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IMMUNISATION

There were previously two types of vaccine available in Australia, inactivated polio vaccine (IPV) and oral polio vaccine (OPV). Since 1 November 2005, OPV has been replaced by IPV in the free list of vaccines¹³. Three doses are needed to provide good protection in childhood with a booster at four years of age.

Vaccine efficacy of OPV and IPV after a primary course is 95% and thought to be life long. Both vaccines give protection against all three types of poliovirus¹⁴.

After infection from both clinically recognisable and inapparent infections, type specific lifelong immunity occurs. Reinfection is rare but can occur if infected with poliovirus of a different type¹⁴. Therefore, vaccination is still beneficial for those who have previously had polio.

For more information contact:

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Polio



easy to catch . . . hard to live with

The Late Effects of
Poliomyelitis

**Information for
Health Professionals**

ROLE OF THE HEALTH PROFESSIONAL

The purpose of this pamphlet is to introduce the issues faced by patients who survived the acute phase of polio. It is important that health professionals be aware of the late effects of polio and have an understanding of the underlying aetiology and pathophysiology of the symptoms.

As acute wild virus poliomyelitis has not been seen in Australia for decades¹, many doctors and health professionals have never seen a case. However, there are a growing number of younger immigrants who had polio in their home countries, despite the efforts of the World Health Organisation to eradicate this disease.

Poliomyelitis is an acute illness following gastrointestinal infection by one of the three types of poliovirus known as Types 1, 2 and 3². Initial symptoms are fever, headache, vomiting, neck stiffness, pain and asymmetric weakness. 1 in 200 infections leads to irreversible flaccid paralysis consequent to motor nerve damage³. Sensation is not affected. Anecdotal evidence indicates that some people who were not obviously paralysed at the onset may still demonstrate weakness later in life⁴.

Polio was considered to be a chronic, yet stable condition once the acute phase was over and rehabilitation had restored a greater or lesser degree of function. Medical textbooks have until recently described polio as having three distinct stages: acute illness, period of recovery and stable disability. However, it is now known that many polio survivors develop new symptoms after decades of functional stability⁵.

POST-POLIO SYNDROME OR THE LATE EFFECTS OF POLIO

It is not known how many people who survived polio will develop late effects. Estimates range between 28.5-64%⁶. It is essential that PPS/LEP is recognised as a diagnosis of exclusion. All other possible medical/neurological/physical conditions MUST be investigated and ruled out. Your patient may present with some or all of the following symptoms⁵.

1. Unusual and incapacitating fatigue
2. 'New' muscle weakness
3. Joint and/or muscle pain
4. Muscle atrophy
5. Increase in trips and falls
6. Intolerance of cold or heat
7. Dysphagia
8. Breathing/speech problems
9. Sleep disturbance
10. Muscle twitching (fasciculation) / restless legs
11. Anxiety and depression due to increased stress as the patient tries to cope with increased impairment

Some patients may describe these symptoms and actually 'forget' to tell you they had polio.

It is important to note that there are consequences to having had polio that may not fit all the criteria. Polio survivors may be reporting a variety of neurologic, orthopaedic, medical, musculoskeletal, and emotional complaints, all of which need to be methodically addressed and not dismissed simply as signs of ageing⁷.

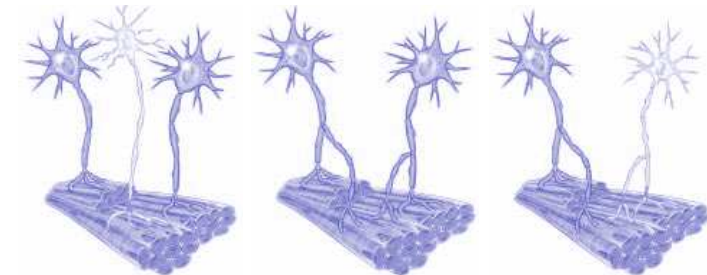
CRITERIA FOR SUSPECTING PPS/LEP⁵

1. A prior episode of polio confirmed by medical history or obvious polio paralysis
2. Residual motor neuron loss
3. Years of functional stability post the acute illness
4. Gradual or abrupt onset of new weakness
5. Generalised fatigue leading to exhaustion, which may also temporarily affect mental

Acute polio: some neurons die, while others survive

Stable post-polio period: the surviving neurons cover more territory than they did before the polio by sprouting collateral fibers

Post-polio syndrome: more neurons are lost by normal attrition, leading to muscle weakness



Diagram⁸

MANAGEMENT

Polio Survivors often require:

- Less *general*, but more *local* anaesthetic and more pain relief than average⁵
- Care when prescribing muscle relaxants, analgesics, sedatives and anti cholesterol drugs which can increase muscle weakness and impair respiration⁹
- Briefer, gentler, individualised physiotherapy and exercise programs to avoid further damage¹⁰
- Regular monitoring of gait and posture to identify and manage any functional decline
- Assistance with mobility, transfers, body care and positioning

ASSISTANCE FOR THE PATIENT

Polio survivors have strived hard to become productive and independent members of the community. In fact, many can be said to be over achievers through their efforts to overcome early disability¹¹.

Therefore, patients will need to learn how to conserve their energy by 'pacing' themselves. To date, appropriate rest and pacing activities are the most efficacious treatments for fatigue¹².

Aids such as orthoses, wheelchairs, and scooters can be used to assist those with mobility difficulties. For patients with breathing difficulties, non-invasive ventilation may be required.

- Specialist multidisciplinary assessment and care planning is provided by Polio Services Victoria
Contact – Ph: (03) 9288 3900 / 1800 030 324 / Email: psv@svhm.org.au
- PolioNetwork Victoria has a state-wide network of 20 support groups providing local information and help
Contact – Ph: (03) 9418 0411 / 1800 805 384 / Email: polio@paraquad.asn.au
- Council Community Services and local Community Health Centres provide in-home help
Contact – www.dhs.vic.gov.au/health/communityhealth/service_provider/community_health_directory.htm
- Other useful information and links are provided on PolioNetwork Victoria's website
Contact – www.polionetworkvic.asn.au

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