



Christmas 2024

Polio Regina Incorporated

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Season's Greetings



MY POLIO STORY

The following is a Polio Story from Harriet Ross who is a relatively new member of Polio Regina. She has been faithfully attending our meetings by Zoom.

Harriet (Susie) Ross



My polio story begins in Estevan. The year is 1948 and I am thirteen. Our family doctor scheduled me for an operation to remove my tonsils that summer. When my mother questioned that decision because of the polio information being circulated, he assured her everything

would be fine. Unfortunately, it wasn't.

By the time school started I was feeling very tired and achy then I was just not able to go. Dr. Barrie, another doctor in that clinic, came to our home and said that I was very sick. He made immediate arrangements for me to be admitted to a small overflow facility run by the Sisters of St. Joseph at the Estevan airport. He also contacted the Saskatchewan Air Ambulance to come and fly me to Saskatoon.

Our mother owned and operated a general store, and my father was a farmer and a coal miner so it was decided that my older sister, Elaine, who was registered to begin classes at the University of Saskatchewan, would go with me. I remember little

about the flight except that the nurse was very kind.

When we arrived in Saskatoon, we went directly to the isolation ward of St. Paul's Hospital where the head nurse set to work treating me using the method of the Australian nurse Sister Elizabeth Kenny. My lungs were still working but my ability to swallow was diminishing, and I was virtually drowning in my own fluids. The situation was very grave. I was not expected to survive that night.

As I had not been baptized, Elaine contacted the Reverend R. W. K. Elliott the minister of St. Thomas Wesley United Church close by. I knew him as he had just been our minister in Estevan. As he conducted the service those present could see me joining in the Lord's Prayer.

It was at this time that I had an out of body experience in that while I could hear myself gasping for breath and the sounds of the suction devices and knew it was chaos around me, I was in a place of complete peace. Then I lost consciousness.

When that returned it was time to assess the damage. I could walk but limped. I could swallow liquids but no solids. Most disconcerting for me was that only one side of my face was able to smile so I looked a bit grotesque. I began my rehabilitation in addition to the hot packs with a lot of stretching physio. I also did face exercises with the addition of a treatment called deep heat. Swallowing remained the biggest problem. In order for me to recover that ability I had to chew the food but then expel it. This went on for

several weeks. At this point one of the doctors came to speak with me. He stressed two points. It had been determined that I had initially lost thirty pounds. Now even though I was not swallowing any food I had gained back nine pounds. He told me that the ability of the oral part of my digestive system was so efficient that I would have a lifelong weight problem. (Too true) His other message was that I should never smoke because of my lungs.

My stay at the hospital stretched on and I was sustained by the excellent care, frequent visits by my sister Elaine, phone calls to and from home and the boxes. These arrived regularly from home with letters from my classmates, my homework and treats from my mother's store which I could share with my fellow patients. Finally at the beginning of November I was told I could go home.

To prepare for my arrival my parents strengthened my bed by putting in a sturdy board under the mattress. We lived only a block from the school, and I was able to return to my class.

While my face was still not really back to normal either my classmates were very kind or maybe in fear of Mr. Martens, our teacher, no one commented. Even though our room was at the top of the stairs I do not recall any problem climbing them. I continued my facial exercises and would go to the hospital for deep heat treatments. My face slowly returned to near normal. I happily attended the Grade Eight graduation. Then it was off to high school.

That move brought its own trouble as we lived many blocks from the Collegiate. My sister and brother walked that morning, noon and after school. "Town Kids" were not allowed to bring lunch, but they would allow me to eat alone in the library. I did that for one year but then became strong enough to go home at lunch time as well. The only other concession that I felt was that the Phys. Ed. teacher did not pressure me, and I was named the manager for various sport teams but never expected to play.

My high school years were happy ones as I was active in the social life at school and in the church by belonging to Canadian Girls in Training (CGIT). I also continued a friendship with a shy but very attentive farm lad who had remained my special

friend during my illness and after my return. He was five years older than me, so we were never at high school together, but he was definitely my steady and the sight of his little red truck waiting to give me a ride home was always a thrill. That is why I was so happy to accept his proposal, and we became engaged on my eighteenth birthday.

Decision time! My mother was very hopeful that I would continue my education.

My close girlfriends were all going into nursing which didn't appeal to me. Others were going to Normal School to become teachers, a path I also rejected at that time. As class valedictorian I did feel lots of pressure, but I was honest enough to admit that I did not want to leave my boyfriend, Gerald Ross, and we agreed to be married on September 7, 1953.

Then the years zipped by. We welcomed two daughters and a son. Gerald opted for a career in construction rather than farming. In 1965 with his full support, I attended the University of Regina to take my professional year in education. In 1966 I began a twenty-eight-year teaching career with the Estevan Separate School Board. In 1977 after many years of night classes and summer school I graduated with my degree in education. We led very busy lives as we were active in our church and the community. Travel was a great pleasure.

My husband passed away in 2002 and for personal reasons I decided to move to Regina. Slowly I began to feel the effects of my increasing lack of physical strength. I started feeling more secure with a cane, then better with a walker. I could still drive and was happy to be able to live in my own home. Just a few years ago stairs became a real problem but thanks to my son-in-law I have an excellent ramp in my garage. After a cold look at my capabilities, after a problem with my right side I decided that I was not a safe driver so voluntarily gave up my license a year ago.

Through a happy coincidence I and Diane Lemon shared the same Home Care worker, Shirley. She was very impressed with Diane and when she learned that I had polio she prompted me to contact Diane. As a result, I have joined the Post Polio Group, and I have learned a great deal from the materials and the programs.

This issue is dedicated to Ken Holliday who passed away September 26, 2024. Ken was a director at Polio Regina and a valuable contributor to our organization. He was always encouraging members to share their information about Post-Polio Syndrome and medical professionals. We miss our friend, Ken. The following is Ken's obituary, followed by Ken's Polio Story. Ken's life history is available at: <https://www.holliday.com/Ken%20Holliday%20life%20history.pdf>

Kenneth Holliday

July 7, 1943 – September 26, 2024



Kenneth Grant Holliday, our beloved husband, father, brother, grandfather and friend passed away peacefully at the age of 81 years. Ken was born in Regina to Harvey and Naomi Holliday and spent his early years on the

family farm near Edgeley, before making his home in Regina. Ken was a man of deep values, placing great importance on integrity, loyalty, and helping others. His life was marked by hard work, a love for all things outdoors, and the ability to design and create. He often shared memories of his upbringing and time spent with his siblings and friends. Just this winter he completed a personal memoir for his family and friends. At the age of 10, Ken contracted polio, which impacted the rest of his life. Despite the challenges, Ken's determination and resilience never wavered. He defied doctor's predictions on several occasions and never allowed his condition to prevent him from leading an active and fulfilling life. Ken enjoyed hunting, fishing and exploring the outdoors with his friends and family. He often recounted stories of his hunting adventures and mishaps with cars, snowmobiles and canoes that seemed to always include a stroke of luck. He also enjoyed adventures in the RV trips taken with Cecile to Arizona, Texas, Mexico and Ontario and summers spent at their cottage at Glen Harbour. Ken went to primary school in Edgeley, Luther College in Regina, as well as countless hours of independent study and classes leading to his professional designation

as CPP, CLU, CG.F.C. Ken's professional career began with Farm Credit Corporation where he met his wife, Cecile. His desire for independence led him to explore careers in sales with Fuller Brush, Real Estate, Life Insurance (Canada Life) and finally to his partnership in H&A Financial. In addition to his professional achievements, Ken was instrumental in the development of the Peregrine Falcon Project in Regina, contributing his expertise and passion to its success. In his later years, Ken was an active member of the Polio Regina support group, offering encouragement and solidarity to others affected by Post-Polio Syndrome, a condition that he battled with courage and strength. Ken was married to his devoted wife Cecile, with whom he shared close to 58 cherished years. Together they raised three sons. He was predeceased by his son Karl; parents Harvey and Naomi; brothers Barry and Bill and his brother-in-law Alvin Schafer. Ken is survived by his loving wife, Cecile; sons Chad (Karen) and Keith (Alicia); granddaughters Megan, Rachel, Annabella and grandson Owen; sisters Barbara (Don) Farrell and Faye (Ken) Cameron; brother-in-law Don (Yvette) Schafer; sisters-in-law Marion Holliday, Jayne Hunter Holliday, Barbara Schafer; and by numerous nieces and nephews across two generations. He will be deeply missed by his extended family, friends, and all who had the pleasure of knowing him. A Celebration of Ken's Life was held at Regina Funeral Home and Cemetery, Regina, SK on Saturday, October 5, 2024 at 2:00 p.m.

