



PA Polio Survivors Network

Information and Inspiration
for All Polio Survivors and Their Families

Serving the Keystone State and Beyond

www.polionetwork.org

January 2019

Our Mission:

To Be in Service Providing Information to Polio Survivors, Post Polio Support Groups, Survivor's Families and their Caregivers.

Anesthesia concerns as they relate to those of us with Post-Polio Syndrome, is a topic that comes up to us on a regular basis.

We found the article in this newsletter (referenced through Dr. Selma Calmes, MD) on the PHI Website, and again through a local health care professional.

We are grateful to the original authors from the University of Manitoba in Canada, for permission to share it.

Polio History -

There are so many pieces to the puzzle.

Our professional contributor and Polio Historian, Prof. Daniel J. Wilson, PhD has written an article for us this month. With all the conversation about the Flu, he shed some light on just how serious the Polio Epidemic of 1916 in the US truly was.

Are you interested in this period of history?

We recommend "[Close to Shore](#)" by Michael Capuzzo. It's a great read and part of the story talks about the exodus of families from the surrounding cities to escape Polio.

https://en.wikipedia.org/wiki/Jersey_Shore_shark_attacks_of_1916

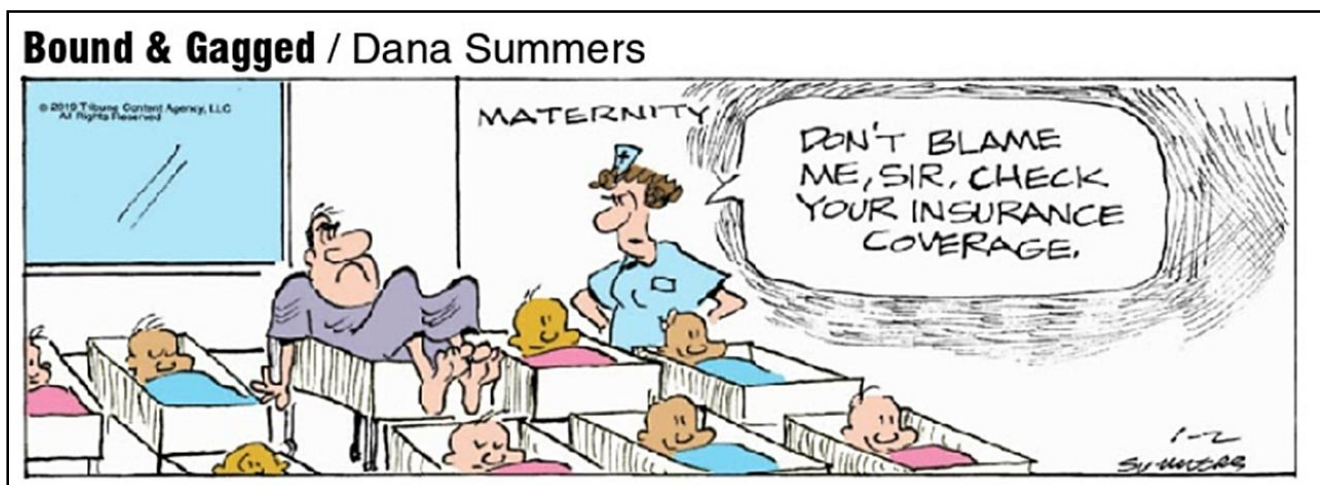
It's the New Year.

Do you remember Dear Abby? Her daughter is following in her footsteps and republishes her New Year's message each year. We were happy to receive permission to share that message.

And speaking of the New Year –

It's time to Refresh and Renew while we –

Snuggle up with a good book, Clean out closets, Change all of our passwords and Look at our insurance deductibles !



