



Editor: Ivan Jorgensen

Phone: 306-757-8051

ivan.jorgensen@sasktel.net

3344 Baneberry Drive, Regina, Sask. S4V 2V2

Christmas 2021

Polio Regina Incorporated

Season's Greetings

This issue of the Polio Postbox is dedicated to Murray Grant who passed away October 6th, 2021. Murray was one of the original members of Polio Regina. He was our elder statesman. His shrewd advice and contribution to the organization was much appreciated. Having had Polio never slowed him down – he was a tireless volunteer and he enjoyed hiking in the mountains. He especially enjoyed celebrating Gen and his 70th anniversary with family last summer. The following is Murray's obituary, followed by his Polio Story.

Grant, Robert Murray



Robert (Murray) Grant, aged 93, of Regina died peacefully surrounded by family on October 6, 2021.

He was born on October 17, 1927, to William Mingaye Grant and Wilma (Weir) Grant in Winnipeg, MB.

He was married for 70 years and is survived by his wife Genevieve Jacobs. Their five daughters and spouses are: Cathie Grant-Goodman (Andrew Goodman), Jane Grant (Tony Van Beveren), Laurie Grant (Stephen Pienaar), Leslie Grant (Daniel Hickey) and Becky Holuk (Ross). Grandchildren are Britt, Karina and Erik Goodman, Natasha Walbaum (Alon) and Zachary Walbaum (Sydney), Kaitlin

Hickey (Patrick), Alexandra Jacobs (Greg) and Erin Hickey, and Samuel and Lydia Holuk. Great granddaughter is Adalynn Jacobs.

He was preceded in death by his parents, and his three brothers, James, Gordon, and Ian.

Murray came west, from Ottawa, in 1948, first working for the Leader-Post. He joined Kramer Ltd. in 1955 as promotions manager and retired in 1993. He was most proud of his creation of the Kramer News magazine.

Murray was active in the Canadian Public Relations Society, earning his APR and the Award of Attainment. He served on the Road Builders and Heavy Construction Association of Sask., was a life member of Regina Lions Club, and was a founding director of the South Saskatchewan Community Foundation.

He received the Queen's Golden Jubilee Award in 2002.

Murray was an avid photographer, hiker in the Canadian Rockies and after retirement Murray volunteered as an actor at the RCMP Training Depot, at the Regina teaching facilities of the College of Medicine, University of Saskatchewan and had a small role on the TV show, Corner Gas.

Above all Murray was a committed Christian and served for many years at St. Cecilia Roman Catholic Church where he attended with Gen and the family. In 1966, Murray and Gen were the first co-chairs on the newly formed Parish Council.

Murray subscribed to the Grant Clan motto: “Stand Fast.”

“Well done, good and faithful servant; you have been faithful ... Enter into the joy of your Lord.”

Funeral arrangements will be made at a later date. If you wish to make a donation in remembrance of Murray Grant, it may be made to the South Saskatchewan Community Foundation.

<https://sscf.ca/>

My Polio Story by Murray Grant

November 29, 2011

Murray Grant is a long-time member of Polio Regina. He has been a valuable contributor to our meetings and the Postbox. The following is Murray Grant's Polio Story.

The years 1936 and 1937 were very difficult for my parents. They were a young Winnipeg couple, age 40 with four sons to raise at a time when everything possible was going wrong. Prairie crops were dying for lack of rain. Thousands lost their jobs in cities and farms. My father moved to Toronto in 1936, taking our oldest brother, in hope of finding work as an accountant. In September our mother placed us three (ages from 7 to 13) in a boarding school at St. Boniface. That summer, I kept cool and played with friends at Lake Ninette in southwest Manitoba. I helped my aunt and uncle take care of little cousins. The boarding school had similar youngsters, and one was a small fellow from Fort Frances. I remembered him years later when we met in Regina.

He was Paul Rousseau, auto dealer and member of the Saskatchewan legislature.

After just a few weeks I felt very sick and was taken to isolation hospital in St. Boniface. It was terrible. My guts seemed to be in such distress that I knew that hell had arrived in my bedroom. When I reached my 9th birthday there was no pleasure. I was too sick to move to a window to see my mother outside. If I dropped a cartoon book or other gift on the floor, it was destroyed.

I did not know it, but Manitoba and Saskatchewan in 1936-37 had 1,519 reported case of polio – 31 per cent of Canada's total.



Polio victims among children in a Winnipeg hospital.

My life improved on the 5th of November of '36 -- I was moved to the Winnipeg unit of Shriners' Hospitals for Crippled Children. For the first time, my mother could visit me. And the children were excited when they learned the Shriners were to visit. Those were special occasions for me, since my parents were friends with several Shriners.

It was still a frightening time for me. I did not know why I was in hospital. Certain days of the week were known for surgeries. Would I be one of them? Boys and girls who returned from the operating room would suffer and cry. Was this my fate too? Most had been crippled by polio, but several children from farms were burn victims.

The janitor was a kindly family man. When he was pushing a broom near my bed, I asked, “Do you know why I'm here?”

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“I’ll look at your chart,” he said. “It says you have been diagnosed with infantile paralysis.”

“Thank you, John,” I told him. “You are the first person in a hospital to tell me anything.”

A nurse told me more. She explained that children requiring surgery had bone and other problems that needed early surgery before the children grew older. In my case, doctors had decided to keep me flat on my back. I spent each day, flat from November to March of 1937.