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My Polio Story

by Ken Holliday, as recalled October 4th 2018

I am now 75 years old, retired, married 52 years. I had a business, Financial Planning – Life insurance sales “H&A Financial Advisors”

After high school I worked at Farm Credit Corp for a few years. I met my wife Cecile there and when we became engaged she quit work there. It was not allowed to have a relative or wife or fiancée working in the same place. I asked for raise in pay and was refused. I took on a 2nd job selling door to door for Fuller Brush company. I took my annual vacation time of 2 weeks and sold full time for that 2-week period. I made more in that 2 weeks than I could make at FCC in 3 or 4 months! I quit FCC and sold full time for a few years becoming sales manager for most of south Saskatchewan. I did that until Fuller Brush was sold to General Foods. General Foods cut the commission schedule so much that everyone quit at once! I then sold real estate for a couple years, but the real estate market was sour and I was not good at that job. We were in serious financial debt. I had to find a job that paid an income – I answered an ad in the newspaper that said they paid a guaranteed income while learning to sell their product. It was guaranteed for 6 months. I hoped in that time to find a job I liked and paid a wage we could live on. That 6-month job was with Canada Life and it was to lead to a career of some 34 – 35 years. Eventually it led to a partnership with Kelly Aikens who is about 15 years younger than I and he purchased my interest in our company.

I became “normal” sort of, at age 18-19. I limp, my right foot is crooked, I worked on our family farm picking rocks, throwing bales and other manual things. I built my garage where I live. My hobbies were wilderness canoeing, big game hunting, and Peregrine Falcon release program – Regina. – All required physical effort. Those things are no longer something I can do. Cecile and I had 3 sons. Karl – deceased 2009, no family. Chad – lives in Ottawa, 2 daughters, Keith lives in Houston Texas has 1 daughter. We travel to Arizona each winter with our RV trailer, then to Texas and Ottawa. We have a cottage at Glen Harbour Sask. on Long Lake. This

PPS will soon mean we can't do these things. This PPS is scary. I am now just taking my head out of the sand (so to speak). It is a real hard thing for our family especially Cecile to accept and learn about. Recently (last few years) I have had cause to try and regain strength and range of movement. The lack of knowledge meant the help I was given caused me some treatments that I now know were very damaging. I wonder if PPS lead to any of my other medical issues. Insulinoma tumor in my pancreas-removed in Mayo Clinic- Rochester. Gall Bladder removal before laparoscopy was invented, colon cancer with surgery, radiation, chemo, Colloid cyst -3rd ventricle on my brain with 2 surgeries to remove

I was repeating my grade 12 English and the assignment was to write a true story essay. My mother kept notes and here I quote a letter from her to the Sask. Gov't Correspondence School, she was correcting the essay marker. – I was accused by the marker of having an over active imagination because these things could never have happened. The marker got a real lesson from my mother – confirming my essay was true she states “*I gather that you find the details of his operations incredible. Here is his story; every word of it is true. On Sept 13, a Tuesday, 1953, at midnight He and his brother took sick, diagnosed the, following day as polio. By Friday, Ken was paralyzed, bowels, one leg, bladder, and admitted to the hospital in Qu'Appelle.*” Her letter goes on and in some cases I guess my memory fails me as her notes differ from my memory in small detail. This is my memory and I swear it is as I recall things: 1953 – Polio. That fall my brother Barry and myself were both stricken with polio on the same night “The disease peaked in 1953 with nearly 9,000 cases and 500 deaths, *the most serious national epidemic since the 1918 influenza pandemic* “a quote from <https://www.cpha.ca> Canadian Public Health Association. Barry was nerve damaged while I had more muscle damage.

1953 when I got sick, there was a fear of catching the disease from me or my family. They did tend to keep their distance. I am told one lady, Minda Lindenbach often drove mom to Regina to see me while most shunned or avoided the family.

I am 10 years old, healthy, active, it is fall, school

has started, Wednesday. Dad calls me to get up and I can't! He does not believe me, at first. It is found I have polio and in no time, I find myself in hospital in Qu'Appelle, Sk. There were others there like me, in that Qu'Appelle hospital a friend in similar condition (since passed away), the minister's wife, not quite as effected. That was a scary horrible experience. Later I was moved home and then to Regina General Hospital – that became my home for the next few years.

In Qu'Appelle I was placed in isolation, I had horrible cramps in my legs, all they could do was put hot compresses on them – so hot they burned my legs. I recall a 2 burner stove with a boiler on it (oblong 12 inch deep- copper) in which they placed the flannel towels – nurses with tongs removed the towels from the boiling water, pressed the water out and wrapped my legs. I lost the ability to have a bowel movement. The treatment was almost barbaric – enemas and decompaction. (The nurse who did that job hated it as much as I did; I recall her crying while she did it). I lost the ability to urinate and a catheter was put in and drained my bladder every other day. I had great trouble breathing and I was in an iron lung a few times for a few hours each time.

I was there for treatment to help recovery. I went to school there with a teacher "Mrs. Davis"; I have her notes for my parents as I passed one of the grades. In all the time I never failed, never missed a grade. Therapy was in the basement in the exercise room near the classroom and the swimming pool. I stayed in that hospital for about 2-3 years, taking physio in a pool, and in the physio room. I have vivid memory of some things, Dr. Bachinski telling me and my parents "that kid will never walk again unless" I forget the rest, but it made me mad! I fought, I worked at exercise, I was into a wheelchair. I have just read part of the book by Dr. Bruno "The Polio Paradox" and see that doctors had a habit of telling kids and parents "He will never walk again"

There were many kids in that ward and several in my big room. I recall the times when a kid died and was wheeled out of the room in their bed. It would be very gloomy in our ward for a day or so but always more kids to fill the beds. I have seen some of those kids later. To list a few (not all but some who became closer friends). One from Balgonie Sask. had his

own accounting business and used leg braces, since deceased.- Another was in a wheel chair, was the receptionist at the Wascana Hospital last time I saw her, she has since passed away. Brother and sister, both in wheel chairs, very deformed legs- I lost track of them. Yet another was in a wheel chair and worked in an office which was across the hall from my business. One who was in hospital in Qu'Appelle with me died November 2011.

Exhibition - The Shriners took some of us kids to the fall exhibition, I won a huge panda bear and when next I went home I gave it to my baby sister Faye who is 9 years younger, she tells me of her memory "*From Faye - I was 18 months old when it began but I do remember rides in your wheel chair, getting to do some colouring or craft in a rehab area, the cast room with all different sizes of crutches and the sound of the saws. I also remember Mom doing some sort of exercises with you on the kitchen table. I recall feeling scared and not sure of what was happening. It must have been painful or difficult for you and I was upset and Mom explained you had to do them to get better*" It had an impact on me and I can still see it in my mind's eye.

I recall some of the other kids, most are deceased already. One I befriended was from north Sask, I think a native Cree Indian. He and I often "escaped" to run the halls, to the canteen to read comics, outside to the yard area where he showed me how to make a bow and arrows from the branches of the hospital hedges. We were caught shooting sparrows. They kept us under more surveillance after that. Dad got special permission to take him to our home for a weekend. My parents and family came to see me almost daily, all the way from our farm at Edgeley. It was a one-hour drive on dirt roads.

