

Polio's permanent reminders

The late effects of a disease that ravaged Australia are still felt, but little understood, write Dr Nigel Quadros and Michael Jackson.



School-aged boys await their Salk polio vaccinations

Polio is no longer a challenge in Australia, yet its ageing survivors have a different perception of the disease than do others untouched by the disease. Polio survivors report a range of symptoms that are related to late effects of polio (LEoP) in addition to secondary, age-related, health comorbidities.

The significant health barriers faced by ageing Australian polio survivors are the result of LEoP symptoms and those of its subset post-polio syndrome (PPS) – and, most importantly, a health care system in which health professionals do not recognise the conditions and their needs.

LEoP manifests decades after an initial polio virus infection, in some who developed acute and residual paralysis, as well as in some who had the non-paralytic form of poliomyelitis (1).

The most common symptoms, variable both within and between individuals, include (2):

- new and worsening weakness
- central and peripheral fatigue
- myalgia
- sleep difficulty
- cold intolerance.

Australia was declared polio free by the World Health Organization in 2000; hence, many younger health professionals have little or no experience in management of acute poliomyelitis and its long-term effects. This creates an education void between the ageing polio survivors who are well educated on their condition, and the health professionals with little or no experience in managing their impairments.

Yet many Australian medical professionals, whether aware of it or not, have likely treated a local polio survivor. The community antipathy experienced by polio survivors during childhood is not forgotten and has consequences: some are reluctant to share their history of polio, others deny that their childhood condition is returning to challenge their function again, and others do not realise they had polio at all.

The barriers faced by polio survivors when interacting with the medical profession include their doctors' lack of experience of their condition, the attribution of their symptoms to other causes, or in some cases, a denial of the existence of LEoP.

In early 2020, Polio Australia conducted a nationwide survey of polio survivors. Of the 734 respondents, 133 were South Australian. Among the SA cohort:

- 69% of those who experienced LEoP had problems when discussing health care needs with their doctors
- 81% respondents were aged 70-89 years
- 52% were male
- 67% live in a metropolitan area
- 68% report one or no other chronic health condition
- 32% would like to join a support group.

Three in five respondents felt their general practitioner (GP) had sufficient knowledge of LEoP, while only one in four felt that the GP was willing to learn about it. Almost 50% of those surveyed expressed low confidence in the ability of new GPs, new specialists including anaesthetists, and new allied health professionals to manage LEoP.

Polio Australia has provided free professional education workshops to more than 1,300 health professionals across Australia to reduce these education barriers.

GP'S MANAGEMENT OF SURVIVORS

Elderly polio survivors present with a constellation of symptoms due to impairment caused by LEoP as well as secondary health conditions; the delineation between the two is difficult.

Addressing major symptoms of LEoP

The most common symptoms of LEoP are fatigue, increased or new muscle weakness, muscle and joint pain, and new difficulties in activity of daily living (3).

Fatigue has multiple aetiologies and prior to being attributed mainly to LEoP,

other medical conditions necessary to exclude include hypothyroidism, anaemia, cardiac disease, diabetes mellitus, chronic infections, renal and liver disease, sleep apnoea, depression, anxiety and stress (4).

Weakness in LEoP is mainly attributed to motor neuron dysfunction, but other causes of new weakness must be excluded: inflammatory demyelinating disease, multiple sclerosis, Parkinson's disease, cerebrovascular disease, myasthenia gravis, amyotrophic lateral sclerosis etc. Muscle weakness is assymetrical in pattern, and involves polio affected and unaffected muscles. Clinical signs include fasciculations, muscle cramps, and atrophy. Biochemically elevated serum creatinine kinase may be noted (5).

Pain manifests as muscle pain – described as deep and aching or superficial and burning – and overuse pain caused by improper body biomechanics leading to soft tissue, muscle, tendon, ligaments and bursa injuries. Assessment involves other conditions that could be producing pain such as degenerative disc and joint disease, radiculopathies, spondylolisthesis, scoliosis, spinal canal stenosis, fibromyalgia etc. (6).