Polio 1916

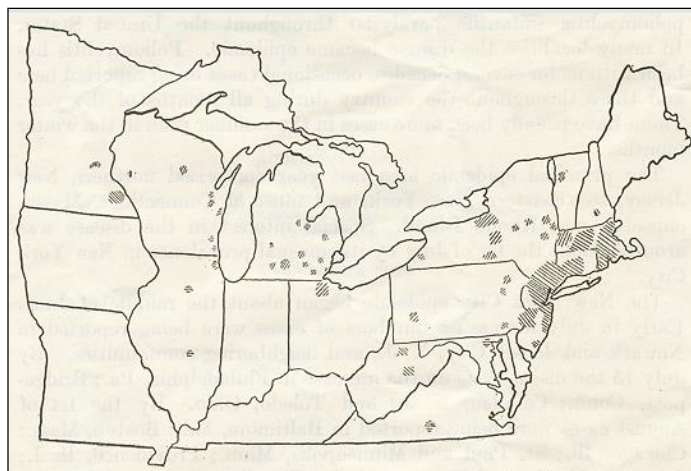
Polio History . . . Putting the Pieces Together

By [Daniel J. Wilson, PhD](#)

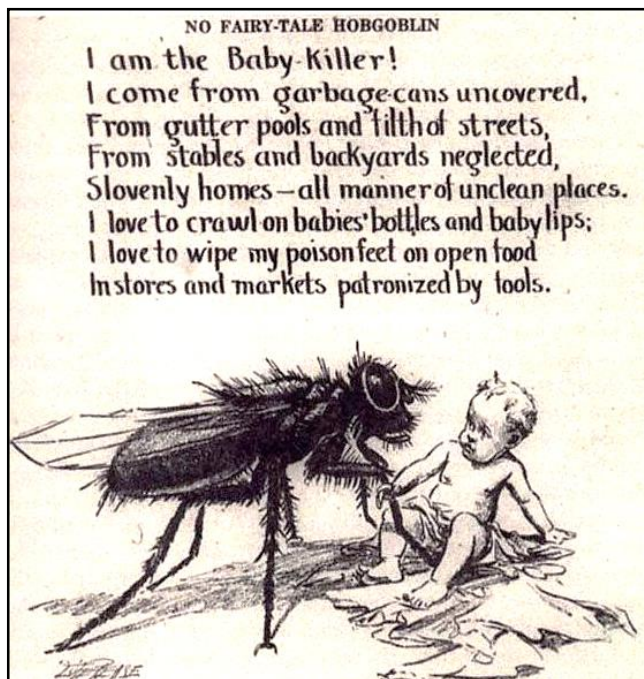
In 2018 many noted the 100th anniversary of the deadly 1918 flu epidemic that killed 650,000 in the United States and perhaps 50 million world-wide. We should not forget, however, that two years earlier, in 1916, the United States experienced one of the most serious polio epidemics in the country. Centered in the northeastern states, and particularly in New York, the epidemic struck some 27,000 individuals, mostly children, and killed some 8,000. Pennsylvania had the third largest number of cases (2,181) after New York (13,223) and New Jersey (4,055).

There were 1,006 cases and 307 deaths in Philadelphia, which was the epicenter of the epidemic in the state. Cases were diagnosed across the state with Lancaster reporting 21, Wilkes-Barre 6, Hazelton 7, McKeesport 12, and Norristown 19.

Polio was a frightening new disease in the United States. It had been epidemic only since the 1894 epidemic in Rutland, Vermont. Doctors could diagnose the disease once paralysis appeared, but they could neither prevent it nor cure it. Doctors puzzled over the cause of the epidemic. They knew polio was caused by a virus, but not how it was transmitted from person to person. Many blamed the unsanitary living conditions in immigrant slums, but then how to explain why upper and middle class children in good neighborhoods came down with the disease. Perhaps flies carried the virus, and this theory inspired “screen the baby, swat the fly” campaigns.



Shaded areas show localities particularly involved in the poliomyelitis epidemic of 1916



Rutgers University Press, Polio Epidemic 1916

We now know that polio is spread through water or food contaminated by the fecal discharges of those sick with the disease. We also know that only 3-5% of infections result in paralysis. The other 95% of infections result in a mild or “unapparent” case of polio, but one capable of transmitting the disease through their stools. No wonder doctors couldn’t figure out what was happening or how to stop it.

Public health officials tried to stop the epidemic by quarantining victims either in their homes or in isolation hospitals. Immigrant children were often forcibly removed to hospitals over the strenuous objections of parents who feared hospitalization was a death sentence. Suburban communities around New York banned children from the city even as wealthy parents tried to flee the city with their children.