There was food served on trays, with the worst solid Jello you will ever see. Hated it, still won't touch it. I would put a dish of it on the hot water radiator, and after a day, even in winter with the radiator really hot, the knife marks from cutting the Jello squares were still visible! A roommate I had was being teased (in fun) by one of my visitors. The roommate was mad at this visitor and threw his urine bottle, drenching my visitor. We all laughed, the visitor was not harmed, and the teasing quit. They had become friends and

looked forward to regular visits, and treats being brought, books, candy etc. The exercise rooms were busy, curtained dividers, parallel bars, steps, mats, crutches, wheelchairs, stretchers, doctors, patients, therapists all working on us kids.

I was sometimes living at my grandparents in Regina. I was taken by bunny bus from their home to Wascana hospital daily – exercises, therapy and school. I recall I sometimes road a bike to Wascana instead of taking the bus. The driver was Morris Varin from my home town of Edgeley.

Camp Easter Seal – there were years when I went to Camp Easter Seal. One memory - a field trip to Hanley Sask. They took us to meet a train carrying Queen Elizabeth and Prince Phillip who came out to shake our hands and say hello. Those were fun times.

Any 10-year-old would fear surgeries, I did but “suck it up”, “it will make you better” were thrown at me. I had a few operations.

I had many muscles affected. They removed the muscle from the joint of my big toe, inserted a steel pin and removed it in a few weeks. The joint in that toe is frozen forever. The muscle was implanted in the top of that foot to assist my foot from dropping when I walk. It was not 100% effective but helped a lot. My right leg is about ½ inch shorter than my left; the muscles on the left leg are noticeably smaller. My right foot turns out as I walk and I limp. I had severe muscle loss in my back muscles and left arm. The left arm is smaller than my right and I have never been able to lift it over my head like the right.

I developed serious spinal curvature and Dr. Bachinski did a spinal fusion 13 vertebrae upper ½ of spine. The cure - I was placed in a new full upper body cast every 3 months, while I was growing. It went from my neck to below my hips. This was done while I was strung out – stretched by straps around the hips and under arms and neck. The cast was allowed to dry and harden before the straps were removed. I was in some pain while the stretching was done. The pain went away shortly after the stretch straps were removed. Between changes they gave me a sponge bath – needed or not.

While I was in the body cast age 13-15 approximately, my father got special permission for me to drive to school (Edgeley) even though I was under legal driving age. We owned all the land from our home to the school; He bought me a 1939 Pontiac, needing some repairs. I was to drive on our land unless it was muddy and then I could use the roads. Of course, I often said the rain from weeks ago made the road muddy. That Pontiac went to many other places. No one objected. My friend Archie Craig helped sand and paint it with brushes. We painted it purple. I had a rather scary accident or two with that cast. Barry (my brother) and I were in the Edgeley 4-H beef club. We raised and trained and showed beef calves. Achievement day was at our farm, there were 12-15 children leading these yearling animals in a circle to show spectators and judges. The calf in front of me and my calf kicked back with both feet and smacked me in the chest. There was a very loud sound as it connected with my chest. I was knocked down. Everyone thought I would be hurt but the cast saved me! It was now mush from the waist to near my neck. I did need a cast repair. Lady luck was with me.

Another accident was when I was riding my bike down the Mackie hill, (an entrance to the Qu’Appelle valley) which was very steep, gravel, tight curves and no side rails. The steering column of my bike broke and I had to kick the front wheel to steer it. I directed it to the side hill, hit with some speed and flew over the handle bars. There was a flashlight bracket mounted on the middle of the steering column. It was steel 2 inches tall and flat. That steel dug into the cast and ripped the plaster- but not my body. I do not recall who all was riding with me but they went to the bottom where the parents were cleaning and preparing the building for the United Church camp. Those parents streamed out and up the hill to find all I needed was a cast repair and a new front wheel and steering column. Lady luck was riding with me.

I went hunting, fishing, milked cows, cut firewood, and did almost everything everyone else did while wearing that cast. The weight of it rode on my hips and I developed large calluses there from it. I was subject to some bullying, “the cripple can’t do that”, but also lots of support such as playing baseball everyone wanted to run for me. I was usually too pig-

headed and ran myself, at least to 1st base.

I never missed a grade in school, thanks to the excellent teacher at the Red Cross wing school – a Mrs. Davis who taught us kids and accommodated the therapy sessions we all had. Kids who would not do their exercises did not regain as much as those who did the exercises and more – I did mine and recovered more than some who did not try and had less disability than I. I now feel sorry for them I do wonder if they will have less PPS.

I thank the friends and neighbors who help me doing the things I am unable to do. They fix things, fetch and carry make repairs, and change plans to include me, accommodate me. I am an imposition on them and I would be much disadvantaged without them. I am indeed fortunate in that regard. My wife is a constant support without whom I would be institutionalized.



Aides I use – 2 canes, a 4 wheel electric mobility scooter, and I am purchasing a driver seat modification for me in my suburban – It is by Adapt solutions and called a “Link” about \$12,000 and so far I have not found any government assistance. It will turn, come out and down to

12” off the ground, pick me up and save me the effort of climbing in.

I have tried physio with bad results, due to lack of knowledge by the therapist. I recently had cortisone shot in my good knee, and am using acupuncture and VERY little physio. This physiotherapist is a fibro myalgia sufferer and is very good, making every effort to learn about PPS. I recommend her, “Karen Toffan BSCPT,CAFCI” she is at Regina General Hospital – Medical office wing, Health Works. 306-525-0007

I am a new member of PPS group in Regina and looking forward to friendships and information there.

Vitamin D Supplements May Lower Blood Pressure in Older People with Obesity

Study finds high doses of vitamin D do not provide additional benefits

by **Endocrine Society**

Newswise — WASHINGTON—*Vitamin D supplements may lower blood pressure in older people with obesity and taking more than the Institutes of Medicine’s (IOM) recommended daily dose does not provide additional health benefits, according to new research published in the Journal of the Endocrine Society.*

The IOM recommends 600 International Units (IU) per day.

Vitamin D deficiency is common worldwide and has been associated with heart disease, immunological diseases, infections and cancer. Studies have linked vitamin D deficiency to a higher risk of hypertension, but evidence for the beneficial effect of vitamin D supplementation on blood pressure outcomes is inconclusive.

“Our study found vitamin D supplementation may decrease blood pressure in specific subgroups such older people, people with obesity and possibly those with low vitamin D levels,” said Ghada El-Hajj Fuleihan, M.D., M.P.H., F.R.C.P., of the American University of Beirut Medical Center in Beirut, Lebanon. “High vitamin D doses compared to the IOM’s recommended daily dose did not provide additional health benefits.”

The researchers studied 221 older people with obesity taking vitamin D supplements at either 600 IU/day or 3,750 IU/day over the course of a year and found supplementation decreased their blood pressure.

The researchers compared the two groups and found higher doses of vitamin D did not provide additional health benefits. They determined people with obesity and those with low vitamin D levels benefited the most.

The **Endocrine Society’s Vitamin D Clinical Practice Guideline** provides more recommendations for vitamin D supplementation in older adults.

In Memoriam

Richard L. Bruno, age 69, of Hackensack, New Jersey passed away on Monday, October 14, 2024. Dr. Bruno has been an expert source of information regarding Post-Polio Syndrome for me and countless others throughout the world. Much of the information in our Polio Regina Postbox was from Dr. Bruno. His last “Bruno Bytes” are included throughout this issue. Whenever I had a question, he always answered promptly and personally. He was a friend that I wish I had met in person.

