Summer 2026

POLIO POSTBOX

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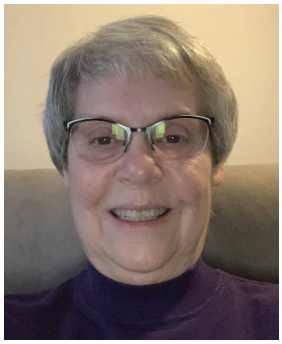
Enjoy Your Summer

My Polio Story

Brenda Brough is a long-time member and Vice-President of Polio Regina. The following is Brenda's Polio Story.

Polio Journey by Brenda Brough



My polio story is unique and based on what my mother had told me when I was a teenager and few memories and experiences I can recall at the time of being diagnosed and over years.

I was young child almost 5 years old when I was affected by polio virus through vaccine. I was a normal active child who loved playing outdoors or down in the basement. Spring of 1962 I received polio vaccine on a sugar cube and shortly thereafter came down with scarlet fever followed by red measles. During my illness I was confined to indoors of the house, not allowed to go outside to play with the other children in the neighbourhood. Also, at the time the doctors were on strike. My mother would check my body daily for signs the red measles was improving which took about 6 weeks for recovery. Towards the end of the recovery period my mother noticed my left leg was thinner than my right leg. Once the doctors' strike was over my mother took me to a GP office then I was referred to Dr. Borden Bachynski who became my doctor for treating polio till my mid teenage years. My mother was told due to my immune system being compromised shortly after receiving polio vaccine, he believed polio emerged and affected my left lower limb. I was very fortunate I didn't lose function in my left leg, but tests performed showed my left leg was not as strong as the right leg due to weakness in the muscles. Dr. Bachynski told my mother there's no test to actually tell how much motor nerves were damaged in my left leg but felt due to no significant loss in function at the time of diagnosis, maybe less than other polio patients affected by the polio virus. Also, there were other conditions I experienced afterwards that could not be determined if it was from polio vaccine or affects from scarlet fever and/or red measles.

During the first four months in my Kindergarten year, I went by school bus at 7 a.m. to Wascana Hospital for physiotherapy treatment and was brought home by noon, then I walked to school for afternoon class. There was notable speech difficulty which I attended speech therapy sessions after school class from last few months of Kindergarten year through to Grade 2. Before my illness I was an avid clear talker but after my illness wasn't as talkative and had difficulty with pronouncing certain letters and words. (To this day I still experience difficulty pronouncing certain words). I was still very active playing outdoors however I had become a little clumsy with minor accidents falling or tripping resulting at times to getting treatment at a hospital emergency room. Years following while growing up till my graduation at high school I was very active in many types of dancing (tap, jazz, ballet and highland) which I was an average performer and at times was frustrated that

I couldn't dance as well as my classmates. Around age of 12 my mother said the dancing activities was to help keep my muscles stretched, flexible, toned and strong due to my polio condition. It was then my attitude changed towards dancing, and I found enjoyment in the classes and not expecting to be the same as the other dancers but to do the best I can. There were surprises at few competitions when I won a few medals and trophies, it was then that I realized I did better when performing for pleasure to an audience (not a judge) in my own way and not expecting anything in return.

From age 6 to 11 the Shriners were part of my life; I attended their Christmas party and the Regina Exhibition fair every year. I met many children during that period who had different forms of disabilities, wearing braces, walking with crutches and confined to wheelchairs. Before the Christmas party in 1968 I told my mother that I no longer felt comfortable attending these functions, not that I didn't enjoy the events and special attention given by the Shriners it was my own perception and realization of feeling normal with no real signs of disability shown and seeing the other children with disabilities I felt they deserved the special treatments moreso by the Shriners than I.

There were many times I didn't understand why on a hot summer day playing with kids on the block outside I ended up spending the evening curled up in a chair or on the sofa with a blanket shivering, feeling like my body was cold. Till this day I still experience these episodes. It appears my own internal body core temperature was affected by polio and learned to adapt to these body temp fluctuations all my life.

Throughout my working career I didn't give much thought towards my polio condition until I read an article in the mid 90's of a story of a young man in his 40's who was an active hiker, rock climber, biker, and runner, who one day woke up and couldn't move. After few days he eventually saw a doctor where tests were performed, and results came back indicating he had had polio. It appears at very young age he experienced a period of several weeks of mild polio symptoms which at that time his parents didn't take him to a doctor for diagnosis or treatment. He had to learn to change his way of life going forward, no longer to push himself to limits in the sports he loved to do but found other activities at lesser demanding on his muscles to conserve what muscle strength he has. Based on this story I started researching to learn more about polio and came across information on Post-Polio Syndrome which scared me as I really hadn't thought I could lose muscle strength in my left leg as I grow older. I joined the Regina polio group around 2002 or so and am very happy to be part of this group as I have learned so much more about polio, Post-Polio Syndrome and hearing each member's stories of their polio journey.

On final note, looking back throughout my life I learned to accept that I was not a normal person inside like everyone else as I had a disease called polio. I didn't tell many friends nor any co-workers of my disease, not because of shame rather as I accepted each person I met or worked with for who they are and hoped in return they accepted me for who I was.

Thanks to Polio Regina group members for all their support and knowledge I have learned over past 23 years.

IN THIS ISSUE

Message from the President

Diane Lemon

The weatherman dealt us a severe blow by forecasting severe weather for the first months of the new year and followed up on his predictions. This resulted in many of us being forced to live a very sedentary life.

We are very thankful for our Zoom meetings which allow us to learn about many aspects of Post-Polio which we did not have knowledge of. Our speakers have given us a wealth of information. We appreciate the way in which they so generously give of their time.

It has been suggested that our membership conduct outreach in the form of public displays or short seminars. We have done this in the past with mixed results I am willing to consult with our members as to whether any of them are interested in any such undertakings. Fatigue plays a big part in how we manage our lives; I hope we will recruit new members to help. Here's hoping spring will come real soon.

Diane

Saskatchewan Red Lilies in Ivan's Garden

At the Meetings

November 2025 – Nicky's Café – David Cotcher received an email from Madeleine Mant from the University of Toronto Department of Anthropology with the results of research on vaccine acceptance called "Polio survivors' perspectives on vaccine hesitancy: a qualitative interview study". They interviewed 65 individuals with Post-Polio Syndrome, which included some of our members.

This was our annual Christmas Party We all enjoyed a turkey dinner with all the trimmings and were able to socialise with fellow members after the meal.

January 2026 – By Zoom - **Open Forum:** Our guest speaker was Susan Schoenbeck, RN. Her subject was "Kindness". A summary of her presentation is included later in this issue. Mona Arsenault from Polio Quebec joined as a guest on Zoom.

Douglas Seirstad from Parkbeg, Sask. is looking for a way to access his polio records from Providence Hospital in Moose Jaw.