One afternoon, the nurses carried a thick Eaton’s mail-order catalogue from bed to bed. Each child was invited to choose an item from the catalogue. It was to be a Christmas gift from the Shriners. Little girls chose pretty dolls. Boys picked toys or an article of clothing. My choice was a cartoon projector with a hand crank. I could point it at the ceiling above me and share the cartoons with nearby children.

Santa and the Shriners arrived with the gifts, Dec. 24th. A writer and photographer from the Winnipeg Free Press attended, and took pictures. My gift was in a large box that hid much of my face. The photo ran on Page One of the newspaper. What a thrill for my mother!



Photo cation below front-page photo, Winnipeg Free Press – Dec. 24th, 1936

There is a Santa Clause, and besides driving reindeer named Donner and Blitzen about the country-side Christmas Eve with a sleighful of toys, he can play the cornet. Sure he can – Santa turned exhibitionist Wednesday evening at the Shriners’ party at the Children’s hospital and played “Drink to Me Only With Thine Eyes.” If you don’t believe it, look at the top photo. The lower illustration shows the genial old-timer bearing the proverbial boxful of goodwill to bedridden Murray Grant. It was a swell party and not even the nurses were forgotten, though the bearded gent did complain about the absence of mistletoe.

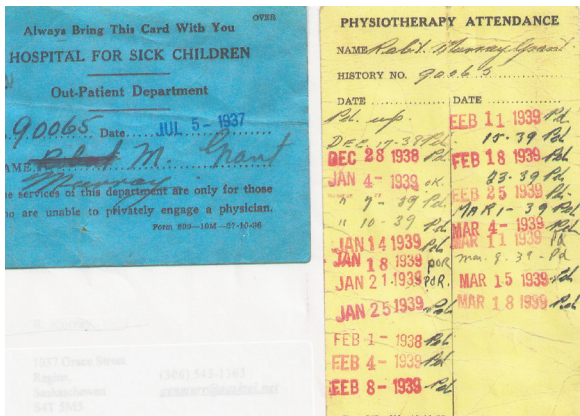
One Shriner I’ll bless forever. He brought the gift of a toy typewriter I could prop against my knees, and write stories. It gave me hope for the future, perhaps as a writer. Shriners took boys and girls, warmly dressed, for early evening tours of Winnipeg to see colourful Christmas lights on trees and houses. Not me, though. I remained in bed, flat on my back. Not complaining.

Cold winter days were an opportunity for nurses to wheel us, bed and all, smothered with blankets, out to a balcony for fresh air. There was a large radio and we could listen to news reports we could not forget. King George V had died early in 1936 and Edward, the popular Duke of Windsor had succeeded him. Each day, there was alarming news! Edward had proposed marriage to an American woman (ouch) who had divorced her first husband and was seeking a divorce from her second (OW!!). With a reign of 326 days, Edward quit (thank heavens!) and Albert, George VI took his place.

Worse news came from Nazi Germany. Adolf Hitler had introduced compulsory 2-year period of military conscription. As the year 1937 began, we were just 21 months away from the start of WWII.

Shriners often visited. They brightened our days and helped operate the electric trains on a model railway project they had built in a large room nearby.

Early in March I was invited to step out of bed and begin to move. It took me almost two weeks to walk again. My doctor dictated five pages of his observations and the hospital provided them for my mother to take with us to Toronto. She planned for us to join our father and big brother in the summer, at Toronto.



Identity Card (left) and Attendance Card (right) for the Hospital For Sick Children in downtown Toronto, 1937-1939. There was a small charge each visit, marked Paid.

“There is weakness of all the muscles of the upper extremities, the weakness being most pronounced on the right side,” he wrote. “The muscles of the shoulder girdle are paralyzed on both sides, more so on the right.... there is great weakness in the left deltoid.”



Murray at grandparents' home in Winnipeg, age 9 in spring of 1937. His first arm splint was heavy - galvanized sheet metal like a stove pipe.

He saw his young patient in late April and noted, “He still has weakness in the right deltoid. No power in the triceps.”

The hospital provided an airplane splint that held my right arm in a raised position. I wore it for three years. As I grew taller, the first splint (sheet-metal, just like stove pipe) was replaced by a magnesium model, much lighter.

The prairies continued to roast, and grasshoppers were a curse. On July 5th at Midale and Yellow Grass, south of Regina, they had the highest temperature ever in Canada, with a record high of 45 °C (113 °F).

The Shriners were my first angels. In Toronto, it was the Junior League society. They provided a therapy pool in the Sick Children’s hospital and I attended clinics several times a month. A chauffeur-driven 2-door sedan took me there each clinic day. I owe my thanks to the Denton Massey family for their kindness. Rotarians were sponsors of a huge Christmas party for children each year in the ballroom of the Royal York Hotel. There were many in wheel chairs, and some with crutches or splints on arms and legs.

Years later, I began to hike with friends in Banff National Park. At first, we backpacked for a few days. Then I joined Skyline Hikers for a full 6 days on mountain trails. As late as 2000, at the age of 72 I could hike up to 12 miles a day. With the memory of the long days in hospital, flat on my back, I was determined to hike and walk, even if I couldn’t raise my right arm ever again.