Richard L. Bruno, HD, PhD



Dr. Bruno, research and clinical psychophysiatrist, trained at the New York State Psychiatric Institute and began studying Post-Polio Sequelae (PPS) and treating polio survivors in 1982 when

he was the Autonomic Nervous System Fellow in the Department of Rehabilitation Medicine, Columbia University College of Physicians and Surgeons.

Biography

In 1984 Dr. Bruno organized and was the Chairperson of the International Post-Polio Task Force, which promotes PPS research, education and treatment in more than 25 countries.

- In 1989 Dr. Bruno left the College of Physicians & Surgeons for the opportunity to create and direct the Post-Polio Rehabilitation and Research Service at the Kessler Institute for Rehabilitation. It was the world’s first center for the study and comprehensive treatment of PPS.
- From 1998 until 2010, Dr. Bruno directed The Post-Polio Institute he established at Englewood Hospital and Medical Center. There, he continued his PPS research and continued the comprehensive PPS treatment program for polio survivors with his team: a physiatrist, occupational, physical and speech therapists, a nutritionist and an orthotist.

- Since beginning his work in 1982, Dr. Bruno has studied, evaluated and treated more than 7,000 polio survivors.
- In 2002, Time Warner published Dr. Bruno’s *The Polio Paradox*, which is often referred to as “the polio survivor’s bible”.
- In 1987 and 2003, he was responsible for drafting and the release of Social Security regulations governing PPS.
- In 2018, Dr. Bruno coordinated with the PA Polio Survivor’s Network to publish the **Encyclopedia of Polio and PPS**
- This work contains *all* of Dr. Bruno’s journal articles, monographs, commentaries, books and videos.
- Dr. Bruno remained the Director of The International Centre for Polio Education until his death in 2024.

Awards:

- Dr. Bruno received the New Jersey Pride Award in Health and the Doctor of Humanics degree, honoris causa, from Springfield College.
- Dr. Bruno was selected to present the 45th John Stanley Coulter Lecture to the annual meeting of the American Congress of Rehabilitation Medicine.
- In 2006, Dr. Bruno was recognized by the US House of Representatives as a “tireless worker on behalf of those suffering the after effects of polio.”

Books:

The Polio Paradox: Available through [Amazon](#) and [Barnes and Noble](#)

Polio Paradox Video/Podcast: Available for download [here](#).

How to Stop Being Vampire Bait: Available for download [here](#).

Polio Survivor’s Handbook: Available for download [here](#).

Dr. Bruno’s Website: postpolioinfo.com

Using the Encyclopedia of Polio and PPS

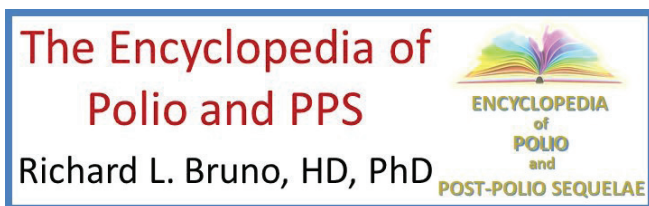
Bruno Bytes Encyclopedia Richard L. Bruno

07-02-2024

Written By Richard L. Bruno, HD, PhD

Dr. Bruno's Original Post:

- Go to the **Encyclopedia of Polio and PPS** (under the Heading: Articles/Resources) **or**
- Go to **Richard L. Bruno, HD, PhD** (under the Heading: Professionals). "Click" on the Encyclopedia button.
- Click on the INDEX/CATEGORIES BAR and
- Look for your topic of interest (topics are listed alphabetically).



This Encyclopedia is an ongoing document, easily available to everyone, that holds my **entire** inventory of articles (including all Bruno Bytes).

In memory of Dr. Richard Bruno, we are reprinting his "Ten Commandments of PPS".

The Ten Commandments of PPS

By Richard L. Bruno and Nancy M. Frick

1. Listen to Your Body

Polio survivors often turned themselves off from the neck down after they got polio. The first step in treating PPS is to listen to yourself: to what you feel, physically and emotionally, when you feel it and why. Our most powerful tool in treating PPS is the daily logs our patients keep that relate activities to their symptoms. Sometimes, however, you can listen too much: to salesmen who say some herb or supplement will "cure" PPS, to fellow survivors who

warn that you will eventually have every possible PPS symptom, and to friends and family members--and the voices in your own head--saying you're getting lazy. Polio survivors need to listen to their own bodies, not to busybodies.

2. Work Smarter, Not Harder

Many polio survivors believe that if they walk around the block five times a day, spend an hour on the exercise bike and take extra trips up and down stairs, their muscle weakness will go away. The opposite is true: The more you overuse your muscles, the more strength you lose. Muscles affected by polio lost at least 60 percent of their motor neurons; even limbs you thought were not affected by polio lost about 40 percent. Most disturbing is that polio survivors with new muscle weakness lose on average seven percent of their motor neurons per year, while survivors with severe weakness can lose up to 50 percent per year! Forget about "use it or lose it." You need to "conserve it to preserve it." Stretching may help pain, and nonfatiguing exercise for specific muscles can prevent you from losing the strength you have after you get a brace. But polio survivors need to work smarter, not harder. Remember the Golden Rule for polio survivors: If anything causes fatigue, weakness or pain, don't do it. Or do lots less of it.

3. Go Slow and Steady

The follow-up study of our patients showed that taking two 15-minute rest breaks per day--that's doing absolutely nothing for 15 minutes--is the single most effective treatment for PPS symptoms. Another study showed that polio survivors who pace activity--that is, who work and then rest for an equal amount of time--can do 240 percent more work than if they push straight through. Our patients who take rest breaks, pace activities and conserve energy have up to 22 percent less pain, weakness and fatigue. But polio survivors who quit or refuse therapy have 21 percent more fatigue and 76 percent more weakness. For polio survivors, slow and steady wins the race.

4. Be Kind to Your Neurons

Using crutches or braces are not signs of failure or of "giving up." You use one third of the energy--and look better walking--using a short leg brace on a weakened leg. Muscles and joints hurt and nerves die after decades of doing too much work with too few motor neurons. So why not use a brace, cane,

crutches--dare we say even a wheelchair or scooter--if they decrease your symptoms and make it possible to finally take that trip to Disney World? We know, you'll slow down and take care of yourself "when you're ready." And you'll use a wheelchair "when there's no other choice." Well, you don't drive your car until it's out of gas. Why drive your body until it's out of neurons?

5. Say No to Drugs, Unless ...

Five studies have failed to find any drug that treats PPS. And no studies show that herbal remedies or magnets reduce symptoms. Don't think that you can apply a magnet or pop a pill to make your PPS disappear. Pain, weakness and fatigue are not-so-subtle messages from your body telling you that damage is being done. Masking symptoms--with magnets or morphine--will not cure the damage. However, two studies have shown that polio survivors are twice as sensitive to pain as everyone else and usually need more pain medication for a longer time after surgery or an injury.

6. Sleep Right All Night

The majority of polio survivors have disturbed sleep due to pain, anxiety or sleep disorders such as sleep apnea or twitching muscles. However, you may not be aware that you stop breathing or twitch. If you awaken at night with your heart pounding, anxiety, shortness of breath, choking or twitching, or if you awaken in the morning with a headache or not feeling rested, you need a sleep study. "Post-polio fatigue" may be due to a treatable sleep disorder.

7. Turn Up the Heat

Polio survivors have cold and purple "polio feet" because the nerves that control the size of blood vessels were killed by the poliovirus. Actually, your nerves and muscles function as if it's 20 degrees colder than the actual outside temperature! Cold is the second most commonly reported cause of muscle weakness and is the easiest to treat. Dress in layers and wear socks made of synthetic fabrics like breathable fiber polypropylene that hold in your body heat.

8. Eat Breakfast or Else

Mom was right. Many polio survivors eat a Type A diet: no breakfast, coffee for lunch and cold pizza for dinner. A recent study shows that the less protein

polio survivors have at breakfast the more severe their fatigue and muscle weakness during the day. When our patients follow a "hypoglycemia diet" (16 grams of low-fat protein at breakfast and small, non-carbohydrate snacks throughout the day) they have a remarkable reduction in fatigue. Protein in the morning does stop your midday yawning.