GP knowledge and understanding

Exercise - general recommendations are low resistance, high repetitions and frequent rest periods of sufficient duration to allow recovery from muscle fatigue (7).

Falls - ageing polio survivors are at an increased risk of falls compared to the general population due to problems maintaining balance, weakness in knee extension and a fear of falling (8). Osteopenia and osteoporosis are common in affected limbs, thereby increasing the risk of fragility fractures (9).

Medications - commonly prescribed medications such as statins, beta blockers, CNS depressants,

benzodiazepines, local anaesthetics and muscle relaxants may worsen fatigue and weakness; their usage requires careful evaluation of risk versus benefits. In some instances, dose reduction is necessary (10).

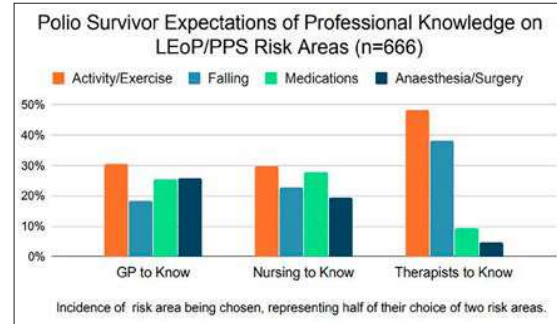
Anaesthesia and surgery - special anesthetic considerations are needed when treating patients with history of poliomyelitis due to increased likelihood of altered respiratory function, chronic pain syndromes, cold intolerance, aspiration, and altered sensitivity to anesthetic agents (induction agents, inhaled anesthetics, neuromuscular agents, opioids and regional and general anaesthesia medications). A discussion with the anesthesiologist is advisable to provide safe care (11).

In 2020 the RACGP endorsed a LEOp information brochure, and more information is available at www.poliohealth.org.au. A GP education module on LEOp is in development, and a LEOp pathway has been requested of HealthPathways South Australia.

Establishing a GP management plan

Key components of a plan for GP care would include:

- Discussing with the patient -
 - healthy lifestyle with exercise, weight loss and stress management
 - fatigue and activity activity strategies
 - effective pain management
 - lower falls risk
 - treatment options for secondary medical/surgical conditions including anaesthetic use
 - Referring to skilled allied health professionals, rehabilitation medicine physicians, neurologists, respiratory physicians as individual patients need
 - Directing to PolioSA (www.poliosa.org.au) for local support, and to Polio Australia (www.polioaustralia.org.au) for polio resources.
- A thorough understanding of LEOp is necessary to treat ageing polio survivors. The GP plays a pivotal role in managing these patients and can promote their health and wellbeing by being aware of the condition and seeking advice from


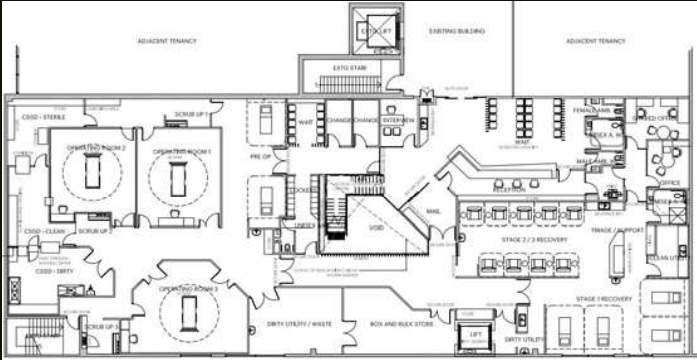


LEoP knowledge that polio survivors expect of several health professions (2020 Polio Australia Survey)

skilled health professionals with a special interest in this condition.

The reference list is available at: <https://www.poliohealth.org.au/ama-sarefs/>

Dr Nigel Quadros is Senior Consultant Rehabilitation Medicine at the Queen Elizabeth Hospital and Hampstead Rehabilitation Centre, Michael Jackson is Clinical Health Educator for Polio Australia. Co-author Brett Howard (now deceased) was President of PolioSA and Vice-President of Polio Australia.

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