Little has been written about the 1916 epidemic in Pennsylvania. The epidemic in Philadelphia mirrored that in New York City, but on a smaller scale. Schools opened late that year, and doctors tried quarantine to

halt the spread of the disease. In Pennsylvania and throughout the northeast the epidemic only receded with the onset of colder weather as the virus was most virulent in the hot days of

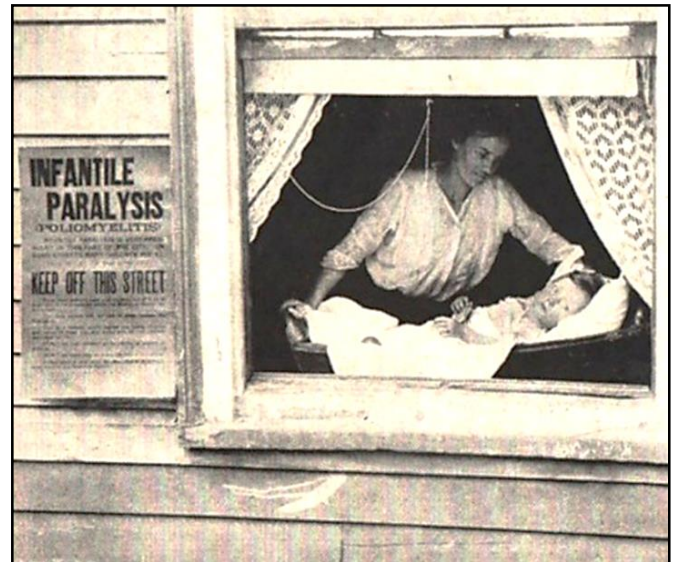
summer and early fall. The epidemic spurred an increase in polio research, but it would be the late 1930s and 1940s before medical scientists began to understand how the virus was spread and to develop the techniques that led Jonas Salk and Albert Sabin to create their vaccines in the 1950s.

For those interested in the 1916 epidemic, I recommend the book by Naomi Rogers, [Dirt and Disease: Polio before FDR](#), a fine study of the history of polio in 1916 and the early twentieth century.

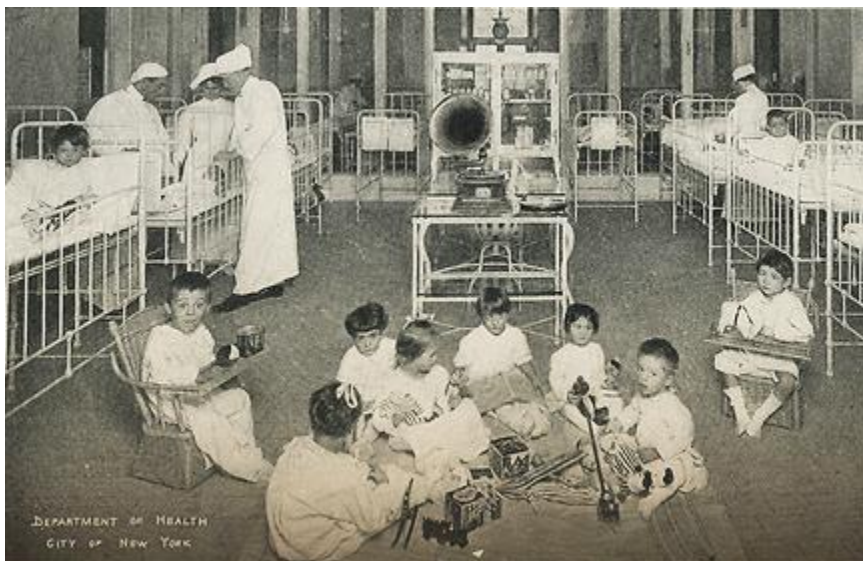
[Daniel J. Wilson, PhD](#), Professor Emeritus,
Muhlenberg College
January, 2019



Massage therapy for a young polio sufferer in the 1916 U.S. polio epidemic. The Historical Medical Library of The College of Physicians of Philadelphia



From the National Museum of American History



These polio patients in a New York hospital in 1916 all suffered eye paralysis. The Historical Medical Library of The College of Physicians of Philadelphia

Note: the following article has been abbreviated for space and clinical language.
The link to the complete article, including all references is below.