March 2026 – Green Falls Landing – This was our Annual General Meeting. Our treasurer, David Cotcher, presented the annual financial statements for 2025. Our executive agreed to serve another year and were elected by acclamation. The following people are the Executive Officers/Directors of Polio Regina Inc. for 2026-2027:

President – Diane Lemon
Vice-President – Brenda Brough
Secretary – Ivan Jorgensen
Treasurer – David Cotcher
Phone Co-ordinator – Elaine Cotcher
Web Master – David Cotcher
Postbox Editor – Ivan Jorgensen
Directors at Large – Carole Tiefenbach, Wilf Tiefenbach
Open Forum: We had a presentation by Regina Police Constable Brandi Arnold on "Situational Awareness". A summary of her presentation is included later in this issue.

April 2026 – By Zoom – Diane Lemon said that Mona Arsenault from Polio Quebec has done videos of Post-Polio Syndrome experiences and solutions.

She has asked Diane to make a video of her health experiences last year.

We discussed how many Polio survivors there are in Regina or Saskatchewan and how difficult it is to find a doctor who knows anything about Post-Polio Syndrome.

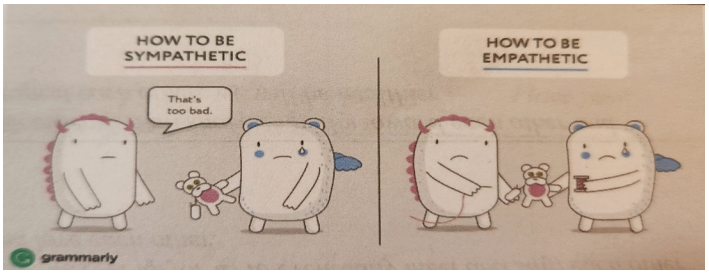
Open Forum: Susan Schoenbeck, RN did a presentation entitled "Take Charge of Your Post-Polio Fatigue". A summary of her presentation is included later in this issue.

Kindness: What it Is. What it is Not.

Polio survivors as unique vessels of kindness.

By Susan L. Schoenbeck, MSN, RN

Kindness is seeing what someone else needs and fulfilling that need. Words associated with kindness include being generous, showing tenderness, helpfulness and the qualities of being friendly, generous, and thoughtful.



The picture on the left shows sympathy for another. The slide on the right displays empathy.

Sympathy versus empathy

Kind people show e*mpathy* which means understanding of the needs of others. Empathy is different from *sympathy* which often comes out as taking pity on others and talking down to a person using words such as: "*That's too bad*." or "*You poor thing.*"

Kind people offer to help. We do not necessarily get to choose who to be kind to. When we are kind, we recognize another person's need, and step in to help.

Ways to show empathy

Empathy can be part of our nature and also can be nurtured. These important aspects of empathy can show people we care about them:

- *Eye contact*: Cultures vary in how eye contact is viewed. It is important to respect whether or not direct eye contact is acceptable when dealing with varied cultures.
- *Smiling*: A genuine smile is defined by one wherein the corners of the mouth and cheeks rise upward, and wrinkles (crow's feet) develop around the eyes. Studies show that high empathy people have more activity in their cheeks and more movement in their eyebrows, and around their eyes.
- *Posture:* A slumped over posture is a sign that a person does not care. Ways to show you care include:

  Sitting up straight.
  Sitting at eye level.
  Turning one's body toward the person with whom you are speaking.
  Leaning forward so you can clearly hear the other person speak.

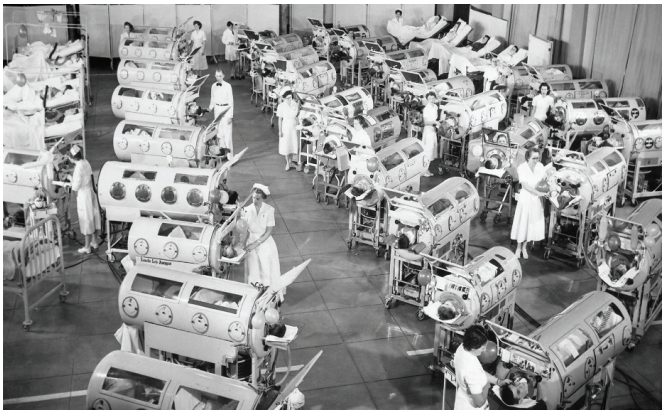
Placing one's hands on one hips is not an empathetic posture. This person may be angry or upset. They are trying to look bigger, more important, and more assertive.

- *Tone of voice:* 90% of communication is non-verbal. 38% of communication is tone of voice. In studies, when someone reads aloud with a soft tone of voice to another person, the heart rate and

blood pressure of the person being read to goes down.

- *Touch can have a calming effect*. The least-anxiety-provoking place to touch someone you may not know is the hand or forearm. Touching on the shoulder for five seconds or less is also acceptable. It may scare someone when a person comes from behind and grabs them on the shoulder.
- *Taking turns talking.* Pausing from the time one person finishes a sentence to the time another person begins to speak shows that the person about to speak has listened to what the first person has said. Overlapping talk is annoying and disrespectful.
- Taking a deep breath and speaking slowly to a person who is frightened can help calm the person.
- "Tell me…" is a good way to begin to know a person's story.
- It is kind to ask someone how they feel, not assume you know.

How polio survivors learned to be kind people.



Polio wards common in the 1940s and 1950s congregated children and adults with breathing difficulties in iron lungs. Some wards were designed to care for both children and adults.

Within the hospital wards, nurses stretched and applied warm cloths to spasming muscles. Called *The Kenny Method* after an Australian nurse who developed exercising routines for polio-affected muscles, these procedures led to children crying out in pain. As history tells us, and polio survivors can recall, crying out was not accepted by staff members. It was not uncommon for polio wards to have rules for children's behavior posted on the walls.

Isolation Hospital Rules
Listen to the doctors.
Obey the nurses.
Do not fight.
Do not be bad.
Be good in the hospital school.
Do not talk at dinner or school.
Little folks should be seen and not heard.

Polio kids learned not to cry. Research findings show that children will stop crying when they lose hope that they will be heard. Polio kids held their tears inside. Their bodies responded with increased heart rates and decreased immune responses. Our past experiences influence how we behave today. Polio kids learned that tamping down their feelings and instead giving a nod and smiling, got them further with hospital staff than tears. They learned to be kind despite pain.

Research reveals that when children are shown kindness by at least one individual during their first two years of life, they are more likely to become resilient. Adults who experienced life on a polio ward as kids may ask themselves who made them feel accepted as children.

Polio kids learned not to ask for help. Now polio survivors, to be kind, offer help before someone has to ask for it.

Polio survivors are known for their resilience. Polio kids learned that beautiful things may come from the hardest of places. Many understood suffering

and went into helping professions such as nursing, physical therapy, and medicine. Others became entertainers. A polio kid's heart was tenderized to be kind. Famous polio survivors include singer entertainers Joni Mitchell and Neal Young. Medical professionals who had polio as children include Dr. Marny Eulberg. She is a physician in Colorado, and also a member of The Last Mile World Rotary board, Viney Lugani is a psychologist in Berlin, Germany. Karla Stromberger, who lives in California, was a physical therapist. She often gives talks that help polio survivors deal with their post-polio /late effects of polio symptoms.

