scales to measure the effect of treatment, with higher scores indicating poorer results. This is, the authors write, the first randomized trial of opioid therapy to report long-term pain and function outcomes.

At the end of 12 months, the opioid group scored an average 3.4 on the function scale, and the nonopioid group 3.3, an insignificant difference. On the pain scale, the nonopioid group did slightly better — 3.5, compared with 4.0 for the opioid group. Unsurprisingly, there were significantly more medication side effects in the opioid group than in

those who took nonopioids.

"Should we use opioids if nonopioids don't work?" asked the lead author, Dr. Erin E. Krebs of the Minneapolis Veterans Affairs Health Care System. She answered her own question: "No. We tried four different nonopioids — don't give up on them too soon — and we should also be using exercise and rehab for most osteoarthritic pain."

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## LEXOPHILES

"Lexophile" describes those that have a love for words, such as "you can tune a piano, but you can't tuna fish," or "To write with a broken pencil is pointless."

An annual competition is held by the *New York Times* to see who can create the best original lexophile.

This year's winning submission is posted at the very end.

No matter how much you push the envelope, it'll still be stationery.

If you don't pay your exorcist you can get repossessed.

I'm reading a book about anti-gravity. I just can't put it down.

I didn't like my beard at first. Then it grew on me.

Did you hear about the crossed-eyed teacher who lost her job because she couldn't control her pupils?

When you get a bladder infection, urine trouble.

When chemists die, they barium.

I stayed up all night to see where the sun went, and then it dawned on me.

I changed my iPad's name to Titanic. It's syncing now.

England has no kidney bank, but it does have a Liverpool.

A dentist and a manicurist married. They fought tooth and nail.