POLIO survivors of the past century's epidemics are now entering their fifth to seventh decades of life. Some survivors have developed a constellation of signs and symptoms referred to as postpolio syndrome (PPS). With advancing age, patients with PPS are now presenting for surgical procedures, both elective and urgent. Anesthesiologists will be better prepared to provide safe care for these patients if equipped with a solid understanding of PPS. The following review summarizes the history of polio and PPS and suggests special anesthetic considerations when approaching patients with PPS. Patients with PPS may display altered respiratory function, chronic pain syndromes, cold intolerance, risk of aspiration, and altered sensitivity to anesthetic agents (induction agents, inhaled anesthetics, neuromuscular agents, and opioids).

Postpolio Syndrome

In 1987, it was estimated that there were 1.6 million survivors of poliomyelitis in the United States of which 640,000 had symptoms of PPS. The prevalence of PPS based on a population of 250 million, at that time, would be approximately 1 in 390 persons. By comparison, the prevalence of multiple sclerosis in 1990 was 1 in 1,000. However, the actual current prevalence of PPS is unknown because more recent statistics on the prevalence of PPS are unavailable. These estimates may be conservative. Given social fear and stigma surrounding the disease during the era of epidemics, reporting of mild to moderate cases may have been suboptimal.

The most common symptoms reported by PPS patients include fatigue and weakness, joint and muscle pain, respiratory difficulties, cold intolerance and dysphagia (difficulty swallowing).

Preoperative Assessment

Pre-anesthetic evaluation of a PPS patient should begin with an assessment of the history of the patient's previous poliomyelitis illness. The patient's age at the time of illness, severity (including the presence or absence of bulbar symptoms), and amount of recovery are all helpful in anticipating the likelihood of developing PPS. Documenting the extent of residual deficits is important to understand the patient's baseline function. If the patient reports symptoms suggesting PPS, one should consider referral to a specialist with experience with PPS patients, such as a neurologist, if this has not already been done. In some cases, the surgical service may be unaware of the fact that their patient has PPS. Communication of this information should enhance overall patient management.

Often, chronic pain syndromes are present in these patients. Evaluation of contractures or spinal deformities is important to establish a baseline and anticipate positioning issues that might arise intraoperatively. Although patients may already be taking oral opioid medications, many are "opioid naive." Some patients may report excessive sedation with opioid or sedative hypnotic drugs, as prescribed for dental procedures, for example.

A detailed respiratory evaluation is very important in this patient population. Anesthesiologists may encounter PPS patients with no respiratory symptoms at all, or conversely, the PPS patient may have a mature tracheostomy site and may be dependent on overnight positive-pressure ventilation. Special attention should be made not to overlook a history consistent with sleep apnea or hypoventilation syndrome. This includes symptoms of morning headache, excessive daytime somnolence, and episodes of snoring or apnea during sleep. Finally, preoperative evaluation should include an inquiry into symptoms of dysphagia and reflux disease.

Perioperative Considerations

An important consideration in the anesthetic management of patients with PPS is whether regional anesthesia is safe. Many anesthesiologists are hesitant to use regional anesthesia in patients with preexisting neuromuscular deficits, because of the concern of exacerbating existing disease or difficulty evaluating complications. There have been no reports of adverse effects due to regional anesthesia in PPS patients, but this does not necessarily mean that regional techniques are without risk.

Ultimately, the decision to use general or regional anesthesia should be made on an individual patient basis weighing the risks and benefits. If a spinal anesthetic is selected, a medication with a long history of safety, such as hyperbaric bupivacaine, should be used.

There are several considerations when administering general anesthesia to patients with PPS. Initially, it is important to ensure that the patient is comfortably positioned and that attention is given to limbs with contracture. Blankets or warming devices are particularly appropriate because of cold intolerance. Baseline twitch response to peripheral nerve stimulation should be measured before administering neuromuscular blockade, because this response might be abnormally small in some muscles. Traditionally in patients with neuromuscular disease, succinylcholine is used cautiously to avoid precipitating hyperkalemia. However, there are no specific data on the use of succinylcholine in patients with PPS. One study suggested that patients with a remote history of polio have increased sensitivity to nondepolarizing muscle blockers. For this reason, selection of shorter-acting agents, such as rocuronium and mivacurium, along with careful titration of doses to desired effect, is important in patients with PPS. In some cases, completely avoiding neuromuscular blockade may be appropriate.

