



## Physical fitness training: Following a stroke

### Intervention

Physical fitness training describes a systematic, progressive increase in the intensity or resistance, frequency, or duration of the physical activity throughout a scheduled program.

Training may involve cardiorespiratory or resistance training or a mixture of cardiorespiratory and resistance training. There is little evidence to support resistance training on its own.

### Indication

Physical fitness is often reduced in patients following a stroke and may limit their ability to perform everyday activities and also worsen any stroke-related disability.

People who are ambulatory following a stroke with the aim of reducing the risk of disability via improved mobility and balance.

Most stroke survivors are able to participate in a variety of short-term fitness training regimens, either during usual stroke care or after hospital discharge. Benefits have been shown with training commencing more than seven years after stroke.

Physical fitness training can also help manage stroke comorbid conditions and risk factors (eg blood pressure, diabetes, obesity, depression).

### Precautions

Risks of physical fitness training for patients following a stroke include soft tissue injuries and falls.

### Adverse effects

Participation in fitness training programs appears to be safe and does not result in serious adverse events.

### Availability

Several of the studies in the review featured supervised walking. Many organisations such as Stroke Foundation, Heart Foundation, gyms and community centres have local walking groups (or links to walking groups). See Consumer resources.



## Description

### Cardiorespiratory training

Types of training include walking (most commonly evaluated), ergometry (eg cycle ergometer, which is a stationary exercise bike with an ergometer that measures the exercise effort; treadmill walking; an arm ergometer), circuit training and aquatic exercise. Patients train 2–6 days per week, with each session lasting at least 20 minutes. Evaluated programs vary in duration from 2 to 24 weeks.

### Mixed training (cardiorespiratory and resistance training)

Exercises include circuit training or various combinations of walking, treadmill training and resistance training. In evaluated interventions, patients trained 2–7 days per week, with each session lasting 30–120 minutes, for up to about 12 weeks.

## Tips and challenges

Physical fitness training may reduce post-stroke fatigue. However, this fatigue can act as an initial barrier to starting exercise.

## Grading

NHMRC Level I evidence.

## References

Saunders DH, Sanderson M, Hayes S, et al. [Physical fitness training for stroke patients](#). Cochrane Database Syst Rev 2016;3:CD003316. doi: 10.1002/14651858.CD003316.pub6.

## Consumer resources

[Stroke Foundation's Help after stroke](#) provides a range of resources including [enableme](#) (self-directed rehabilitation), links to local exercise/walking groups and a dedicated telephone line ([StrokeLine](#) 1800 787 653).

The Heart Foundation operates Australia's largest free, community-based walking network, [Heart Foundation Walking](#), and also [Heartmoves](#), a low- to moderate-intensity exercise program.

Although not specific to stroke survivors, [Community Health Education Groups](#) (CHEGs) offers a variety of exercise classes across NSW.