9. Anesthetize with Care

Polio survivors are easily anesthetized because the part of the brain that keeps them awake was damaged by the poliovirus. They also stay anesthetized longer and can have breathing trouble during and after anesthesia. Even nerve blocks using local anesthetics can cause problems. You should have lung function tests before having a general anesthetic. Your complete polio history and any new problems with breathing, sleeping and swallowing should be brought to the attention of your surgeon or dentist--and especially your anesthesiologist--long before you go under the knife. You should never have same-day surgery or outpatient tests (like an endoscopy) that require an anesthetic.

10. Do Unto Yourself as You Have Been Doing for Others

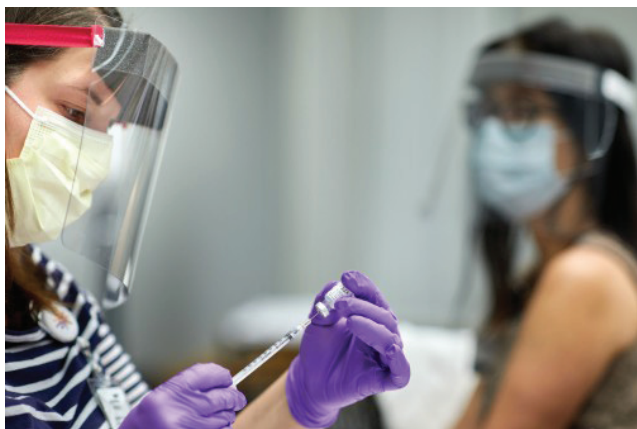
Many polio survivors were verbally abused, slapped or even beaten by therapists or family members after they had polio to "motivate" them to get up and walk. So polio survivors took control, becoming Type A superachievers, doing everything for everyone except themselves. Many polio survivors do for others and don't ask for help because they are afraid of being abused again. Isn't it time you got something back for all you've done for others? Accepting assistance is what can keep you independent. Appearing "disabled" by not doing for others and asking for help may be frightening, but they are also the best ways to manage your PPS.

*The Polio Regina executive
would like to wish all our
members and their families
a Merry Christmas and a
Healthy and Happy New Year!*

Repeat COVID-19 vaccinations elicit antibodies that neutralize variants, other viruses

Response to updated vaccine is shaped by earlier vaccines yet generates broadly neutralizing antibodies

by **Washington University in St. Louis**



Credit: Matt Miller/Washington University

Health-care workers received the first doses of the COVID-19 vaccine in December 2020. A study by researchers at Washington University School of Medicine in St. Louis has found that repeat vaccination with updated versions of the COVID-19 vaccine promotes the development of antibodies that neutralize a wide range of variants of the virus that causes COVID-19, as well as related coronaviruses.

Newswise — The COVID-19 pandemic is over, but the virus that caused it is still here, sending thousands of people to the hospital each week and spinning off new variants with depressing regularity. The virus’s exceptional ability to change and evade immune defenses has led the World Health Organization (WHO) to recommend annual updates to COVID-19 vaccines.

But some scientists worry that the remarkable success of the first COVID-19 vaccines may work against updated versions, undermining the utility of an annual vaccination program. A similar problem plagues the annual flu vaccine campaign; immunity elicited by one year’s flu shots can interfere with

immune responses in subsequent years, reducing the vaccines’ effectiveness.

A new study by researchers at Washington University School of Medicine in St. Louis helps to address this question. Unlike immunity to influenza virus, prior immunity to SARS-CoV-2, the virus that causes COVID-19, doesn’t inhibit later vaccine responses. Rather, it promotes the development of broadly inhibitory antibodies, the researchers report.

The study, available online in *Nature*, shows that people who were repeatedly vaccinated for COVID-19 — initially receiving shots aimed at the original variant, followed by boosters and updated vaccines targeting variants — generated antibodies capable of neutralizing a wide range of SARS-CoV-2 variants and even some distantly related coronaviruses. The findings suggest that periodic re-vaccination for COVID-19, far from hindering the body’s ability to recognize and respond to new variants, may instead cause people to gradually build up a stock of broadly neutralizing antibodies that protect them from emerging SARS-CoV-2 variants and some other coronavirus species as well, even ones that have not yet emerged to infect humans.

“The first vaccine an individual receives induces a strong primary immune response that shapes responses to subsequent infection and vaccination, an effect known as imprinting,” said senior author **Michael S. Diamond, MD, PhD**, the Herbert S. Gasser Professor of Medicine. “In principle, imprinting can be positive, negative or neutral. In this case, we see strong imprinting that is positive, because it’s coupled to the development of cross-reactive neutralizing antibodies with remarkable breadth of activity.”

Imprinting is the natural result of how immunological memory works. A first vaccination triggers the development of memory immune cells. When people receive a second vaccination quite similar to the first, it reactivates memory cells elicited by the first vaccine. These memory cells dominate and shape the immune response to the subsequent vaccine.

In the case of the flu vaccine, imprinting has negative effects. Antibody-producing memory cells crowd out new antibody-producing cells, and people develop relatively few neutralizing antibodies

against the strains in the newer vaccine. But in other cases, imprinting can be positive, by promoting the development of cross-reactive antibodies that neutralize strains in both the initial and subsequent vaccines.

To understand how imprinting influences the immune response to repeat COVID-19 vaccination, Diamond and colleagues including first author Chieh-Yu Liang, a graduate student, studied the antibodies from mice or people who had received a sequence of COVID-19 vaccines and boosters targeting first the original and then omicron variants. Some of the human participants also had been naturally infected with the virus that causes COVID-19.

The first question was the strength of the imprinting effect. The researchers measured how many of the participants' neutralizing antibodies were specific for the original variant, the omicron variant or both. They found that very few people had developed any antibodies unique to omicron, a pattern indicative of strong imprinting by the initial vaccination. But they also found few antibodies unique to the original variant. The vast majority of neutralizing antibodies cross-reacted with both.

The next question was how far the cross-reactive effect extended. Cross-reactive antibodies, by definition, recognize a feature shared by two or more variants. Some features are shared only by similar variants, others by all SARS-CoV-2 variants or even all coronaviruses. To assess the breadth of the neutralizing antibodies, the researchers tested them against a panel of coronaviruses, including SARS-CoV-2 viruses from two omicron lineages; a coronavirus from pangolins; the SARS-1 virus that caused the 2002-03 SARS epidemic; and the Middle Eastern Respiratory Syndrome (MERS) virus. The antibodies neutralized all the viruses except MERS virus, which comes from a different branch of the coronavirus family tree than the others.

Further experiments revealed that this remarkable breadth was due to the combination of original and variant vaccines. People who received only the vaccines targeting the original SARS-CoV-2 variant developed some cross-reactive antibodies that neutralized the pangolin coronavirus and SARS-1

virus, but the levels were low. After boosting with an omicron vaccine, though, the cross-reactive neutralizing antibodies against the two coronavirus species increased.

Taken together, the findings suggest that regular re-vaccination with updated COVID-19 vaccines against variants might give people the tools to fight off not only the SARS-CoV-2 variants represented in the vaccines, but also other SARS-CoV-2 variants and related coronaviruses, possibly including ones that have not yet emerged.