Studies show that the mental health of polio survivors is less affected by new debility than people in the general population. Although polio survivors may have experienced trauma during their childhood, they do not respond with revenge for what was taken away from them. Instead, they are kind for the graces given them.

We cannot always be the empathetic, kind people we want to be. Our hearts may weep and our bodies cannot respond. It is important to separate from a situation and find quiet place to take deep breaths and read an inspirational statement to regain one's composure to again be empathetic and kind.

Practicing kindness is a known factor in happiness. Studies show that our brain produces more feel-good hormones when we do kind acts.

Polio survivors have not had easy lives. We get ignored, side-lined, and exhausted. Our daily lives are filled with challenges. We have all climbed steep mountains to get where we are. If you look closely at kind people, you notice that very often the people who spread kindness have experienced the heaviest burdens in life.

Be kind whenever possible.

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Chokecherry Blossoms from Ivan's Garden

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Situational Awareness

By Cst. Brandi Arnold

Situational Awareness has three elements. The first is how we perceive our environment and what is happening in it. The second is our comprehension or understanding of what we have perceived. The third is how we use this understanding to think ahead. Situational awareness is a tool to prevent being a victim of crime.

There are three elements to a crime, the desire for the suspect to commit the crime due to want or their perception of need, the target or victim and the opportunity. Most criminals when contemplating a crime are seeking a high reward with low risk, little to no resistance and no witnesses.

When confronted with a stressful situation our primitive brain takes over and we respond in one of four ways. This is beyond our control and is our body's natural response in an attempt to protect ourselves.

- Fight
- Flight (run away from the threat)
- Freeze (do nothing)
- Fawn (go along with what the attacker is saying in hopes that we do not get hurt)

The only way to combat this natural response is to test ourselves or to train our brain. That means we think through possible scenarios and what we would do if confronted with those. Even though we may have never faced a specific situation, if we run it through our brain it will treat the situation as if you have encountered it before. This may help to shorten the length of time our primitive brain works before our problem solving comes back into play.

In order to minimize the risk of becoming a victim there are some basic things we can do.

- Know our surroundings.
- Use busy, well lit and traveled routes.
- Conceal and/or secure valuables.
- Make eye contact with people which lets them know that you see and can describe them.
- Move with confidence.
- Trust your gut instinct or "spidey senses". This is your innate ability to tell you that something is not right. It is a natural survival mechanism.
- You do not owe anyone comfort if it costs you your safety. Your safety is the priority, not someone else's comfort.
- Create distance. For example, cross to the other side of the street or exit the situation.
- Make a scene. Yell, scream, tell the person to get away or not to touch you for example. Creating a scene creates witnesses, you will get the attention of others.
- Know how to use "Emergency SOS" on your cell phone which can be enabled in settings.

Let's look at bus safety.

- Choose an aisle seat close to the driver so you can easily ask for help.
- Keep your valuables on your lap. If you have a bag with a strap wear it across your body to prevent it from easily being grabbed.
- The Safe Bus Program allows for you to board the bus for free and the driver can get you help. Stand facing the bus raising your arm as if beckoning for it to stop.
- The Night Stop Program allows you to request to be let off of the bus in between stops allowing you quicker access to your destination. You must advise the driver before your stop and they will try their best to let you off where you have requested.

Being able to avoid potentially dangerous situations is always the best option however, sometimes we may have to physically protect ourselves. The Criminal Code of Canada (Section 34(1)) says that "Everyone who is unlawfully assaulted without having been provoked the assault is justified in repelling force by using force as long as the force he uses is not intended to cause death or grievous bodily harm and is no more than is necessary to enable him to defend himself.

In simple terms, if you are assaulted, the law allows for anyone to defend themselves using enough force to

stop the threat. Once the threat retreats or surrenders you must stop defending yourself. For example, someone physically attacks you by grabbing and hitting you in an attempt to grab your purse or cell phone you can hit them back until they stop. Your next goal would be to get to a safe location and call 911. In the case where they stop and you grab a bat or a cane and continue to hit them this is no longer justified as they had stopped attacking you.

If someone threatens you with a weapon, whether you can see one or not, your property is not worth your safety or life. Property can be replaced. Give them what they want and get to a safe location and call 9-1-1 as soon as possible. Being aware of your surroundings and making eye contact with people will assist in helping you to provide details of the suspect such as their height, skin and hair colour, gender, tattoos, piercings and clothing. As we mentioned before, creating a scene and therefore creating witnesses may also provide the police with further suspect details.

When to call 9-1-1.

When you are actively being assaulted, robbed or threatened with violence for example. However, it is not mandatory that a crime is already in progress. If you fear for your safety or someone else's safety, you can call 911 even if a crime has not yet happened.

Calling 9-1-1 using a cell phone does not automatically provide your location like a landline. If you are unable to answer the operator's questions due to an unsafe situation try to convey your location. If you do not know the exact address describe your surroundings. For example, "I am on 11th Ave. by the Tim Horton's" or "I am downtown in front of the Royal Bank".

Most residents of Regina live a safe and peaceful existence. Everyone is capable of reducing the likelihood of being a victim of crime by practicing situational awareness and being a hard target for criminals, meaning you have taken steps to make a crime more difficult or too risky.

Thank you for inviting me to share some information with you and I hope you all stay safe!

Take Charge of Your Post-Polio Fatigue

By Susan L. Schoenbeck, MSN, RN

Physicians across America on average see less than one polio survivor/year. It is reasonable to assume our doctor may not be knowledgeable about how to deal with post-polio fatigue. By understanding ourselves better, we can educate our healthcare providers. By talking with each other, we can share tips that work to prevent and to relieve tiredness.

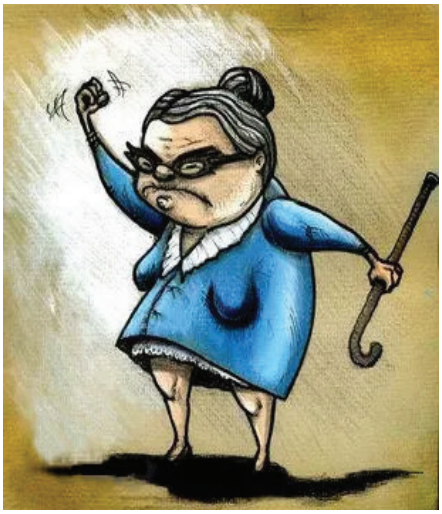
Polio survivors are affected by post-polio symptoms (PPS), aging, and climate changes altering the landscape in which we live. This triple burden leads to at least 50% and up to 91% of polio survivors reporting more fatigue as we get older.

Weather weirdness can bring fatigue and its "wicked stepsisters' emotional distress, anxiety, pain, depression and poor sleep. *Weather weirdness* as evidenced by more frequent and devastating storms lowers barometric pressure. This causes body tissues to expand and press on polio survivors' already damaged joints and nerves. Our polio-affected muscles, tendons, scar tissue swell irritating sensitive areas and causing increased stiffness, cramping and pain.