At the Meetings

September 2021 – Zoom meeting – Open Forum: Tom Murphy from Golden Mobility did a presentation on mobility aids such as: scooters that break down for travel, wheelchairs, walkers and hospital beds, followed by questions and discussion.

Diane Lemon recommended a couple of books: The first book is “*Wheel the World - Travelling With Walkers and Wheelchairs*”. It was written by Jeanette Dean, a woman with arthritis, who lives in Saskatoon. It contains many useful suggestions for travellers and is written in a pleasant dialogue style. The price is \$19.95.

The other book is “*Second Chances*” by Harriet Zaidman. It was written as fiction about a 14-year-old boy with Polio. The author wanted the details of the disease to be accurate, so she interviewed Diane and another person. The book will be released on November 15th by Red Deer Press. It will be available on Amazon and the price is about \$14.50.

Diane Lemon found that she had extra swelling in her legs after her COVID-19 vaccination, but she bought a bed that allows her to elevate both her head and her legs, and she found that elevating her legs has substantially reduced the swelling.

Georgina Heselton said that a Toronto neurologist said that her shakes may be caused by Polio rather than Essential Tremors. She said that she may be travelling to Toronto to receive a treatment that may stop the tremors on one side of her body. The procedure called High Intensity Focused Ultrasound (HIFU) involves the ultrasound coagulating or burning the brain cells thus destroying the cells that are causing the tremor, then cooling the head with water. The ultrasound bursts last for about 20 seconds each so the procedure, the sapping and cooling, are done repeatedly until all the cells that are causing the tremor have been sapped. The procedure will take 3 to 4 hours and she will be inside an MRI and awake the whole time. Some of the possible temporary or permanent side effects are getting weaker, less balance, numbness, and slurred speech.

October 2021 – Zoom meeting - Diane Lemon reported from education sessions:

1.Update on work of Rotary International re Polio vaccinations.

World Polio Day- Oct 24- this is the birthday of Jonas Salk. Rotary International continues to fund polio vaccinations in third world countries.

This year only one polio case has been reported in each of Afghanistan and Pakistan. Previously the Taliban were murdering the workers providing the vaccinations but have now signed an agreement to allow them to proceed. If a donation for Polio Eradication is given to Rotary, the Bill Gates Foundation will triple the donation.

2. Importance of vaccinations in the older population

Notes from U of R lecture by Dr. Tania Denier, Regina Public Health Chief Medical Officer - Importance of Vaccines, especially in the Older Population Immunosenescence - term for age related decline in immunity.

1. Annual flu vaccine is less effective in the elderly therefore the more powerful shot is given free in Nursing Homes and those who are immune suppressed. It can be purchased by those who wish it.

2. Tetanus recommended every 10 years.

3. Pneumococcal vaccine is good for life, and it is free.

4. Herpes Zoster (Shingles) Shingrix 97% effective, Zostavax 50% effective.

5. Travel Vaccinations - Wise to make appointment with Public Health Travel Clinic if travelling to third world countries to determine what shots needed.

6. Covid-19 - There was enough information available to stress the need to have this one so she did not discuss it.

3.Diseases, Syndromes and Pesticides That Mimic Polio by Dr. Mike Kossove - specialist in Microbiology and Public Health,

1.West Nile Virus - is an Echovirus which comes under the broad category of Enterovirus of which polio is one.

2. Acute Flaccid Myelitis - weakness in arms and legs.

3. Guillain Barre Syndrome - person's own immune system damages the nerves causing muscle weakness and sometimes paralysis. Lasts from a few weeks to several years. Most people recover.

4. Transverse Myelitis- weakness in legs, bowel and bladder functions, blurred and vision loss, fatigue, depression

5. Encephalitis - caused by a mosquito or tick bite. There is inflammation of the brain, which can lead to paralysis.

6. Pesticides - DDT poisoning - mimics polio with degeneration of anterior horn cells. BHC- several

7. Arsenic poisoning.

8. Lead poisoning.

Open Forum: Wilf Tiefenbach led the open forum of members sharing their experiences and letting us know how they had been doing over the last year or so in a general discussion.

November 2021 – Zoom meeting - Diane Lemon said she suggested to the Connaught Library that a railing would make the library more accessible. She was given permission to use the back entrance starting in 2008 but didn't know if any other customers were given permission to use it. Then they decided no customers could use it, only staff. To Diane, it seemed like they were punishing everyone for her actions.

Recently Counselors Andrew Stevens and Terina Shaw had investigated the matter and the library has installed handrails which are of some help. The current library manager is anxious to make the library accessible. When Diane met with him three weeks ago to see if the railing would work, he was very gracious about the situation.

Open Forum: David Cotcher moderated a discussion where members talked about their hobbies and other interests.

David Cotcher showed pictures from his telescope of the moon, Saturn, and Jupiter and its moons.

Ivan Jorgensen showed a slide show of his garden.

Wilf Tiefenbach showed pictures of the train station that he moved and renovated.

Ken Holliday showed us some of the large spoons and canes that he had made.



POST-POLIO 101

WHAT YOU NEED TO KNOW

1. DID YOU HAVE POLIO?

- Spinal tap?
- Unexplained fever?
- Flu like symptoms?
- Paralysis?
- Severe neck pain and/or headache?
- A disease that severely affected the nervous and muscular systems?