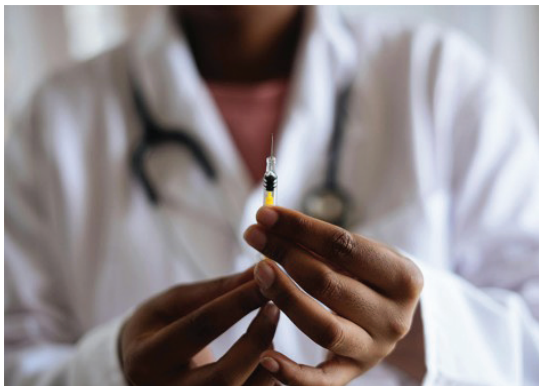
“At the start of the COVID-19 pandemic, the world population was immunologically naïve, which is part of the reason the virus was able to spread so fast and do so much damage,” said Diamond, also a professor of molecular microbiology and of pathology & immunology. “We do not know for certain whether getting an updated COVID-19 vaccine every year would protect people against emerging coronaviruses, but it’s plausible. These data suggest that if these cross-reactive antibodies do not rapidly wane — we would need to follow their levels over time to know for certain — they may confer some or even substantial protection against a pandemic caused by a related coronavirus.”

Liang CY, Raju S, Liu Z, Li Y, Arunkumar GA, Case JB, Scheaffer SM, Zost SJ, Acreman CM, Gagne M, Andrew SF, Carvalho dos Anjos DC, Foulds KE, McLellan JS, Crowe JE, Douek DC, Whelan SPJ, Elbashir SM, Edwards DK, Diamond MS. Imprinting of serum neutralizing antibodies by Wuhan-1 mRNA vaccines. *Nature*. May 15, 2024. DOI: [10.1038/s41586-024-07539-1](https://doi.org/10.1038/s41586-024-07539-1)



Not sure about vaccines? How public health messaging is framed makes a difference, new research reveals

by **Binghamton University, State University of New York**



Newswise — BINGHAMTON, N.Y. -- The COVID-19 pandemic spotlighted the divide between those who would flock to a vaccine as it was rolled out and those who declined based on personal, political or religious grounds, regardless of public health messaging. So, what’s the best way to communicate with a vaccine-hesitant person about a vaccine’s potential benefits?

It’s not an easy question to answer, but new research involving Binghamton University, State University of New York Assistant Professor of Marketing **Yang (Jenny) Guo** found that a one-size-fits-all approach to communicating these messages isn’t effective. Message framing plays a crucial role depending on the person’s mindset, Guo said, so it requires communicating in different ways for different people.

Researchers determined that loss-based messaging is the most constructive method to communicate with vaccine-hesitant people to ensure they’re completely informed about the scope of their decision. Based on the findings, researchers proposed revisiting communication strategies to encourage more people to vaccinate for various illnesses.

While the COVID-19 pandemic provided the most recent context, Guo and fellow researchers generalized their study to vaccinations for different contagious viruses, particularly influenza.

The researchers’ findings come after collecting data from over 2,700 online participants across the U.S., the U.K., China and India. After controlling for participants’ age, gender, education, political ideology and some other factors that had been found affecting their vaccination tendency, the study showed that its findings centered on implicit mindsets toward vaccination as a form of high-cost, high-uncertainty prevention behavior.

“We found those with a fixed mindset, which in this case are people most likely to refuse vaccines, respond better when the messaging is framed around how not taking a vaccine would lead to negative outcomes including financial or family costs, even their life, compared to when the messaging is framed around how taking a vaccine would lead to positive outcomes,” said Guo, who co-authored the research project.

“It’s an interesting contrast to what you might see in a bulk of the message framing for vaccines that promotes a ‘new normal’ and how taking them helps people gain something,” Guo added.

This finding was particularly noteworthy because although prior research has indicated message framing doesn’t matter for people with fixed mindsets, Guo said, those studies centered on lower-cost behaviors such as avoiding the risk of skin cancer by not applying sunscreen.

By contrast, the study Guo helped conduct found message framing doesn’t impact people with what researchers describe as a growth mindset – people who believe their characteristics can be changed through individual efforts.

This is because people with a growth mindset believe that efforts lead to positive changes, according to the researchers, so they may be motivated to undertake whatever efforts are necessary, such as vaccination, to enhance their current condition regardless of message framing.

“Our research suggests that if there is a next pandemic and if there’s a new vaccine we need to take, the better strategy is to use loss framing when promoting that vaccine,” Guo said. “While gain-framing can work for some, it’s not going to persuade the people health officials really need to reach. Loss-based messaging

framing is going to work much better for those who are extremely hesitant to take a vaccine.”

The research project, “Loss Framing Increases Entity Theorists’ Vaccine Uptake,” has been published in the *International Journal of Research in Marketing*.



At the Meetings

May 2024 – Nicky’s Café - Odds and Ends: For those who don’t feel like cooking, Industrial Park Café, 101 Hodson Road, sells 40 varieties of one litre frozen soups and Nicky’s Café sell frozen meals at Sherwood Co-op stores and other locations.

Diane Lemon read the Ten Commandments of Post-Polio Syndrome. They are printed later in this issue.

Ken Holliday wrote a book “My Life Story”; look on www.holliday.com one link for the book, another for the index.



Our May meeting was our Spring Picnic. We enjoyed a picnic style supper with hamburgers, fries and all the fixings.

September and October 2024 – Our meetings were cancelled due to members of our executive being hospitalized.

Heat or Ice? Orthopaedic Surgeons Explore When to Use the Right Compress for Your Injury

by **American Academy of Orthopaedic Surgeons (AAOS)**

Both heat (dry or wet) and ice are commonly used to treat a variety of musculoskeletal issues. But do you know when, and how, to use each therapy? Follow these basic rules of thumb.

Newswise — ROSEMONT, Ill. (November 20, 2024)—When your muscle screams or a joint rebels, should you reach for the heating pad or grab the ice pack? Many people still grapple with this fundamental choice for managing musculoskeletal pain or injuries when they occur.

Experts at the AAOS offer the following roundup to better understand the **two treatment methods**.

ICE – Use for acute injuries, inflammation, and swelling

Tips:

- Start ice therapy as soon as possible after an injury.
- Apply for no more than 20 minutes at a time, several times daily.
- Do not apply ice directly to your skin. Use a towel, bag, or ice pack.
- Don’t use ice if you have poor circulation, or for stiff muscles or joints.

HEAT – Use for muscle pain or stiffness

Tips:

- Aim for warm temperatures, not hot temperatures, to avoid burns.
- More severe pain may benefit from longer-duration heat therapy.
- Do not apply to areas that are swollen, bruised, or have an open wound.
- Do not use if you have a health condition that affects your sensitivity to temperatures.

The bottom line: Both ice and heat are an option. Patients are reminded that if they’ve tried a heating pad and ice packs but are still in pain, or if they have noticed numbness or weakness in the affected area, they should contact their doctor.

“New” Areas of Muscle Weakness

Bruno BytesEncyclopediaRichard L. Bruno
07-02-2024

Written By Richard L. Bruno, HD, PhD

Question: When I had polio, my legs were completely paralyzed but my arms were not affected. When I recovered, I walked for many years with a very pronounced limp. I now have leg muscle weakness, use a long leg brace and a manual wheelchair. But I am beginning to experience pain and muscle weakness in my upper arms. Could I have weakness where I had never had polio weakness? Is it true that paralysis or even muscle weakness weren't necessary for your whole body to be affected by PPS muscle weakness?

Dr. Bruno's Response: Yes, that's correct. Even if you weren't paralyzed, Dr. David Bodian showed in 1949, with 158 human autopsies of polio “non-survivors”, that if you had muscle weakness anywhere, 90% of your muscles and their motor neurons were damaged, even if not killed, by the poliovirus. Add decades of physical overuse and, wham, PPS muscle weakness! The overuse causes wearing out of remaining poliovirus-damaged neurons and produces weakness of muscles thought to be unaffected by polio.

Late onset muscle weakness can show up anywhere, regardless of the degree of initial paralysis...or none. Even “non-paralytic” polio survivors could have had wide-spread motor neuron damage but not enough in any one muscle to cause weakness initially. But those remaining, poliovirus-damaged neurons still fail with overuse abuse over time.