Weather weirdness can bring humidity. Humidity is the amount of moisture in the air. High humidity puts pressure on our ability to regulate our body temperature, blood pressure and blood sugar levels resulting in more fatigue.

What can polio survivors do to prevent fatigue? Recognize that we have resilience developed when we fought poliomyelitis. We were broken, but we managed to overcome acute illness. We gained self-awareness, internal motivation, and persistence which combined to increase our capacity to not give up. We will not give up now. We will try to prevent and allay our post-polio fatigue.

Polio survivors may hide how fatigue affects daily living. However, it is helpful if we let our friends and family know how fatigue makes us feel and when are times we need to rest.



Some of the ways polio survivors describe their fatigue are:

- I have no stamina.
- I'm anxious.
- My body never stops aching.
- My muscles are twitching and cramping.
- My brain is in a fog. I can't think straight.
- My balance is off.
- I'm frustrated. I want to cry.
- I'm crabby.
- Little things around me ──like too much noise or light── bother me.
- I'm depressed. I feel helpless. I do not want to be with friends.
- I've lost control and yell at people for no good reason.
- I am tired even though I just took a nap. Sleep doesn't refresh me.

Polio survivors want to find ways to prevent fatigue and alleviate fatigue. Proactive measures include: planning, prioritizing, pacing, positioning, and peacemaking with oneself by accepting work-a-rounds. Sometimes fatigue shows us we are grieving strengths we once had.

Sleep routines provide more and deeper sleep. Recommendations for good sleep include going to bed at the same time, eating foods with tryptophan, setting room temperature at 60-68 degrees Fahrenheit/15.5-20 degrees centigrade, turning off screens one hour before bedtime, sleeping in a dark room to produce melatonin, the hormone that induces sleep, using a noise blocking machine/fan, taking deep breaths in and out when go to bed and aromatherapy. Studies show that making a list of what you want to do the next day helps people fall asleep faster and sleep deeper. Yoga helps improve sleep.

Polio survivors prioritize activities by asking: Is this task essential? Must I do this task myself? Do I need to do this task today?

Exercise gives you more energy. People with higher cardiorespiratory fitness have better ability to make rapid decisions, multi-task, and remember facts. Exercise helps prevent falls. Polio survivors' rate of falls is 2 times higher than others. Eighty percent of fractures occur in limbs atrophied by polio. The likelihood of death after fall increases with age. Practicing getting up from the floor can pay off. Polio survivors benefit from individualized physical and occupation therapy assessments. No two polio survivors are alike.

Wise measures polio survivors can take:

- Listen to your fatigue cues.
- Break down activities into manageable safe steps.
- Eat a good balance of protein, fiber, nuts and fruits. Muscles need protein to maintain their strength.
- Drink plenty of water. Fatigue can be a sign of dehydration. Drink at least 30 cubic centimeters (one ounce) of fluid/kilogram (2.2 pounds) of body weight a day unless contraindicated by a medical condition.
- Reduce ingestion of high fat and sugary foods.
- Schedule time to do what you enjoy doing with friends/family whose company you like.
- Incorporate music into your life.
- On a day when you are exhausted, cross off some

things on your to-do list.

- The day before you expect to be busy, just unplug. Most things work again you unplug them for a few minutes. This includes you.

Happy Mother's Day: A Tribute to My Mama

By Susan L. Schoenbeck, MSN, RN

It was December 1945 when Mama was overjoyed to welcome a daughter. It was July 1946, when polio took away her "*Happy Mother's Day*."

One muggy July afternoon Mama found me not breathing well and one of my legs motionless. The doctor came. My father burst in the doors shortly thereafter and rushed me to the isolation hospital where staff quickly snatched me from his arms and placed me in an iron lung. The orderly told my father to go home.

After months of hospitalization wherein I received the Kenny Method of muscle stretching and massage along with application of hot packs to my polio leg, I came home.

Home was not the same house. A "**NO POLIOs**" sign was hung on the door where my family had lived. Mama and Dad moved us to a small house far away. Mama had to get a night job in order to afford this change. My infectious period was bygone. But the stigma of polio went on and on. Mama had to be always mindful of who was watching.

- When Mama wanted to take her baby for a stroll in the carriage, first she looked out the window to see if any neighbors were nearby. If not, she covered my legs with blankets so no one would yell at her to take her polio kid inside.
- Mama had to be extra careful to hide my polio leg with its steel and leather brace when she took me to the local library. The kind librarian let us take over the number of books allowed out each week. If she heard anyone complain about a polio kid being in the library, the librarian would help Mama dash the wagon with me in it out the door.
- When the 1950's rule was that girls had to wear dresses to school and could not wear slacks (like boys) in the school classroom, my mother leaned on the kindness of teachers to allow her daughter to wear long pants under her dresses to keep her polio leg warm and thus less painful.
- When time came for the annual grade school May Day Maypole dance, Mama had to have a heart-to-heart conversation with the principal who sent home a note that I would be benched at the side of the activities. The principal told Mama that parents objected to my inclusion as it would spoil their photos. They said I might fall causing the ribbons to become tangled. After talking with Mama, the principal let me join in the dance. I did not fall.
- Mama would take me to the shopping mall where shoppers lined up with their bags waiting for their bus to take them home. Shoppers would look up and stare at me as I limped along dragging a heavy metal and steel brace. Mama would lean down, squeeze my hand, and whisper to me "*Smile, so they don't feel so badly."*
- At a dance recital, parents objected to me being in the front row. Mama watched her daughter being shoved by parents to the back row. The recital photographer stepped in and moved me to the front row. Mama told my brother and I that

the photographer's action demonstrated he was understanding and kind.

- When the Girl Scouts needed to walk a quarter mile to get a badge, Mama, despite honking horns voicing driver annoyance, drove the car close to the curb in case I might not be able to walk the whole way.

What most people could never see was Mama's heartbreak and sorrow. You would have to get to know her to understand that polio isolates not only the child but also family members. People routinely turned their gaze ignoring her despair.

The polio virus is sneaky. You cannot see it. In 1946, no one understood how poliovirus caused the disease. All mothers were afraid their child would be next.

In 1955, The Salk polio vaccine was developed and declared safe after double-blind studies involving over 1.8 million children. This polio vaccine contains dead virus. It cannot give a child polio. Single dose vials do not contain thimerosal.

This Mother's Day, parents and grandparents may have vaccination questions and deserve information to make their choices. One question to ponder is *How would life change forever for my family members if they had a polio kid?*

I was looking through some old files, and I found this article that was submitted by Zenny Burton in April of 2007. It is just as relevant today.

Post-Polio

Neurons - fundamental cellular unit of the nervous system which consists of a nucleus (the core) around which other things are gathered. The neuron is the ON switch that activates the brain and muscles.

