

## Pathophysiology

Long after the initial bout of poliomyelitis, people can suffer from further symptoms including new weakness, joint and muscle pain and fatigue. These symptoms are known as the 'late effects of polio' or 'post-polio syndrome' (PPS). Not everyone who has had polio will develop post-polio syndrome but individuals that were more severely paralysed by polio are more commonly affected (approximately 20 to 40 per cent of people who had paralysis developing late effects).

Nerve cells that control our muscle movements are damaged by the initial polio infection. Some of the nerve cells recover, while others establish new nerve fibres that work hard to take over the work of nerves that died. After many years of increased workload, the new nerve fibres start to degenerate. As a result, new muscle weakness is experienced and appears as a condition relapse. Pain and muscle weakness are major symptom of PPS. Research has shown high, incidence of pain in PPS, with a relatively high visual analogue scale.

Late effects of polio can develop years or decades after the initial bout of infection. The most common symptoms include:

- Progressive muscle or joint weakness and pain
- Fatigue
- Muscle wasting (atrophy)
- Breathing or swallowing problems
- Sleep-related breathing disorders, such as sleep apnea
- Decreased tolerance of cold temperatures

Diagnosis is based on the presence of a lower motor neuron disorder that is supported by neurophysiological findings, with exclusion of other disorders as causes of the new symptoms.

## BENEFITS OF EXERCISE

There are currently no effective pharmaceutical treatments that can stop deterioration or reverse the deficits caused by the syndrome itself. However, a number of controlled studies have demonstrated that non-fatiguing exercises improve muscle strength and reduce fatigue

### Treatment goals

- Pain reduction
- Fatigue reduction
- Improved endurance for ADL's and leisure time activities
- Improved gait
- Minimise rate of strength loss and improved ability to use existing strength
- Quality of life improvement
- Reduction in comorbidity risk

### References

Oncu, J., Durmaz, B. and Karapolat, H. (2009). Short-term effects of aerobic exercise on functional capacity, fatigue, and quality of life in patients with post-polio syndrome. Clinical Rehabilitation, 23(2), pp.155-163.



## GOT A QUESTION?

[myhealth@pacehm.com.au](mailto:myhealth@pacehm.com.au)

24 Yuille Street, **Frankston South** 3199 ..... 9770 6770  
Rear 103 Main Street, **Mornington** 3931 ..... 5973 6109  
Suite 5/34-38 Lochiel Ave, **Mt Martha** 3934 ..... 5974 3147

2/18 Station Street, **Sandringham** 3191 ..... 9598 3169  
73-75 Station Street, **Malvern** 3144 ..... 9576 3216



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