2. WHAT IS POST-POLIO SYNDROME? (PPS) (late effects of polio)

TRUTHS:

- A secondary condition to having had polio
- New symptoms approximately 10-40 years after recovery from polio
- Not everyone who had polio develops PPS
- Other conditions have been ruled out including normal aging

MYTHS:

- It doesn't exist
- The virus has returned
- You can't do anything about it
- Everyone gets the same symptoms
- PPS is life threatening
- All polio survivors have atrophied limbs

3. WHAT CAUSES POST-POLIO SYNDROME? (PPS)

- Decades of "overuse and abuse" of the body
- Polio damaged the nervous system, including the brain
- Motor neurons, that move muscles, weakened by polio are beginning to fail
- Triggered by a trauma (surgery, accident, immobilization, death of a loved one, etc.)

4. WHAT ARE SOME OF THE SYMPTOMS/SIGNS OF PPS?

- Unaccustomed fatigue – either rapid muscle tiring or feeling of total body exhaustion
- New weakness in muscles – both those originally affected and those unaffected by the virus
- Pain/burning sensations in muscle and/or joints
- Breathing difficulties and/or sleep problems
- Swallowing problems
- Functional decline
- Depression and/or anxiety
- Weakness and muscle atrophy
- Muscle spasms, twitching and tingling
- Nerve compression problems, (carpal tunnel, tendonitis, etc.)

5. WHAT CAN BE DONE?

To **PREVENT** new symptoms from occurring

- Awareness of type "A" behavior
- Plan frequent rest periods
- Pace daily activities
- Limit exposure to cold
- Increase protein and decrease added sugars in diet.
- Gentle exercise program as prescribed by a professional familiar with PPS

To **PRESERVE** remaining strength

- Conserve energy, "Conserve to Preserve"
- Stop overusing and abusing
- Be active, but STOP short of fatigue and pain
- Use assistive devices (braces, canes, wheelchairs etc.)
- Use quality nutritional supplements as advised by a nutritionist
- Control your weight
- Maintain a positive attitude
- Join a post-polio support group

6. WHAT ABOUT BREATHING PROBLEMS?

Polio survivors may experience new breathing problems; the acute polio affected breathing muscles, such as the diaphragm and rib muscles, not the lungs.

SYMPTOMS:

- The need to sleep sitting up
- Insomnia
- Morning headaches
- Excessive daytime fatigue/sleepiness
- Night sweats, interrupted sleep and/or bad dreams
- Unproductive cough and increase in respiratory infections

APPROPRIATE ACTIONS:

- See your Healthcare provider and/or a pulmonologist for pulmonary function test.
- Appropriate treatment may be assisted ventilation;
- Be wary of oxygen therapy if your lungs are not damaged
- A Tracheostomy may be appropriate in a limited number of cases.
- Possible need for sleep study

7. WHAT TO DO WHEN SURGERY IS REQUIRED.

- Talk to your healthcare provider about the planned procedure and Post-Polio concerns
- Set up a consultation with the anesthesiologist during the pre-admission process about concerns with post-polio and curare types of anesthesia
- Review your previous medication reactions with surgeon
- Assess with Healthcare provider your need for in-patient vs. out-patient surgery:
 - Body positioning during procedure

- Cold intolerance
- Additional post-operative recovery time may be required
- Additional anesthesia and/or pain medicine may be required
- Assess level of fatigue to determine your ability to tolerate out-patient or in-patient procedures

8. WHAT TO DO ABOUT PAIN? Tips that have worked

- Use moist heat and/or ice packs to the painful area
- Get light massages
- Try warm water therapy
- Get tested for sleeping and/or breathing problems
Use assistive and adaptive aids, as necessary to reduce stress to muscles and joints
- Check into need for anti-depressant prescription drugs
- Use pain medication as prescribed by your Healthcare provider (Ibuprofen, Celebrex, Vicodin, Percocet, MS Contin, etc.)
- Try alternative type treatments (acupuncture, yoga, myofascial release, Reiki, Watsu, etc.)

9. WHAT ABOUT MEDICATION?

It is your responsibility to know all your prescriptions, over-the-counter (OTC) drugs, and supplements. Inform your health care provider with:

- Name
- Purpose
- Dosage
- Interaction with other medications
- Side effects and risks
- Previous medication reactions
- Change your lifestyle before turning to pain medications
- Avoid stimulants that cause increased fatigue

10. HOW IS PPS DIAGNOSED?

Having a Healthcare provider exclude all other possible causes for new symptoms, (normal aging, ALS, MS, MD, Guillain-Barre, etc.)

11. HOW TO COMMUNICATE WITH YOUR HEALTHCARE PROVIDER?

BEFORE you visit your Healthcare provider

- Keep a journal of progression of symptoms, making simple entries concerning:
 - Daily living
 - Physical
 - Emotional
 - Time of day most affected
 - Positive and negative changes
- Note current symptoms, (tiredness, fatigue, exhaustion, etc.)

- From journal, make a list of questions and concerns to present to your Healthcare provider

DURING the visit with your Healthcare Provider

- Describe all current symptoms and when/how they have changed over time
- Be specific about what you need
- Avoid giving “Yes” and “No” answers
- Describe HOW: (i.e. much, long, in what way). (“I can climb 3 steps in 5 minutes with assistance.”)
- Clarify what you hear by asking, “Did you say...?”
- Bring written post-polio information
- Build a relationship with your Healthcare provider
- REMEMBER, some symptoms are not PPS related, (normal aging, heart disease, diabetes, etc.)

