Health information

Stroke Rehabilitation and Exercise

A stroke occurs when the blood supply to brain tissue is reduced or interrupted, causing potentially life changing symptoms. Common symptoms after a stroke are weakness, spasticity (stiff or tight muscles), difficulties with balance and coordination, contracture (joints becoming fixed in one position), changes in sensation and vision, communication difficulties, altered mood, fatigue, and pain. All of these symptoms can contribute to a reduced quality of life.

How exercise can help

Post stroke, individuals will experience different symptoms and therefore benefits from exercise may vary. Some notable benefits are as follows:

- Increased participation in activities of daily living
- Reduced risk of falls
- Increased muscular strength and improved coordination
- Reduced general fatigue
- Decreased risk of secondary strokes and cardiovascular events
- Improved motor function
- Reduced pain
- Improved psychological wellbeing
- Improved quality of life

What exercise is best post-stroke?

It is vital that an exercise program be specifically tailored to an individual to elicit the greatest benefits, meet their needs and goals, and ensure a safe and effective approach. An Exercise Physiologist can assist with all of these factors. Initially, individuals may benefit from intermittent training sessions during the initial stages of rehabilitation; until functional tolerance and fitness increases, repetition of exercise and movement is also important during this stage. The below table outlines the current general exercise guidelines for post stroke rehabilitation:

Mode of exercise	Intensity	Duration	Frequency
Aerobic training (walking, cycling, arm ergo)	RPE 11-14 (on a 6-20 scale)	20- 60 min sessions (or multiple 10-minute bouts)	3-7 days per week
Resistance/Strength training	RPE 11-14 (on a 6-20 scale)	1-3 sets, 8-15 reps per exercise, 8-10 exercises involving major muscle groups	2-3 days per week
Flexibility	Stretch to the point of tightness not pain	10-30 sec hold, 2-4 reps	2-3 days per week
Neuromuscular (balance and coordination training)	N/A	Can perform on same days as strength training	2-3 days/ week

References:

Gordon, et al. (2004). Physical Activity and Exercise Recommendations for Stroke Survivors. *Stroke.*

Herbert et al. (2015). Canadian stroke best practice recommendations: Stroke rehabilitation practice guidelines, update 2015. *International Journal of Stroke.*