

Response to Medications; why special attention is needed

Polio Survivors and particularly those showing post polio Sequelae, possibly diagnosed with post polio syndrome (PPS) may be more susceptible to adverse drug reactions. As polio survivors are often operating at or near their maximum level of function when performing even the simplest of daily routines, certain medications can seriously impair their functioning. Common medications may have this effect.

Emergency/Surgery medications which should be used with greater caution are:

- **analgesics (narcotics):** depress an already weakened cough reflex; increase muscle weakness & decrease ability to breathe, cough, perform basic activities (walking, eating, sitting, toileting).
- **analgesics (non-narcotic):** can cause dizziness; allow over strain of unstable joints.
- **muscle relaxants:** may further impair voluntary breathing, coughing, ADL's.
- **sedatives, hypnotics:** decrease respiratory drive.

Medications administered in the emergency setting to be taken for long term use should be only given to the patient in partial allotment. The patient should be advised to consult their family physician (?Neurologist) to determine if that medication will pose any potential risk, considering their polio history. Lower than usual

Important questions to ask of patients in the Emergency Care setting

Have you ever had poliomyelitis?
(especially if over 40 years of age)

IF a polio survivor:

- Are you currently on any medication(s)?
- Are you adversely affected by any medications, e.g. analgesics, sleep drugs?
- Do you experience unusual fatigue (excessive after activity)? Do you have to intersperse periods of activity with periods of rest?
- Were your breathing or swallowing muscles affected? Do you now have any breathing or swallowing difficulties?
- Do you have problems sleeping? Do you wake up frequently during the night?
- Do you experience chronic pain? Is it related to increased activity, exercise?
- Are you frequently cold?

Polio survivors may carry an Injury Control Checklist which provides a list of contacts for additional information in the case of an emergency.

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Polio Survivors as Patients

Guide for Emergency Care & Surgical Health Workers

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Concerns of Polio Survivors that may require attention

As a result of the polio epidemics in the 1940's to 1961, affected individuals underwent a variable period of rehabilitation and got on with their lives to the best of their abilities. While some exhibited obvious weakness as a result of the damage and loss of anterior horn cells, possibly wearing braces, or using ambulatory aids, many appeared to have made a full recovery. The latter, however, was deceptive. Individuals with Grade 5 muscle strength (normal) may only have 60% of the normal complement of anterior horn cells. These individuals have been functioning for several decades at almost 100% of capacity; many are now wearing out and showing new health problems related to their prior poliomyelitis infection.



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Late effects of poliomyelitis may include:

- **extreme fatigue**
- **new muscle weakness** which may involve muscle groups thought to be originally unaffected
- **muscle and joint pain:** due to overuse and possibly abnormal biomechanics, limb alignment
- **cold intolerance**
- **respiratory difficulties**
- **coughing and swallowing problems**
- **decreased balance.**

Special Considerations for the patient who is a Polio Survivor and especially those with PPS

Pulmonary function:

- Pulmonary function may be challenged due to respiratory muscle paresis.
- sleep apnoea may be experienced.
- may require ventilatory support.
- breathing and coughing exercises may cause fatigue and aggravate breathing problems.

Use of anaesthetic should be carefully monitored because its effects are heightened & prolonged in the patient with PPS or respiratory paresis.

Swallowing & coughing difficulties:

Pharyngeal & laryngeal muscle weakness (patient may not be aware of) may cause a decreased cough reflex and increased risk of aspiration.

When intubating these patients, take the diminished cough reflex into consideration.

Weakness & fatigue:

- often associated with stress
- may be due to chronic strain & overuse
- may be accompanied by decreased arousal, attention and memory.

If casting is required, patients will benefit from the use of fibreglass casts.

A wheelchair or other ambulatory aids may be needed

The patient who just managed to be independent may not be able to be so with a cast.

Patient may require an extended stay.

Cold Intolerance:

- limbs with paresis or paralysis have poor circulation, be normally cool or cold.
- greater heat loss is experienced with decreased dexterity & strength; heightens fatigue
- Use of vasodilators increases the risk of postural hypotension and further heat loss.

Extra blankets may be required to ensure adequate insulation.

Pain:

- may result from muscle weakness, degenerative joint changes or nerve compression
- analgesics may enhance weakness greater than pain relief benefit.

Interaction between pain relief and person's fatigue levels and muscle weakness must be considered.

Energy conservation is important.

May need to use wheelchair rather than walk, sit not stand, lie down not sit; need regular rest periods & not be woken during a rest period.

For further information contact the

Lincolnshire Post-Polio Network

Visit the *Lincolnshire Post-Polio Library*

<http://www.lincolnshirepostpolio.org.uk>

Other medical articles:

"What you should know about your medications"

A guide for Polio Survivors.

(UK version) Joan M. Walker PhD, PT

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A F Forde MRPharm. B.Sc.Hons

"You are going to have surgery"

A Guide for Polio Survivors

Joan M Walker PhD, PT

"Preventing complications in polio survivors undergoing surgery."

Richard L Bruno PhD.

"Be true to your PPS and your teeth won't be false to you": Preventing complications in Polio Survivors undergoing Dental Procedures. Richard L Bruno PhD