AFTER your Health care provider’s visit

- Request copies of all reports and test results
- Call if you have further questions

12. DID YOU KNOW?

- People still get polio
- There are Post-polio Clinics and support groups all over the world: many resources are available
- Rotary International goals are to:
 1. Eradicate polio worldwide
 2. Develop programs to assist polio survivors
- Polio survivors are likely to develop post-polio symptoms
- “No Pain – No Gain” DOES NOT apply to post-polio syndrome

13. WHERE DO YOU FIND MORE INFORMATION?

- **Polio Epic, Inc.**
P.O. Box 17556
Tucson, AZ 85731-7556
www.polioepic.org
- **Post-Polio Health International (PHI)**
Including
International Ventilator Users Network (IVUN)
St. Louis, MO
(314) 534-0475
www.post-polio.org



TAKE CHARGE OF YOUR MEDICAL CARE. YOU KNOW YOUR OWN BODY BEST!

"I KNOW I HAVE POST POLIO SYNDROME (PPS), NOW WHAT?"

FIND PEERS AND SUPPORTS



Be aware of social isolation, and build your village - look within your own community; support from friends, family, professionals can be a great help. Furthermore, if you want to get involved, many groups will often need volunteers and members.

There are many online resources as well, including March of Dimes Canada, Post Polio Health International, Polio Australia, and the British Fellowship for Polio.

TAKE CARE OF YOUR MENTAL HEALTH

Dealing with PPS can be difficult and feel isolating, even if you have social supports. It's important to give yourself the time, and find the support necessary for yourself.

Talking to a qualified professional can help people gain skills to better cope with this change in their lives. Remember - PPS may be a part of your life but it is not all of it.



ENERGY MANAGEMENT



Pace yourself: stop activities and rest before you start to feel tired. After your rest, return to the activity, and repeat this cycle.

Use your energy efficiently: prioritize your tasks, plan for the week, and remember to use aids and equipment when you need (e.g. assistive devices, attendant services).

MAINTAIN YOUR GENERAL HEALTH

Eat a healthy & balanced diet, keep warm, and maintain a healthy weight.

Physical activity is good, but ensure you find a good balance of activity and rest, and tailor exercise to fit your needs. Start slowly! The main focus should be on stretching & cardiovascular exercises.



EDUCATE YOURSELF



PPS is complex, not well known, and as our MODC focus group showed, this feeling of being misunderstood spans from healthcare professionals to family members.

It's important to have information and advocate for yourself. This way, you can find your team of healthcare providers, collaborating with them in your journey with PPS.

"My patient has post polio syndrome (PPS), **now what?**"

Post Polio Syndrome (PPS) is a neurological condition that occurs in a high percentage of individuals who had prior polio.

Currently, there are no medications available or proven therapies that can reverse muscular atrophy, or improve neuromuscular strength, or relieve neuromuscular fatigue.

POST POLIO MANAGEMENT



Take a multidisciplinary approach: involve physiotherapists, orthotists, and other allied health professionals. Stay abreast of new information and established resources (see websites below).



People with a history of polio have special concerns when it comes to anesthesia and surgery. Ensure a detailed history is taken, and consider further testing prior to surgery. Generally, polio survivors are not suitable for day surgery or fast track care pathways.



Establish good energy management techniques, which can help alleviate symptoms of fatigue and reduce pain (e.g. pacing activities). Consider aids and appliances, such as orthotics. If a patient suffers from sleep apnea, consider a referral for a sleep test.



Psychological therapies may be helpful in treating symptoms like depression and anxiety.

Once good energy management is established, exercise can be considered under guidance of a specialist to create and execute an individualized program.



Pharmaceutical interventions can be used to manage symptoms such as fatigue, pain, poor sleep. Note side effects however, as some may worsen PPS symptoms.

CRITERIA FOR REFERRAL

As PPS is a progressive condition, regular review, ideally once a year, is essential to monitor and identify worsening symptoms and/or to adapt the patient's management programme.

- Development of new neurological symptoms
- Progression or deterioration of longstanding neurological symptoms
- Uncertainty regarding diagnosis of PPS
- Advice about symptom management in PPS, especially where respiratory complications or dysphagia are suspected
- Advice on failure of treatment that was previously effective in PPS
- Need for specialist advice on orthotics, biomechanics, orthopaedic problems

SOURCES:

Polio Australia: <https://www.poliohealth.org.au/fact-sheets>
British Polio Fellowship: <https://britishpolio.org.uk/healthcare-professionals/>

Hospital regulations require a wheelchair for patients being discharged. However, while working as a student nurse, I found one elderly gentleman already dressed and sitting on the bed with a suitcase at his feet, who insisted he didn't need my help to leave the hospital.

After a chat about rules being rules, he reluctantly let me wheel him to the elevator.

On the way down I asked him if his wife was meeting him.

'I don't know,' he said. 'She's still upstairs in the bathroom changing out of her hospital gown.'



Perceived Exertion (Borg Rating of Perceived Exertion Scale)

Check out [Target Heart Rate](#) and Estimated Maximum Heart Rate to determine if your heart rate is within the target zone during physical activity.