Postoperative Management

As noted in the first paragraph of the Anesthesia and Postpolio Syndrome section, two reports have described postoperative complications, one resulting in death, in patients with PPS. In these two cases, postoperative respiratory failure, associated with weakness, over sedation, or both, was deemed contributory. Therefore, the most serious anesthesia-related risk for PPS patients may be in the postoperative period. Just as it is now recognized that more intensive postoperative monitoring may be needed for patients with a history of obstructive sleep apnea, it would be similarly appropriate to increase one's vigilance during postoperative monitoring of patients with PPS. Ambulatory surgery in this population should be considered only in select patients. It would seem prudent to avoid "fast-tracking" the transfer from the operating room immediately to the ward in patients with PPS. Finally, coughing should be encouraged. Incentive spirometry and humidification of inspired gases should be considered for PPS patients in the recovery room.

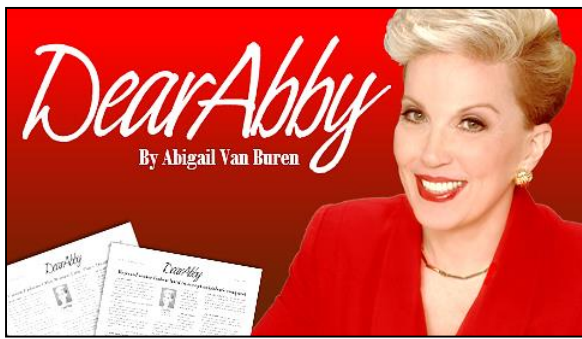
Conclusion

Survivors of the poliomyelitis epidemics are now more than ever presenting for a variety of surgical procedures requiring anesthesia. Some of these survivors have developed PPS. In reviewing the pathology of acute poliomyelitis and PPS itself, multiple considerations for anesthesia become apparent. These include compromised respiratory function, SRDB issues, chronic pain syndromes, aspiration risks, and cold intolerance. In addition, postpolio patients may display altered sensitivity to any of the medications commonly used for regional and general anesthesia. Once aware of these considerations, anesthesiologists are better prepared to provide safe care, not only to patients with PPS, but to any patient with a history of poliomyelitis.

Note: This article was abbreviated. Specific clinical information (for health care professionals) was left out due to space considerations. The COMPLETE article and all references is available:

polionetwork.org/anesthesia-card (and)

http://anesthesiology.pubs.asahq.org/article.aspx?articleid=2026110&_ga=2.170902887.636643066.1544639212-838924289.1544639212#67862189



*“New Year Brings
Joyful Hopes for a Bright
and Prosperous Future”*

DEAR READERS: It's 2019!

A new year has arrived, bringing with it our chance for a new beginning. Today is the day we have an opportunity to discard destructive old habits for healthy new ones, and with that in mind, I will share Dear Abby's often-requested list of New Year's Resolutions -- which were adapted by my late mother, Pauline Phillips, from the original credo of Al-Anon:

JUST FOR TODAY: I will live through this day only. I will not brood about yesterday or obsess about tomorrow. I will not set far reaching goals or try to overcome all of my problems at once. I know that I can do something for 24 hours that would overwhelm me if I had to keep it up for a lifetime.

JUST FOR TODAY: I will be happy. I will not dwell on thoughts that depress me. If my mind fills with clouds, I will chase them away and fill it with sunshine.

JUST FOR TODAY: I will accept what is. I will face reality. I will correct those things that I can correct and accept those I cannot.

JUST FOR TODAY: I will improve my mind. I will read something that requires effort, thought and concentration. I will not be a mental loafer.

JUST FOR TODAY: I will make a conscious effort to be agreeable. I will be kind and courteous to those who cross my path, and I'll not speak ill of others. I will improve my appearance, speak softly, and not interrupt when someone else is talking.

JUST FOR TODAY: I will refrain from improving anybody but myself.

JUST FOR TODAY: I will do something positive to improve my health. If I'm a smoker, I'll quit. If I am overweight, I will eat healthfully -- if only just for today. And not only that, I will get off the couch and take a brisk walk, even if it's only around the block.

JUST FOR TODAY: I will gather the courage to do what is right and take responsibility for my own actions.