This article can help explain: [“Non-Paralytic” Polio Causing PPS](#)

For more information, please look in the Index of the [Encyclopedia of Polio and PPS](#) under the topics “muscle weakness” and “motor neuron”.



Polio Survivors “Shake It Like That”

Bruno BytesEncyclopediaRichard L. Bruno
07-02-2024

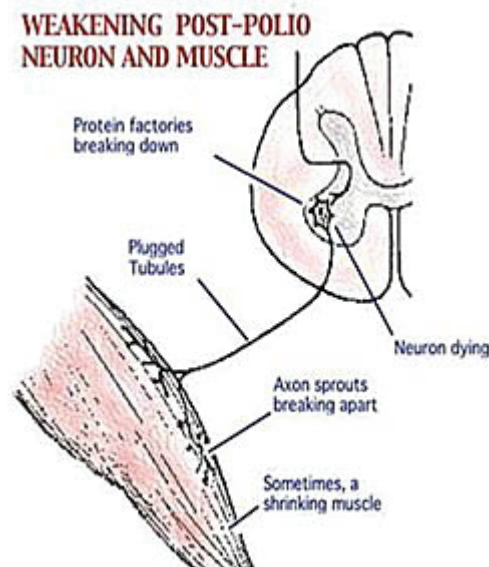
Written By Richard L. Bruno, HD, PhD

Question: I had polio that left me severely paralyzed in all 4 limbs, my back, head, neck and chest and have been wheelchair dependent ever since. My problem is this: After I'm out of bed for a bit I start shaking. I'm not cold, just shaking - head, neck, shoulders – when I'm sitting in my wheelchair. I can stop it but it starts for no reason and is increasing. My hands shake when I use them, but I interpret this as maybe age + polio weakness. But could this be the onset of Parkinson's?

Dr. Bruno's Response: There are two broad categories of **tremor**.

“Resting tremor” (shaking when your muscles are at rest) as in Parkinson's disease and “action tremor” (shaking when your muscles are being used). The cause of an average polio survivor's tremor - and possibly yours - may be easy to explain by using your own interpretation: “age + polio weakness”.

I think there are two possibilities for your shaking.



- The first and most likely is an “action tremor” caused by “age + polio weakness”, stressing muscles whose few remaining overworked, aging, poliovirus-damaged motor neurons can't sustain firing to continuously and smoothly

activate muscles, for example when using your hands and sitting upright in your wheelchair.

- The loss of smooth, continuous motor neuron firing leads to the muscles turning on and off, causing shaking. Resting your hands and lying down stops the shaking as it allows the motor neurons to metabolically recover and fire smoothly again.
- The second possibility, which is rare, is a condition called “enhanced physiological tremor.” EPT, also an “action tremor”, occurs when brain motor neurons fire intermittently when you use your muscles, thereby causing tremor. The tremor is said to be “enhanced” because shaking occurs even when you haven’t overworked your muscles. EPT also stops when you rest, for example when lying down in bed.

The simplest treatment for a Post-Polio “motor neuron tremor” is to monitor your activities and decrease or eliminate circumstances that cause you to stress your muscles – and your motor neurons – and trigger a tremor. EPT also decreases with a reduction in muscle activity but may require medication for there to be a significant reduction in tremor that improves your ability to function. Neurologists specializing in movement disorders should be able to make the EPT diagnosis but only if they are aware of the possibility of an underlying “age + polio weakness” tremor.

Statins and Polio Survivors

Bruno BytesEncyclopediaRichard L. Bruno
07-02-2024

Written By **Richard L. Bruno, HD, PhD**

Question: Is it a definite that statins will affect our muscles negatively? I have been on Zetia and fenofibrate but no results. The next step will be statins. Will that affect my muscles and make them weaker?

Dr. Bruno’s Response: That’s *not* definite. Statins often cause calf pain and CAN cause muscle weakness. Many survivors in the **Post-Polio Coffee House** have been on statins for years successfully. Please go to the **Encyclopedia of Polio and PPS** and look in the Index for “statins”.

The high-dose flu shot for older adults is now paid for by the province of Saskatchewan, in other words, it is free.

How to Keep Older Adults Out of the Hospital During Flu Season



Vaccination, Hydration and Treating Symptoms Early Can Help Older Patients Avoid Severe Flu Illness

by **Cedars-Sinai**

LOS ANGELES (Nov. 18, 2024) -- The **flu** might be a miserable weeklong illness and inconvenience for many people, but it can have serious consequences for older adults.

“It’s not just sniffles or cold-like symptoms. It can turn into pneumonia or an even more severe illness for older adults that can lead to hospitalization and, unfortunately, sometimes their demise,” said **Leslie Ramirez, MD**, a physician with Cedars-Sinai’s **Senior Advantage** program, which specializes in caring for medically complex Medicare Advantage patients 65 and older.

Because the body’s immune system weakens with age, Ramirez said, viruses like influenza can cause more serious illness in older adults. Once hospitalized, they’re at even higher risk for developing bedsores and skin infections from lack of movement. And unlike younger people whose condition rapidly improves once an illness passes, it can take weeks for older adults to regain their strength.

“If they’ve been in the hospital for a while, when they return home, they can struggle getting in and out of bed, getting to the bathroom or sitting down and standing up,” Ramirez said. “It complicates their

care and increases the burden on the family members trying to help them.”

The *Cedars-Sinai Newsroom* talked with Ramirez about the most effective ways to help older adults avoid a hospital stay altogether.

What can cause an older adult with the flu to need hospital care?

The flu can trigger a huge inflammatory response in the lungs of older adults who may not be able to continue breathing on their own. They might need supplemental oxygen and fluids because we tend to eat and drink less when we’re ill. Dehydration can be very harmful in older patients, causing their blood pressure to drop, as well as respiratory distress.

Older adults also are more likely to have multiple chronic health issues—heart, lung and kidney conditions—and an influenza infection can make all of those worse.

If an older adult gets the flu, how can they avoid a severe illness?

They should contact their provider as soon as they experience flu-like symptoms—fever, chills, body aches, maybe a sore throat or diarrhea—or get tested for the flu at a nearby urgent care. With a confirmed diagnosis, patients might be eligible for Tamiflu, an antiviral treatment that can help shorten the length of illness and decrease severity. But the medication must be started within five days of symptom onset.

It’s also important to rest and drink plenty of water. Chicken noodle soup or broth also can help with hydration. Acetaminophen can help reduce a fever, ibuprofen can ease body aches and over-the-counter cough suppressants can help ease a cough. But always check with a provider before taking a new drug to ensure it won’t interact with your current medications or chronic conditions.

Do you have any advice for caregivers or loved ones of older adults?

It’s important to identify flu symptoms early—a fever above 100.4 degrees, chills, fatigue, body aches, an itchy throat. If you notice that an older loved one with the flu is starting to become more lethargic,

very weak or confused—they don’t know where they are or who they are, and they’re usually very aware of their surroundings—those are big flags that the severity of their illness is increasing. Take them to the emergency department or call their provider immediately.

If they start complaining that they haven’t gone to the restroom as much as they normally do, that could be a sign they’re not drinking enough, or their kidneys aren’t functioning well. If their cough worsens and they’re having difficulty breathing or they’re short of breath or they can’t walk to the bathroom—those are all red flags.

How can older adults avoid the flu?

Wash your hands, especially if you’re going to be eating or you’ve been in an environment that might not be clean. You might want to avoid crowded places like giant sporting events during flu season. I’m not advocating that people skip important life events like a wedding or gathering with family, but take precautions, such as masking or keeping your distance. Some people still choose not to shake hands.

And, of course, get the flu shot. The flu vaccine is available at local pharmacies. For those 65 and older, there is a high-dose flu shot because their immune system isn’t as reactive as it used to be, and they need a stronger dose to mount a successful immune response. Younger family members also should consider getting vaccinated to reduce their risk of contracting influenza and passing it on to their older relatives. But remember, it takes two weeks to become fully protected.