The Borg Rating of Perceived Exertion (RPE) is a way of [measuring physical activity intensity](#) level. Perceived exertion is how hard you feel like your body is working. It is based on the physical sensations a person experiences during physical activity, including increased heart rate, increased respiration or breathing rate, increased sweating, and muscle fatigue. Although this is a subjective measure, your

exertion rating based on a 6 to 20 rating scale, may provide a fairly good estimate of your actual heart rate during physical activity* (Borg, 1998).

As you exercise you can rate your perceived exertion using several anchors. These include a rating of 6 perceiving “no exertion at all” to 20 perceiving a “maximal exertion” of effort. Practitioners generally agree that perceived exertion ratings between 12 to 14 on the Borg Scale suggests that physical activity is being performed at a moderate level of intensity. During activity, use the Borg Scale to assign numbers to how you feel (see instructions below). Self-monitoring how hard your body is working can help you adjust the intensity of the activity by speeding up or slowing down your movements.

Through experience of monitoring how your body feels, it will become easier to know when to adjust your intensity. For example, a walker who wants to engage in moderate-intensity activity would aim for a Borg Scale level of “somewhat hard” (12-14). If he describes his muscle fatigue and breathing as “very light” (9 on the Borg Scale), he would want to increase his intensity. On the other hand, if he felt his exertion was “extremely hard” (19 on the Borg Scale), he would need to slow down his movements to achieve the moderate-intensity range.

*A high correlation exists between a person's perceived exertion rating times 10 and the actual heart rate during physical activity; so a person's exertion rating may provide a fairly good estimate of the actual heart rate during activity (Borg, 1998). For example, if a person's rating of perceived exertion (RPE) is 12, then $12 \times 10 = 120$; so the heart rate should be approximately 120 beats per minute. Note that this calculation is only an approximation of heart rate, and the actual heart rate can vary quite a bit depending on age and physical condition. The Borg Rating of Perceived Exertion is also the preferred method to assess intensity among those individuals who take medications that affect heart rate or pulse.

Page last reviewed: September 17, 2020
Content source: [Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion](#)

Measuring Physical Activity Intensity

A way to understand and measure the intensity of aerobic activity is by understanding intensity and how physical activity affects heart rate and breathing.

Moderate Intensity

The **talk test** is a simple way to measure relative intensity. In general, if you're doing moderate-intensity activity, you can talk but not sing during the activity.

- Walking briskly (3 miles per hour or faster, but not race-walking)
- Water aerobics
- Bicycling slower than 10 miles per hour on primarily flat or level terrain without hills
- Tennis (doubles)
- Ballroom dancing
- General gardening

Vigorous Intensity

In general, if you're doing vigorous-intensity activity, you will not be able to say more than a few words without pausing for a breath.

- Race walking, jogging, or running
- Swimming laps
- Tennis (singles)
- Aerobic dancing
- Bicycling 10 miles per hour or faster that may include hills
- Jumping rope
- Heavy gardening (continuous digging or hoeing)
- Hiking uphill or with a heavy backpack

Other Methods of Measuring Intensity

- Target Heart Rate and Estimated Maximum Heart Rate
- Perceived Exertion (Borg Rating of Perceived Exertion Scale)

See the [amount of calories used in common physical activities](#).

Borg Rating of Perceived Exertion Scale

One way to see how much progress you're making in your physical activity is to measure the amount of effort it takes to do an activity. Over time, the amount of effort it takes should decrease. Once you've reached this point, you can gradually move on to more challenging activities.

The Borg Rating of Perceived Exertion (RPE) scale will help you estimate how hard you're working (your activity intensity). Perceived exertion is how hard you think your body is exercising. Ratings on this scale are related to heart rate (how hard your heart is working to move blood through your body).

How to Use the Scale

- While you're doing an activity, think about your overall feelings of physical stress, effort and fatigue. Don't concern yourself with any single thing, like leg pain or shortness of breath. Try to concentrate on your total, inner feeling of exertion.
- Find the best description of your level of effort from the examples on the right side of the table.
- Find the number rating that matches that description. Add a zero to the end of the number rating to get an estimate of your heart rate during activity (also known as training or target heart rate).
- Typically, RPE ratings for activity in the target heart rate zone will be between 12 and 16. The shaded areas are the moderate activity zones.
- If your RPE for an activity decreases over time, you've improved your fitness level. Congratulations!

Borg Rating of Perceived Exertion (RPE) Scale

| Number Rating | Verbal Rating | Example |
|---------------|------------------|------------------------------------------------------------------------------------------------------|
| 6 | | No effort at all. Sitting and doing nothing. |
| 7 | Very, very light | Your effort is just noticeable. |
| 8 | | |
| 9 | Very light | Walking slowly at your own pace. |
| 10 | | Light effort. |
| 11 | Fairly light | Still feels like you have enough energy to continue exercising. |
| 12 | | |
| 13 | Somewhat hard | |
| 14 | | Strong effort needed. |
| 15 | Hard | |
| 16 | | Very strong effort needed. |
| 17 | Very hard | You can still go on but you really have to push yourself. It feels very heavy and you're very tired. |
| 18 | | |
| 19 | Very, very hard | For most people, this is the most strenuous exercise they have ever done. Almost maximal effort. |
| 20 | | Absolute maximal effort (highest possible). Exhaustion. |

Last Reviewed: November, 2016

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What is a virus variant and the Wild Polio Virus

Excerpts from PA Polio Survivor's Network: www.papolionetwork.org. Aug. 2021 newsletter

All viruses, change over time, so new variants are expected to occur. Sometimes new variants emerge and disappear. Other times, new variants persist. For as long as the coronavirus continues to spread, new variants will continue to appear.