And now, Dear Readers, I would like to share an item that was sent to me by L.J. Bhatia, a reader from New Delhi, India:

DEAR ABBY: This year, no resolutions, only some guidelines. The Holy Vedas say, "Man has subjected himself to thousands of self inflicted bondages. Wisdom comes to a man who lives according to the true eternal laws of nature." The prayer of St. Francis (of which there are several versions) contains a powerful message: Lord, make me an instrument of your peace; Where there is hatred, let me sow love; Where there is injury, pardon; Where there is doubt, faith; Where there is despair, hope; Where there is darkness, light; And where there is sadness, joy. O Divine Master, Grant that I may not so much seek to be consoled as to console; To be understood, as to understand; To be loved, as to love; For it is in giving that we receive, It is in pardoning that we are pardoned, And it is in dying that we are born to eternal life.

And so, Dear Readers, may this new year bring with it good health, peace and joy to all of you.
-- LOVE, ABBY

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Updates regarding the Anesthesia Information and Anesthesia Warning Card information on our website.

We were happy to receive permission from the authors to include the anesthesia article (in this newsletter) on our Anesthesia Warning cards.

The “scan code” on our Anesthesia Warning card goes directly to our website. Thus, any articles your physician reads will be the updated version.

When we published the Encyclopedia of Polio and PPS, Richard L. Bruno, PhD updated both of his anesthesia articles.

[Preventing Complications in Polio Survivors undergoing Surgery \(or\) Receiving Anesthesia](#)
and

[Anesthesia: Preventing Complications in Polio Survivors Undergoing Dental Procedures](#)

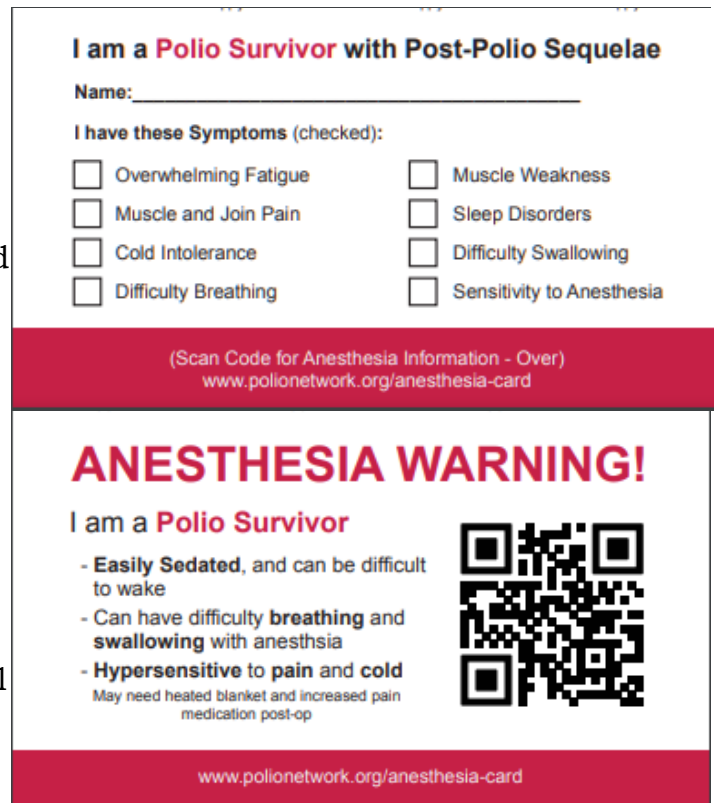
All of these updated articles are clearly visible and easily downloaded when the code is scanned. Without question, the ability to add and edit articles so that they are immediately available is a wonderful asset to this new card.

The greatest benefit to this new card is that you do NOT need new cards to get any updated articles.

“Scan Code” reader Apps are easily available for NO charge on smart phones and tablets. Do you have the App on your phone? Scan the code here in the article and see how it works. You can copy this card (or) download from our website.

polionetwork.org/anesthesia-card

THANK you [William M. DeMayo MD](#), for encouraging us through the process of publishing this easily updated and well received card.



The image shows a two-page document. The top page is a form titled "I am a Polio Survivor with Post-Polio Sequelae". It includes a name field, a section for symptoms (checked), and a QR code. The bottom page is a warning card titled "ANESTHESIA WARNING!" with the same text and QR code as the top page.

I am a Polio Survivor with Post-Polio Sequelae
Name: _____
I have these Symptoms (checked):
 Overwhelming Fatigue Muscle Weakness
 Muscle and Joint Pain Sleep Disorders
 Cold Intolerance Difficulty Swallowing
 Difficulty Breathing Sensitivity to Anesthesia

(Scan Code for Anesthesia Information - Over)
www.polionetwork.org/anesthesia-card

ANESTHESIA WARNING!