Polio virus - one millionth of an inch across – 17,000 would cover a period at the end of a sentence. Belong to a family called enteroviruses – so called because they grow in the intestines. A person is infected when (he, she) comes in close contact with someone who was already infected and some of their saliva or intestinal secretions found their way into your mouth, e.g. sneezing, coughing or unwashed hands after going to the bathroom (shaking hands).

After entering your mouth, the virus went on a ten-day tour of your insides. First, it went to your tonsils and began to multiply, then continued downward into and through your stomach to the small intestine where the virus multiplied. Poliovirus released from both the tonsils and intestines also traveled to the large nymph nodes under your arms where it multiplied even further.

Finally, about ten days after a person is infected, when the largest nymph nodes can no longer contain the millions upon millions of poliovirus particles, huge amounts of virus spill into the blood stream which then carries the poliovirus to the neurons in your brain and spinal cord. Once inside these neurons, they continue to multiply and end up in the motor neurons that control the muscles of the diaphragm, neck, back, arms and legs as well as other nearby spinal cord neurons.

What Happens Now?

Neurons require proteins to function and to live. The polio virus attaches to the neurons and stops production of these proteins, and the neuron's OFF switch is thrown. Muscles become weaker or are paralyzed; brain neurons become less active or stop functioning.

Given the ability of the polio virus to enter and damage such a large number of neurons, why doesn't everyone become totally and permanently paralyzed?

It has been found that for each neuron the poliovirus invades, commandeers and destroys, its action is halted in another neuron that is then able to rebuild its severely damaged protein manufacturing and start functioning again. The immune system plays catch up and produces enough antibodies to attack the poliovirus before it conquers the entire nervous system.

As well, it was discovered that at least 60 per cent of spinal cord motor neurons associated with an individual muscle must be killed before the muscle shows any weakness at all. This means that muscles that were at one time weak or muscles that have always been weak may be operating on as few as 40 per cent of their original motor neurons.

It's as if you had a ten cylinder car before you had polio but you may have only a four cylinder car after that then kept working fine for forty years or more. Also, it has been found that muscles thought to be completely unaffected by the poliovirus only have 60 per cent of their original motor neurons.

Any muscle that was affected by polio and even those believed not to have been, need to be taken care of, for these individuals to function. Those recovered neurons are never the same as they were before the poliovirus invaded. And these weakened muscles finally give out after having been overworked for thirty to forty or more years- hence, "Post-Polio Syndrome".

Zenny Burton
April 25, 2007

Judy and her Peonies

The following articles are a "refresher" about neurons.

Neurons "Sprouting"

RichardLBrunoBruno BytesEncyclopedia
03-30-2021
Written By Richard L. Bruno, HD, PhD

Dr. Bruno's Original Post: A study found in fruit flies what's been known for 70 years to happen in polio survivors . . ."What happens when a neuron dies? Can other neurons around it pick up the slack to maintain the same level of function? In the fruit fly, each muscle is activated by two motor neurons. Researchers wondered what would happen if one neuron were removed. Would the other neuron compensate for this loss? They found that the remaining neuron expanded its synaptic arbor ("sprouted") and compensated for its missing neighbor." Source

FROM The Polio Paradox :
"Axons Sprouts and Fat Fibers. Remaining, poliovirus-damaged motor neurons did something amazing after the poliovirus infection had run its course. The axons grew, sending out sprouts -- like extra telephone lines -- to turn on the muscles that were orphaned when their motor neurons were killed. Those sprouts took from nine months to 2 years to grow and ultimately activated about 16 times more muscle fibers than were connected to the motor neuron originally."

"Yet another important process took place that allowed polio survivors to regain strength. Muscle strengthening exercise and physical therapy caused muscle fibers to grow larger, a process called hypertrophy, enabling the fibers to do more work. Polio survivors' individual muscles fibers have been found to be twice the size of fibers in those who didn't have polio. So, motor neuron recovery, sprouting and muscle fiber hypertrophy allowed polio survivors to get stronger after the poliovirus attack. A 1955 study by British polio pioneer W.J.W. Sharrard found that polio survivors regained nearly 95% of the strength they would ever recover during the first 11 months after the polio attack as a result of sprouting, muscle fiber hypertrophy and learning to use functioning muscles to substitute for those that were permanently paralyzed."

"So, where do you stand (or sit) today with regard to your post-polio motor neurons? If you had any paralysis, muscles that you know were affected during the poliovirus attack have on average only 40% of the motor neurons you were born with, neurons that were damaged, are smaller than normal, whose internal "pipes" are clogged, but have sprouted to turn on 16 times more muscle fibers, fibers that are twice the size they were before you had polio. If you have muscles that were not paralyzed or had so-called "non-paralytic" polio, you lost 40% of the motor neurons you were born with, neurons that were damaged and are also smaller, clogged, over sprouted and overworked."

BOTTOM LINE: "Save Your Sprouts!"

More information is available under the topic: "Muscle Pain/Weakness" in the Encyclopedia of Polio and PPS.

"Transient" Muscle Weakness

EncyclopediaBruno BytesRichardLBruno
09-07-2018
Written By Richard L. Bruno, HD, PhD

Question: If the accepted theory of post-polio muscle weakness is that our motor neurons are dying, why do I improve with rest after having a period of severe weakness when I overdo? Even though I can become completely lame, the loss is temporary if I rest up for a day or a week.

Dr. Bruno's Response: You're describing a symptom that PPS researchers have totally ignored: "transient weakness." We call it "New Year Syndrome." Polio survivors complain that their muscles become significantly weaker -- even paralyzed -- in late December after they have done too much Christmas shopping; but strength returns in January after they rest.

Something dangerous is happening to cause the *transient* weakness of "New Year Syndrome." Remember that the poliovirus killed off at least 50% of your motor neurons. The neurons that weren't killed were damaged by the poliovirus but were able to sprout -- send out extra "telephone lines" -- to talk to the muscle fibers that were orphaned when their motor neurons died. After polio you were left with less than half of your motor neurons -- neurons that not only are over-sprouted, but also have cell bodies that are smaller than normal, have damaged protein-making "factories" and have been severely overworked for the past 50 years. When you experience transient weakness you have overloaded your neurons' protein-making factories and drained their energy reserves. After you rest, the neurons' protein supply increases and you are able to turn on your muscles again.

But every time you drain your motor neurons, we think you are doing damage that eventually causes permanent weakness as the repeatedly drained neurons die. Think of what would happen to your car battery if you left the headlights on every night. You get up the first morning and your battery is flat. You jump-start the battery and drive off. The next night you leave the lights on, jump-start the battery again, and drive away. After about a week the battery will no longer take a charge and you won't be driving anywhere!

Canadian PPS researcher Alan McComas found that polio survivors who are getting weaker over time lose 7% of their motor neurons per year, that's 7% *on top of* the 50% they have already lost! Prevent transient weakness -- and thereby prevent permanent weakness -- by resting before your muscles become weak, let alone become completely paralyzed!

Remember: You can replace your car's battery but you can't replace your motor neurons.