Most changes have little to no effect on a virus's properties. But some changes can affect how easily a virus spreads; the severity of the associated disease; and/or the performance of vaccines, therapeutic medicines, diagnostic tools and other public health and social prevention and control measures. (1)(3).

"There are four notable measures variants that have been detected in the United States (so far) **Alpha** (B.1.1.7); first detected in the U.S. in December 2020; initially detected in the United Kingdom

Beta (B.1.351) first detected in the U.S. at the end of January 2021; initially detected in South Africa in December 2020

Gamma (P.1) first detected in the U.S. in January 2021; initially identified in early January 2021 in travelers from Brazil, tested during a routine screening; at an airport in Japan.

Delta (B.1.617.2); This variant a sub-lineage of B.1.617 was first detected in the U.S. in March 2021; initially identified in India in December 2020." (1) (3)

Since this article was written another COVID-19 variant has been identified.

Omicron (B.1.1.529) first reported to the World Health Organization (WHO) from South Africa on 24 November 2021. On 26 November 2021, the WHO designated it as a variant of concern.

Polio survivors realize that although COVID-19 is a completely different virus, so much of what we've experienced in the last year and a half is a heartbreaking reminder of what happened in the past. We also realize that through the gift of modern

vaccines, polio is on the verge of being only the 2nd disease in history to be eradicated (after Smallpox).

There are three types of wild poliovirus (WPV) All three are extremely virulent. People need to be protected (by vaccines) against all three types of the virus in order to prevent polio disease.

Type 1 - caused leg, arm and sometimes breathing muscle paralysis. (Still to be eradicated).

Type 2 - seems to have been least likely to cause paralysis but may have damaged the "stem" at the bottom of the brain, just above the spinal cord and was responsible for huge outbreaks of "nonparalytic" polio and called the "Summer Grippe" (Eradicated by vaccines Sept. 2015).

Type 3 - the most rare, also caused leg and arm paralysis but was most likely to produced so called "bulbar" polio, in which the bulb or stem of the brain was severely damaged. This damage caused difficulties with swallowing, breathing and blood pressure that were sometimes fatal." (Eradicated by vaccines October, 2019) (2)(3).

(1): www.unicefusa.org/stories/covid-19-variants-what-you-need-know

(2): CDC, The Polio Paradox, www.polioeradication.org

(3): Material reviewed and approved by Paul A. Offit, MD



Morris, an 82 year-old man, went to the doctor to get a physical.

A few days later, the doctor saw Morris walking down the street with a gorgeous young woman on his arm.

A couple of days later, the doctor spoke to Morris and said, 'You're really doing great, aren't you?' Morris replied, 'Just doing what you said, Doc: 'Get a hot mamma and be cheerful.'"

The doctor said, 'I didn't say that. I said, 'You've got a heart murmur; be careful.'

Bruno Bytes

Bits and Tidbits from the Post-Polio Coffee House
From **Dr. Richard Bruno, HD, PhD**
**Director, International Centre for
Polio Education and author of *The Polio Paradox***

On the topic of Alzheimer's Disease and Polio Survivors

Question: Is it true most polio victims do not get Alzheimer's? I read that it has something to do with our chromosomes.

Dr. Bruno's Response: Well, can't say "most" don't get Alzheimer's. But one study showed polio survivors had 12 times less Alzheimer's disease than those who didn't have polio:

From *The Polio Paradox* . . . "Polio: A Good, Bad Thing? I may sound like Pollyanna, but there may be benefits to having gotten polio, or at least a benefit to being susceptible to it. Biology graduate student Shanda Davis surveyed polio survivors and the alumni of Drew University, asking if they had been diagnosed with Alzheimer's disease. Remarkably, 3.6% of the Drew Alumni had Alzheimer's but only 0.3% of the polio survivors did. Polio survivors had 12 times less Alzheimer's disease than those who didn't have polio. I bet you're thinking this must be a mistake. But we went back to our own patients and found that only 0.4% of the polio survivors who have ever been evaluated at The Post-Polio Institute had Alzheimer's disease. If these percentages are correct how could having had polio protect you from getting Alzheimer's disease? Shanda Davis had a hunch. We discussed that the gene which makes the poliovirus receptor is found on chromosome 19. Well, the poliovirus receptor gene shares its DNA on chromosome 19 with a gene that makes another protein, called APOE-4, a protein that has been associated with getting Alzheimer's disease. You can inherit one APOE-4 gene from each parent. Those who get two APOE-4 genes have the highest risk for Alzheimer's. Those who only inherit one APOE-4 gene have a lesser risk, while those who inherit no APOE-4 genes have the lowest risk of all. Without an APOE-4 gene on chromosome 19, the poliovirus receptor gene doesn't have to share any of its DNA and may be more able to make poliovirus receptors.

Without the APOE-4 you would be more likely to have more poliovirus receptors and to get polio as a child, but be less likely to get Alzheimer's disease as an adult. Maybe even the dark cloud of polio has a silver lining."