Taking Vitamins

Bruno Bytes Encyclopedia Richard L. Bruno
07-02-2024

Written By Richard L. Bruno, HD, PhD

Question: I want to start taking multivitamins. Do you know of a vitamin with a small size capsule or pill? I cannot swallow big pills or capsules. I do not think I have a vitamin deficiency. However, I am exhausted constantly and I was hoping it would give me a little energy.

Dr. Bruno's Response: There is no need to take vitamins unless you have a vitamin deficiency. Vitamins don't give you energy. It sounds as though it's time for a visit to your primary care physician – you may find that bloodwork and a sleep study are in order!



Why do we move slower the older we get? New study delivers answers

by University of Colorado Boulder



Credit: Erik Summerside/Mary Kaupas

Mary Kaupas participates in a experiment to study how humans of various ages reach for targets. Tubes monitor her breathing to measure how much energy she uses.

Newswise — It's one of the inescapable realities of aging: The older we get, the slower we tend to move—whether we're walking around the block or just reaching for the remote control.

A new study led by CU Boulder engineers helps explain why.

The research is one of the first studies to experimentally tease apart the competing reasons why people over age 65 might not be as quick on their feet as they used to be. The group reported that older adults may move slower, at least in part, because it costs them more energy than younger people—perhaps not too shocking for anyone who's woken up tired the morning after an active day.

The findings could one day give doctors new tools for diagnosing a range of illnesses, including Parkinson's disease, multiple sclerosis and even depression and schizophrenia, said study co-author Alaa Ahmed.

“Why we move the way we do, from eye movements to reaching, walking and talking, is a window into aging and Parkinson's,” said Ahmed, professor in the Paul M. Rady Department of Mechanical Engineering. “We're trying to understand the neural basis of that.”

She and her colleagues published their findings in April in the journal *JNeurosci*.

For the study, the group asked subjects age 18 to 35 and 66 to 87 to complete a deceptively simple task: to reach for a target on a screen, a bit like playing a video game on a Nintendo Wii. By analyzing patterns of these reaches, the researchers discovered that older adults seemed to modify their motions under certain circumstances to conserve their more limited supplies of energy.

“All of us, whether young or old, are inherently driven to get the most reward out of our environment while minimizing the amount of effort to do so,” said Erik Summerside, a co-lead author of the new study who earned his doctorate in integrative physiology from CU Boulder in 2018.

Using engineering to understand the brain

Ahmed added that researchers have long known that older adults tend to be slower because their

movements are less stable and accurate. But other factors could also play a role in this fundamental part of growing up.

According to one hypothesis, the muscles in older adults may work less efficiently, meaning that they burn more calories while completing the same tasks as younger adults—like running a marathon or getting up to grab a soda from the refrigerator.

Alternatively, aging might also alter the reward circuitry in the human brain. Ahmed explained that as people age, their bodies produce less dopamine, a brain chemical responsible for giving you a sense of satisfaction after a job well done. If you don't feel that reward as strongly, the thinking goes, you may be less likely to move to get it. People with Parkinson's disease experience an even sharper decline in dopamine production.

In the study, the researchers asked more than 80 people to sit down and grab the handle of a robotic arm, which, in turn, operated the cursor on a computer screen. The subjects reached forward, moving the cursor toward a target. If they succeeded, they received a reward—not a big one, but still enough to make their brains happy.

“Sometimes, the targets exploded, and they would get point rewards,” Ahmed said. “It would also make a ‘bing bing’ sound.”

Moving slower but smarter

That's when a contrast between the two groups of people began to emerge.

Both the 18 to 35-year-olds and 66 to 87-year-olds arrived at their targets sooner when they knew they would hear that bing bing—roughly 4% to 5% sooner over trials without the reward. But they also achieved that goal in different ways.

The younger adults, by and large, moved their arms faster toward the reward. The older adults, in contrast, mainly improved their reaction times, beginning their reaches about 17 milliseconds sooner on average.

When the team added an 8-pound weight to the robotic arm for the younger subjects, those differences vanished.

“The brain seems to be able to detect very small changes in how much energy the body is using and adjusts our movements accordingly,” said Robert Courter, a co-lead author of the study who earned his doctorate in integrative physiology from CU Boulder in 2023. “Even when moving with just a few extra pounds, reacting quicker became the energetically cheaper option to get to the reward, so the young adults imitated the older adults and did just that.”

The research seems to paint a clear picture, Ahmed said: Both the younger and older adults didn't seem to have trouble perceiving rewards, even small ones. But their brains slowed down their movements under tiring circumstances.

“Putting it all together, our results suggest that the effort costs of reaching seem to be determining what's slowing the movement of older adults,” Ahmed said.

The experiment can't completely rule out the brain's reward centers as a culprit behind why we slow down when we age. But, Ahmed noted, if scientists can tease out where and how these changes emerge from the body, they may be able to develop treatments to reduce the toll of aging and disease.

Why do we move slower the older we get? New study delivers answers ([newswise.com](https://www.newswise.com))



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Information published in the Polio Postbox may not represent the opinion of Polio Regina. It is not to be regarded as Polio Regina's endorsement of treatment, products, or individuals. If you have or suspect you may have a health problem, please consult your health care professional.

You Are Invited

Polio Regina is inviting people who have had poliomyelitis and are now experiencing new symptoms such as fatigue, muscle weakness and cold intolerance, to join our self-help support group to learn how they can cope with post-polio syndrome. Spouses, partners, and family members are also welcome. Polio Regina Inc. was formed to help people from Saskatchewan.

Our Objectives:

- To develop, promote and increase awareness of Post Polio Syndrome.
- To disseminate information concerning research and treatment pertaining to Post Polio Syndrome.
- To provide support to survivors of polio, other than financial aid.

Where to Meet

Recently we have been conducting some of our meetings by Zoom, some in person and some hybrid in person-Zoom. There are no meetings in June, July, August or December. We usually have our Spring Picnic in May and our Christmas party in November, at a restaurant. For more information on meetings phone 306 757-8051 or check out our website: <http://nonprofits.accesscomm.ca/polio/> for more information on Polio Regina and links to other useful related information or you can just Google **Polio Regina**. Our email address is: ivan.jorgensen@sasktel.net

Alternative methods of payment: Canadahelps.org

There is the option to use Canadahelps.org website which has a Polio Regina page. This will be arranged to deposit the membership/donation directly into the Polio Regina bank account.

1. Go to the website link www.canadahelps.org/charities/polio-regina-inc
2. OR on the Canadahelps.org website enter Polio Regina Inc in the charity search.
3. Enter the amount, your name, address, email address and payment information.
4. Canadahelps issues a receipt directly to the donor by email. They take 4% administration fee and deposit the net amount directly in the Polio Regina bank account.
5. The Polio Regina treasurer, David Cotcher will be able to access the information and acknowledge the membership/donation.

Bank e-transfer

We do not currently have the ability to directly deposit e-transfers in the Polio Regina bank account. However, some have sent e-transfers to treasurer David Cotcher and he takes that amount in cash and deposits in the Polio Regina bank account. Then a receipt will be issued and mailed for the amount. Please contact David Cotcher at email cotcher@sasktel.net or phone 306-949-1796 for these arrangements.

MEMBERSHIP APPLICATION POLIO REGINA Inc.

Name _____
Active () if you had polio Associate () New () Renewal ()

Address _____

Postal Code _____ Phone: _____

Annual membership fee: (Jan.- Dec.) Membership Fees are due January 8, 2025

\$10 Single; \$15 family	\$ _____
My donation to Polio Regina Inc.:	\$ _____
Total	\$ _____

Please make cheque payable to: **Polio Regina Inc.** and mail this application form and cheque to:
Polio Regina Inc., 78 Petersmeyer St., Regina, SK S4R 7P7 (Official receipt for income tax purposes will be mailed.)