Flowering Crab-apple

Damaged Motor Neurons

RichardLBrunoBruno BytesEncyclopedia
Written By Richard L. Bruno, HD, PhD

Question: I was reading about the neurons in your brain being damaged by the poliovirus, the same as for your muscles. The body in its wisdom grew sprouts to connect some brain cells again, as damaged spinal cord motor neurons sprouted. Did the spinal cord sprouts all connect to motor neurons or is it possible they crossed over and connected to various other cells causing pain, feeling, etc.? Would this be inherited by your offspring?

Dr. Bruno's Response: The sprouts we commonly talk about come out of polio-damaged, but surviving, spinal cord motor neurons and connect to the nearby muscle fibers that were orphaned when their motor neurons died, allowing them to contract again. The new sprouts stayed in their own lane and turned on nearby orphaned muscle fibers. The sprouts did not connect to sensory or pain neurons. What's more, any changes that occurred in your body cannot be passed on to your children.

Why Water Matters

by **University of Miami**

BYLINE: Barbara Gutierrez

Newswise — Water.
It is essential to support life.

Water is one of the simplest, most accessible ways we have to support good health. Because the human body is made up of roughly 60 percent water, staying hydrated is essential for almost every biological function, from regulating temperature to transporting nutrients.

Although it has become trendy to carry emotional support water bottles, many go without the recommended daily amount of water. In the United States, about 10,000 deaths annually are related to severe dehydration.

Elizabeth Granado, an athletic trainer with UHealth – University of Miami Health System – shared information about the importance of water consumption.

How much water do we need to drink daily?

There is no single correct amount of water that an adult should be drinking. There are general guidelines: women should drink about 2.7 liters (about 91 ounces) per day, and men should drink about 3.7 liters per day (about 125 ounces). But this is all inclusive of all water. It includes tea, juice, coffee, and all those kinds of things.

So, the simple rule is to drink when you are thirsty and adjust to this depending on how much you sweat or how much you are exercising or the heat you are exposed to. You also want your urine to be pale yellow. And that is a good indicator of how hydrated you are.

Is there a danger of drinking too much water?

If you drink too much water in a short amount of time, you can give yourself water intoxication or hyponatremia, which means that the excess water is diluting the sodium in your blood. We need sodium for neuro functions and fluid balance. This can cause your cells to swell up and burst, and you can start suffering from light headaches, nausea and confusion, seizures, and in severe cases people can become comatose.

What are electrolytes and what role do they play in the body?

Electrolytes are essential minerals that carry a charge. These charges help regulate different physiological systems within the body. It affects the balancing of fluids in the cells and how liquid moves in and out of the cells, signaling the nerves for different actions that we want them to perform, including muscle actions, including the heart.

When we lose electrolytes, how does the body react?

When you don't have electrolytes, your body systems will start to deteriorate. You will be thirsty, have dry mouth, fatigue, and it can develop into more serious effects like rapid heartbeat, confusion, and you can stop producing urine altogether, which is a very dangerous thing.

What are some of the symptoms of dehydration?

Symptoms of dehydration include feeling very thirsty, confused; your urine is darker yellow in color, and you may get a headache and get dizzy.

What should we do when we realize that we are becoming dehydrated?

Start drinking water and include electrolytes because that is what we need for the body's functions to continue to operate. There are drinks that have electrolytes such as Pedialyte and Gatorade. Eating a banana is good because it is a great source of potassium, which is a great source of electrolytes. Salt tablets can also provide electrolytes in a fast manner.

Should we drink water before or after exercising?

You should do both. Drink water one to two hours before the activity—a cup to two cups of water, more or less. You don't want to be bloated. If your activity is more than 30 minutes, you should be drinking some liquid during the activity, and then after exercising, you want to replenish the fluids that you lost. So drinking water after exercise is also important.

What are some of the alternatives to water that one can take to remain hydrated?

Fruits and vegetables. The fruits with the highest water concentration are the melons, including watermelon, honeydew, cantaloupe, and strawberries. Some citrus fruits have a high water concentration as well as pineapples and grapes. As far as vegetables, they include cucumbers, lettuce, radishes, celery, cabbage, and tomatoes also have a high water concentration.

Why Water Matters | Newswise

How Big Tech's New Health AI Assistants are Redefining Care

The Doctor is in Your Pocket: JMIR Publications Breaks Down the Rise of Big Tech's New Health AI Assistants

5-May-2026, by **JMIR Publications**

JMIR Publications is the leading open access digital health research publisher

Newswise — (Toronto, May 5, 2026) JMIR Publications today released a timely new feature in its News and Perspectives section, providing one of the first comprehensive overviews of the rapidly expanding consumer health AI landscape. The article, "Big Tech and the Rise of Consumer-Facing Health AI Assistants," authored by Tejas S. Athni, an MD-PhD candidate at Harvard Medical School, analyzes the capabilities and strategies of five global giants: OpenAI, Google (Verily), Amazon, Microsoft, and Anthropic as they move into personalized medical guidance.

As of early 2026, the shift from enterprise-focused AI to direct-to-consumer assistants is complete. These platforms now allow users to upload medical records, sync wearable data, and interpret complex lab results in real-time, potentially reshaping healthcare access for rural populations and reducing the burden on emergency departments.

Comparing the Big Five Platforms

The feature provides a side-by-side analysis of how different tech ecosystems are approaching health care:

- **OpenAI (ChatGPT Health)**: Leverages its massive user base by allowing hundreds of millions of users to create personalized health workspaces with longitudinal tracking, offered for free to lower barriers to entry.
- **Google/Verily (Verily Me)**: Distinguishes itself with a hybrid model where licensed providers review AI-generated insights, positioning the tool as a care delivery platform rather than a simple chatbot.
- **Amazon (One Medical Health AI)**: Focuses on care orchestration, linking AI triage directly to Amazon Pharmacy and over 200 physical One Medical clinics.
- **Microsoft (Copilot Health)**: Integrates reputable citations from sources like Harvard Health and functions as a navigation tool to help users find clinicians based on insurance and location.
- **Anthropic (Claude for Healthcare)**: Markets a safety-first approach, utilizing constitutional AI to provide conservative medical guidance and heavy disclaimers to build consumer trust.

Privacy and the Hypochondria Spiral

While the potential for decentralized, personalized care is vast, the report addresses critical concerns. Athni notes that while some platforms like Amazon's One Medical and Verily are marketed as HIPAA-compliant, others like ChatGPT Health and Claude for Healthcare operate in separate encrypted environments but are not officially covered by HIPAA for consumer use.

The feature also warns of the perils of these systems, including the risk of misdiagnosis and the potential for hypochondria spirals, where AI-driven health anxiety could paradoxically increase the follow-up burden on human physicians.