On the topic of Bladder Issues in Men

Question: I've been prescribed FloMax for a urinary sphincter problem (it doesn't open fully or easily). I'm a 72-year-old male who had bulbar and paralytic polio. A CT shows bladder wall thickening and enlarged prostate. Any thoughts on this medication for polio survivors?

Dr. Bruno's Response: I don't have experience with Flomax in polio survivors. Acute polio patients had urinary problems – especially retention and incomplete emptying of the bladder in men - because pelvic floor and bladder detrusor muscles had been paralyzed. Flomax (tamsulosin) works by blocking an adrenaline receptor and allows relaxation of bladder muscles that connect the bladder to the urethra, in the prostate, the ureter and in the urethra itself. But the adrenaline receptor in the bladder is similar to the adrenaline receptor that shrinks the size of blood vessels. Flomax, while blocking the bladder receptor, may also block the blood vessel receptor, cause blood vessels to open and blood pressure to drop, which explains why dizziness and lightheadedness can be Flomax side effects. Talk to your doctor about the potential for possible drops in blood pressure if you start Flomax and get up slowly when rising from a sitting or lying position (especially when getting out of bed in the middle of the night) so your blood pressure - and you - don't fall.

On the topic of Damage to the Bulb of the Brain vs Clinical Bulbar Polio

Question: I seem to remember you saying that every survivor has some degree of bulbar polio. What does this mean for polio survivors and PPS?"

Dr. Bruno's Response: Every polio survivor having some degree of "bulbar polio" is what Dr. David Bodian found performing scores of autopsies on people who had had polio. But here again is the important distinction that people seem never to appreciate: *Damage to the bulb of the brain as seen on autopsy is not the same as clinically diagnosed*

“bulbar polio”. All polio survivors had damage to the bulb of the brain, but not all polio survivors had damage severe or widespread enough to cause symptoms - difficulty breathing swallowing and controlling blood pressure - that would clinically be diagnosed as “bulbar polio.”

See the article “Abnormal Eye Movements and PPS” under the topic of Muscle Pain/Weakness in the Encyclopedia of Polio and PPS for more information about damage to the brain stem seen on autopsy vs clinically diagnosed “bulbar polio.” (https://www.papolionetwork.org/uploads/9/9/7/0/99704804/abnormal_eye_movements_and_pps.pdf)

On the topic of CBD for Polio Survivors

Question: I talked to a rep who was selling CBD products. She said they were made with some sort of “nano tech” and could not be detected with the blood tests used for drug screenings. Is this possible? My primary care doctor is very wary when it comes to CBD products.

Dr. Bruno’s Response: First, beware of drug dealers’ claims. I am no cannabinoid expert and don’t know about “nano tech”. But CBD can be detected in blood and urine; the question is whether the laboratory doing the testing is looking for CBD or just THC. (<https://www.consumerreports.org/cbd/can-you-take-cbd-and-pass-a-drug-test>) As for beneficial effects, there is clear evidence that CBD treats two rare forms of childhood epilepsy. For other conditions, including PPS, the jury is still out. CBD research findings are mixed and there is a general lack of powerful, randomized, double-blind, placebo-controlled studies to allow definitive conclusions about treating any condition. (<https://link.springer.com/article/10.1007/s40429-020-00326-8>) See pages 2-6 of the February, 2019 Bruno Bytes for more CBD/THC articles: (https://www.papolionetwork.org/uploads/9/9/7/0/99704804/bruno_bytes_february_2019_.pdf)

On the topic of Compromised Immune System and Viruses

Question: Weren’t polio survivors’ immune systems compromised when we got the poliovirus? Why else would it take hold rather than being fought off, as would be the flu?

Dr. Bruno’s Response: Being infected with and having neurons damaged by the poliovirus does not mean that your immune system was compromised. Unlike the flu viruses, to which people are exposed at least yearly, you were a “poliovirus virgin” having never before been exposed to the poliovirus. Your immune system (as with COVID today) had no antibodies or B cells or T cells to fight it. But your immune system learned quickly to attack the poliovirus. Had you been immune compromised during the acute polio infection you quite likely would have died. The purpose of the polio vaccines was to expose the immune system to the poliovirus without causing neuronal damage, teach it to attack the poliovirus before it can cause neuron damage and death.

On the topic of Having an MRI

Question: I had spinal fusion in with two stainless steel rods either side of my spine. They’re still there. It’s my understanding that I cannot have an MRI because of steel. Is that correct or not?

Dr. Bruno’s Response: MRI works by a powerful magnet “spinning” water molecules inside your body. Anything that is attracted to a magnet (iron-based) will be attracted to or heated by the MRI magnet. If that “anything” is inside your body, an MRI won’t be pleasant!



Web Site:

Check out our website for more information on Polio Regina and links to other useful related information at: <http://nonprofits.accesscomm.ca/polio/> or you can just Google **Polio Regina**. Our email address is: polio@accesscomm.ca

Disclaimer

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 and partners of polio survivors are also welcome. Polio Regina Inc. was formed to help people from southern 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

Due to COVID-19 we have been conducting our meetings by Zoom. Our next scheduled meeting is February 24, 2022, at 3:30 p.m. We will let you know the details prior to the next meeting, or you can phone Ivan at 306 767-8051 or email him at 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 6, 2021*

\$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., 825 McDonald St. Regina, Sk. S4N 2X5

*(Official receipt of donation for income tax purposes will be mailed.)