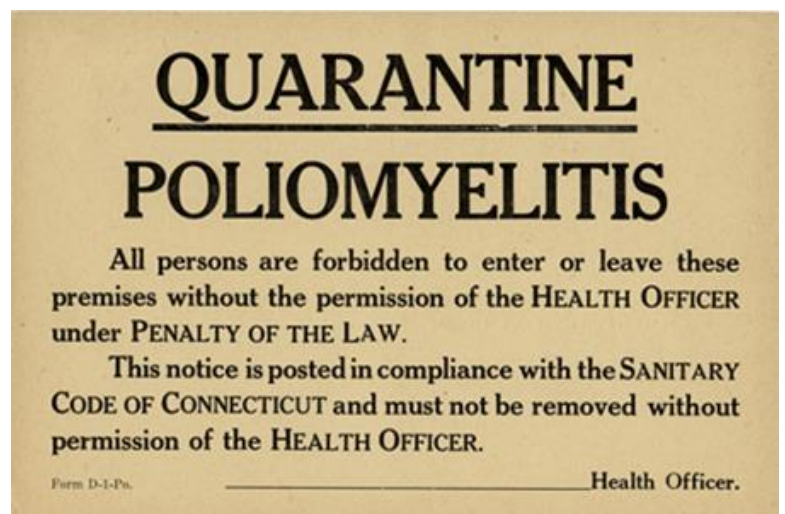
I am a Polio Survivor

- Easily Sedated, and can be difficult to wake
- Can have difficulty breathing and swallowing with anesthesia
- Hypersensitive to pain and cold
May need heated blanket and increased pain medication post-op

www.polionetwork.org/anesthesia-card



“Click” on this image for this and other outstanding historical videos.



This image is from the National Museum of American History. “Click” on this image for more Polio & Polio Vaccine history.

Mutts / Patrick McDonnell

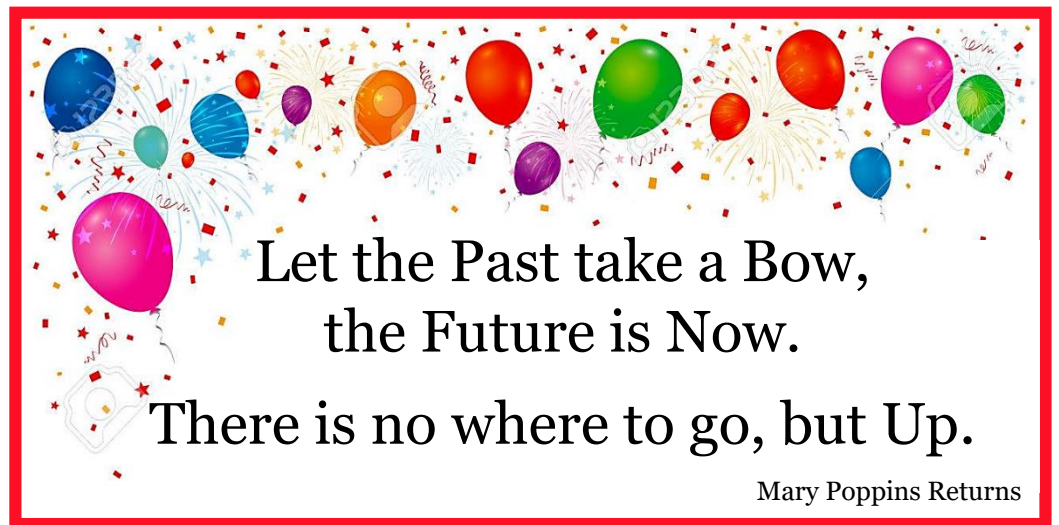


*And now we welcome the new year,
full of things that have never been.*

~ Rainer Maria Rilke

Thank
You!

**We are truly grateful for your kind words of support.
Your generous donations are the key
to helping our work continue.**



Let the Past take a Bow,
the Future is Now.

There is no where to go, but Up.

Mary Poppins Returns

Do you have a topic you would like us to cover? Please let us know.

Always feel free to contact us.

[The Polio Network Team](#)

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