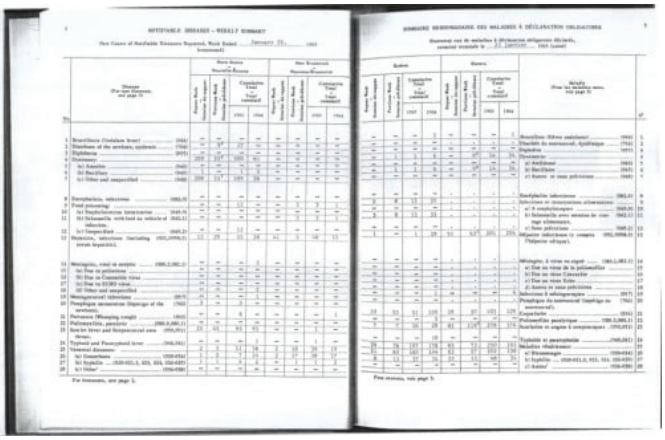
A Structural Shift in Care

The rise of these tools marks a fundamental shift in how individuals interact with the medical system. By moving beyond simple search queries to active care orchestration and multimodal data analysis, Big Tech is establishing a new, decentralized front door to the healthcare industry.

URL: https://www.jmir.org/2026/1/e99230
How Big Tech's New Health AI Assistants are Redefining Care | Newswise

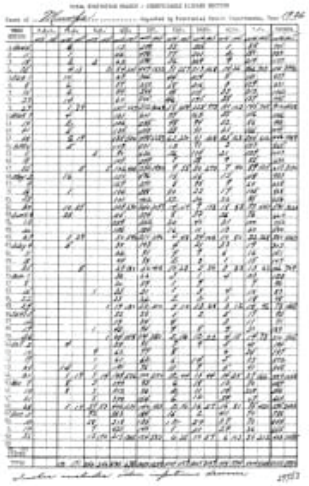
McMaster Research Team Digitizes More Than 100 Years of Canadian Infectious Disease Data

by **McMaster University**



Credit: Statistics Canada

A sample of a document found in a new database which captures weekly, monthly, and quarterly case numbers for diseases like tuberculosis and whooping cough dating as far back as 1903.



Credit: Statistics Canada

A document illustrating cases of mumps reported by health departments across Canada in 1939. It is part of a massive new database developed by researchers at McMaster University.

Newswise Researchers at McMaster University have developed a new database that brings together more than 100 years of historical epidemiological data from across Canada, which will help to predict future patterns of infectious disease.

The database is the culmination of a 25-year project led by mathematician David Earn, which began when he uncovered two boxes of handwritten documents containing 50 years of weekly infectious disease incidence reports—from 1939 to 1989—found in a neglected storage area at the Ontario Ministry of Health.

It was exactly the sort of thing Earn hoped to unearth during his visit — historical public health data that could help contextualize current and future infectious disease outbreaks.

"Initially, the Ministry said that they couldn't provide the data — that they didn't have the time to search through their archives for us," recalls Earn, a professor in McMaster's Department of Mathematics and Statistics. "So, I offered to come to Toronto and look through their files myself, if they would let me. I basically begged, insisting on the value of the historical records, and I wouldn't let it go. Eventually, I guess I became too much of a nuisance and they relented."

The documents uncovered that day catalyzed a massive retrospective research project that has culminated in a complete, province-by-province inventory of Canadian infectious disease records.

The result, published today in *PLOS Global Public Health,* is what Earn describes as a "genuinely beautiful dataset" that strings together more than 100 years of historical epidemiological information.

Altogether, the new database — the Canadian Notifiable Disease Incidence Dataset, or "CANDID" — contains more than a million infectious disease incidence counts that date back as far as 1903.

The dataset, which is now publicly accessible, captures weekly, monthly, and quarterly case numbers for diseases like poliomyelitis, hepatitis, tuberculosis, whooping cough, influenza, rubella, mumps, measles, and many others, and tracks their spread in each province and territory across time.

"Data like these reveal the speed and shape of outbreaks and recurrent epidemics of the past, and allow us to test models that predict patterns of spread," Earn says. "This new dataset can be leveraged to understand the ecology and evolution of infectious disease across Canada's history, and to help us prepare for emerging and re-emerging diseases in the future."

In fact, Earn's team has already used the database to better understand the spatial and temporal incidence of polio and whooping cough across several decades of Canadian history.

While the new study was 25 years in the making, Earn says it really accelerated in 2021, when a large pandemic-related NSERC network grant allowed him to recruit Steven Walker, a former McMaster postdoctoral fellow, to his team.

Walker, who re-joined McMaster as a data scientist in Earn's group, was tasked with curating, cleaning, and harmonizing the troves of data that Earn and his associates had previously unearthed from libraries, public health offices, and provincial and federal agencies based all across Canada.

"We would start with scans of handwritten or typewritten documents and manually transcribe them into Microsoft Excel to ensure that we had functional replicas of every original document," Walker explains. "But the replicas aren't conducive to data analysis, due to inconsistent formatting, so we've also been developing flexible data structures that are more convenient for analysis and discovery."

Earn, a member of the Michael G. DeGroote Institute for Infectious Disease Research, hopes that the new dataset — and the herculean efforts to assemble it — will help spur important changes to Canada's current infectious disease reporting standards, noting that the public release of infectious disease data is arguably worse now than it was at any point during the 20th century, including the pre-digital era.

In fact, today, the Public Health Agency of Canada issues only annual, nationally aggregated incidence counts — not weekly or regional information — which limits opportunity for important studies into epidemic patterns, seasonal effects, and geographic variation.

Earn says that the reduced resolution in today's data is due in large part to patient privacy protection — a critically important consideration, but one that Earn believes can be maintained even with increased sharing of useful data.

"It is extremely important to protect patient privacy, and our federal, provincial, and territorial agencies have developed protocols for data release that aim to ensure privacy is protected," he says. "But there is no individual-level information in aggregate counts of infectious disease cases, and no identifying information can be extracted from these data. I think that current data release protocols should be thoughtfully and carefully reconsidered, so that they still prioritize privacy, but also allow for the release of more useful information, which could help us to prepare for future outbreaks — to the benefit of all Canadians."

In the meantime, Earn's group encourages epidemiologists in Canada and elsewhere to use CANDID to study the patterns of disease incidence, to learn from historical surveillance efforts, and to strengthen public health preparedness.

McMaster Research Team Digitizes More Than 100 Years of Canadian Infectious Disease Data | Newswise

Mayo Clinic Researchers Use AI to Predict Patient Falls Based on Core Density in Middle Age

by **Mayo Clinic**

Newswise — ROCHESTER, Minn. — Artificial intelligence (AI) applied to abdominal imaging can help predict adults at higher risk of falling as early as middle age, a new Mayo Clinic study shows. The research, published in Mayo Clinic Proceedings: Digital Health, highlights the importance of abdominal muscle quality, a component of core strength, as a key predictor of fall risk in adults aged 45 years and older.

Falls are a leading cause of injury, especially among older adults. Mayo Clinic researchers found that early markers of fall risk may be detectable in CT scans that many patients have for other reasons.

Working with radiology bioinformatics experts, they set out to determine whether AI-derived measurements of fat distribution, muscle size and density and bone quality could reveal early signs of noteworthy physical changes.

They found that muscle density, a measure of muscle quality, was a much stronger predictor of fall risk than muscle size.

