

# Update and Review of Post-Polio Syndrome (PPS)

For Southern Nevada Association of Polio Survivors

February 21, 2015

## Polio

- Poliovirus affects the nervous system
- Currently there is no cure for Polio but it can be prevented through vaccination

## Post-Polio Syndrome

- This syndrome only occurs in Polio survivors, at any age, and is not contagious or life threatening
- Symptoms of Post-Polio Syndrome
  - Muscle weakness, muscle atrophy, generalized fatigue, joint degradations, cramps, cold intolerance, and pain
- Severe symptoms can include decreased function in respiratory muscles and the muscles used to swallow.
- Possible complications
  - Malnutrition, dehydration, or aspiration pneumonia due to swallowing issues
  - Osteoporosis due to inactivity
  - Loss of balance can lead to falls and potentially broken bones

## Theory of Why People get Post-Polio Syndrome

During the Polio infection nerves are damaged. Some people recuperate from this by sprouting new nerve fibers. This allows for a period of time after the polio infection where the person may function normally. The new nerves do not have the lifespan of the original nerves and degenerate more quickly later in life.

## Epidemiology

- About 60% of Poliovirus survivors from the 1940's and 1950's have developed PPS
- The oral polio vaccine can induce Polio in 1 person out of every 2.4 million people vaccine
- Of 1 million polio survivors in the United States 443,000 people developed paralytic polio

## Transmission

- Fecal-oral transmission through contaminated food and water
- Person is infectious as long as the polio virus is present in feces or throat
  - Present in throat 1 week after onset of illness
  - Present in feces approximately 3 to 6 weeks

## Risk Factors for the Development of PPS

- People who had severe Polio symptoms have a higher chance of developing PPS
- Older age at the time of the original attack

## Treatment

- Currently there are no medications proven to work for PPS
- Pain management
  - Overuse pain
    - No drugs to treat, simply cut back on exercise regimen
  - Biochemical pain
    - Non-steroidal anti-inflammatory drugs

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## Pain Management

- Bone pain
  - Acetaminophen
- “True” PPS pain
  - Muscle relaxers
  - Serotonin-stimulating agents
  - Nerve stabilizers
  - Opioids
- Marijuana use
  - Not approved for PPS
  - Involves legal issues at state and federal level

## Non-Pharmacological Treatments

- Physical Therapy and Exercise
  - Exercise is beneficial in improving quality of life and patients who engage in regular physical activity tend to have fewer symptoms and higher levels of functioning
  - Avoid over exerting yourself
  - Exercise regimens should be low to moderate intensity with slow progression
  - Seeing a physical therapist for at least a few months is recommended
- Occupational and Speech Therapy
- Static Magnetic Fields
  - There is little evidence to prove this practice’s efficacy, however there are no side effects
- Assistive devices
  - BiPAP or ventilator
  - Braces or crutches
  - Wheelchairs or scooters

## Future of Polio and PPS

- No cure for Polio
- Can be prevented through vaccination against Polio

Oral	Injectable
<ul style="list-style-type: none"><li>▶ Live</li><li>▶ Low cost</li><li>▶ Easy administration</li><li>▶ Can cause polio<ul style="list-style-type: none"><li>○ Rare, 1 case per 2.4 million vaccinated</li></ul></li><li>▶ WHO still recommends as vaccine of choice</li></ul>	<ul style="list-style-type: none"><li>▶ Inactive</li><li>▶ Only used in countries that are at low risk of exposure and have high vaccination coverage</li><li>▶ Used in the United States</li><li>▶ Four dose regimen given to children at ages 2, 4, and 6 months and 4 years</li></ul>

## Presentation By

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