"Muscle size is just a measure of how big your muscles are," says lead author Jennifer St. Sauver, Ph.D., an

epidemiologist at Mayo Clinic in Rochester. "Muscle density is different; on a CT scan, it's a measure of how 'dark' and homogenous the muscles are."

More homogenous muscles are denser and tend to have less fat in them, Dr. St. Sauver notes.

"Previous studies have suggested that muscle density, not size, is more strongly associated with physical strength and function," she says. "Our results support the idea that we should be focusing on muscle density, not muscle size, when we try to understand physical function."

The research team expected to see links between poorer performance on abdominal muscle measures and a higher incidence of falls in older adults, but what surprised them most was the strength of these associations in middle-aged adults and how strongly those measures predicted fall risk.

"Leg muscles have been associated with physical function, but our findings show that abdominal muscles also play a significant role," Dr. St. Sauver says.

The findings underscore the importance of maintaining good core strength throughout adulthood, she adds.

"One of the most important messages from this research is to keep your abdominal muscles in the best shape possible," Dr. St Sauver says. "Doing so may provide benefits that start in midlife and continue well into older adulthood."

For tips on improving your abdominal core strength, visit mayoclinic.org.

Mayo Clinic Researchers Use AI to Predict Patient Falls Based on Core Density in Middle Age | Newswise

Fall Prevention and Delirium Screening are the Most Effective Interventions for Improving Surgical Outcomes in Older Adults

Review of key components for older adult surgical care provides evidence for a seven-component protocol that can lead to fewer complications, shorter hospital stays, and lower healthcare costs

by **American College of Surgeons (ACS)**

Key Takeaways

- A new study provides evidence for a seven-component perioperative protocol designed specifically for patients aged 65 and older.
- The protocol includes delirium prevention and screening, minimization of high-risk medications, fall prevention, aspiration precautions, frequent use of incentive spirometry to expand the lungs and prevent pneumonia, and a bowel regimen to prevent constipation.
- Implementing these steps is associated with better outcomes, including reduced complications and shorter hospital stays.

Newswise — CHICAGO — When care teams screen older adults undergoing surgery for risk factors such as falls and delirium, they are able to improve the care and outcomes of this rapidly growing and uniquely vulnerable patient population, according to findings published in the *Journal of the American College of Surgeons* (*JACS*).

The components addressed in the study form the basis of the American College of Surgeons (ACS) Geriatric Surgery Verification (GSV) Program's older adult enhanced recovery protocol, which focuses on preventing common complications like delirium, falls, and pneumonia. By addressing these risks, the protocol can help older patients recover safely and return to their daily lives as quickly as possible.

"Surgery can be a challenging experience at any age, but older adults often face a higher risk of complications such as delirium, falls, or a prolonged recovery," said Sarah Remer, MD, lead author of the study, Clinical Scholar at the American College of Surgeons, and a general surgery resident at Loyola University Medical Center. "Our review suggests that when hospitals take proactive, targeted steps, such as routinely screening for delirium and carefully reviewing medication, we can make a real difference in helping our older patients get back to what matters most to them."

The seven components of the GSV protocol are:

- Delirium prevention
- Routine delirium screening
- Minimization of potentially inappropriate

medications

- Fall prevention
- Aspiration precautions
- Frequent use of incentive spirometry, which is a simple breathing exercise using a handheld device to keep the lungs clear and prevent pneumonia.
- Bowel regimen, which is a proactive plan using diet, fluids, and sometimes medications to prevent post-surgical constipation

Study Results

- Researchers analyzed 67 studies on seven key components of older adult surgical care.
- Fall prevention had the strongest evidence. Programs that proactively address risk factors have been shown to reduce fall rates, shorten hospital stays, and result in significant cost savings.
- Delirium prevention and screening also have strong evidence. Using standardized tools to identify and manage confusion early, especially when combined with prevention strategies, is associated with better outcomes.
- Aspiration precautions and the frequent use of incentive spirometry are associated with reductions in hospital-acquired pneumonia. Bowel regimens were associated with lower rates of gastrointestinal complications.

"This isn't just about checking boxes," Dr. Remer said. "This is about recognizing that older adults have unique perioperative needs. Valid and feasible steps such as making sure eyeglasses and hearing aids are available or starting a simple bowel regimen can prevent complications and improve recovery in older adult surgical patients"

Building on a Strong Foundation of Evidence

The findings build upon a growing body of research demonstrating the value of the ACS GSV Program. The program requires hospitals to implement standards that address the specific needs of older adults.

"This comprehensive review validates what we've seen in practice: the ACS Geriatric Surgery Verification Program provides a standardized, evidence-based approach that transforms outcomes," said Clifford Y. Ko, MD, MS, MSHS, FACS, Senior Vice President, Division of Research and Optimal Patient Care at the American College of Surgeons. "By distilling a vast body of research into a practical protocol, we give hospitals a powerful tool to address the specific vulnerabilities of older adults, leading directly to safer care and shorter recoveries. The ACS also offers a free Geriatric Surgery Patient Checklist to help guide conversations with surgical teams and ensure high-quality, personalized care."

To help hospitals put this evidence into practice on the frontlines, the ACS also offers the EPoSSI tool, the Early Planning of Small-Scale Surgical Improvement framework, which provides surgical teams with a proven, step-by-step method to implement better care.

Previous studies have shown that implementing GSV standards leads to better outcomes for older surgical patients:

- Shorter hospital stays and lower rates of postoperative delirium during a beta test of the GSV program at a Veterans Affairs hospital.
- Higher rates of patients maintaining their independence and shorter hospital stays after major cancer surgery after implementation of the GSV program at a community hospital.
- A 50% reduction in postoperative death rates, along with improved documentation of patient care preferences reported by hospitals participating in the GSV program.
- One fewer day in the hospital on average and a 50% lower risk of complications such as respiratory failure and sepsis with a dedicated geriatric surgical pathway with GSV-aligned practices.

Co-authors are Caroline Smolkin, MD; Ronnie Rosenthal, MD; Clifford Y. Ko, MD, MSHS, MS; and Marcia M. Russell, MD.

This study is published as an article in press on the *JACS* website.

Fall Prevention and Delirium Screening are the Most Effective Interventions for Improving Surgical Outcomes in Older Adults | Newswise

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

Polio Regina Alternate Methods of Payments

Bank e-transfer

We now can receive e-transfers to our e-mail address polioregina@outlook.com and the funds are directly deposited in the Polio Regina bank account.

Please confirm your contact information: address, phone number, email address in the comment area of the e-transfer. Then a receipt will be issued and mailed for the amount.

If you have questions about e-transfer, please contact treasurer David Cotcher at email cotcher@sasktel.net or phone 306-949-1796.

Canadahelps.org

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

1. Go to the website link https://www.canadahelps.org/en/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.

MEMBERSHIP APPLICATION POLIO REGINA Inc.

Name_____

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

Address _____

_____

Postal Code_____Phone: _____

Annual membership fee: (Jan.- Dec.)

$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.)