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Dear Sir/Madam

Stroke Foundation's response to the NDIS Evidence Advisory Committee consultation February 2026

Stroke Foundation is a national charity that partners with the community to prevent stroke, save lives and enhance recovery. We do this through raising awareness, empowering health professionals to deliver high quality, best-practice care to stroke patients, facilitating research, and supporting survivors of stroke. We advocate for better systems, processes and resources to help health professionals deliver world class stroke care.

In 2023, an estimated 45,785 strokes occurred around Australia,¹ and there were more than 440,000 survivors of stroke living in our community.¹ Unless action is taken, it is estimated by 2050, Australians will experience almost 72,000 strokes annually.¹

For many survivors of stroke, the physical, emotional and psychosocial impacts of stroke persist well beyond their discharge from hospital. Importantly, recovery after stroke can occur over several months, and even years, with many survivors reporting that adjusting to the impacts of stroke is a life-long journey. Issues with strength, sensation, range of movement and coordination are common after stroke, and may result in loss of bodily control and/or movement dexterity, impacting an individual's ability to walk, use their hands and arms in daily tasks such as showering or personal grooming, as well as their speech or swallowing. Changes in communication are also common after stroke, with many survivors struggling to express themselves or to understand others (aphasia). Other common post-stroke disabilities include 'hidden' impairments, such as mood disorders, fatigue, and changes in cognition. Some survivors have difficulties with memory, learning, or focusing on, planning or sequencing tasks, which can impact their ability to complete daily tasks such as getting dressed, or more complex activities such as driving.

The National Disability Insurance Scheme (NDIS) is one of the most significant social policy reforms in Australian history and is supporting hundreds of thousands of Australians with disabilities, their families, and carers to participate more fully in society and the economy. This includes thousands of Australian survivors of stroke. As of September 2025, there were 10,640 survivors of stroke receiving support through the NDIS.²

Therefore, as the voice of stroke in Australia, Stroke Foundation strongly supports the Australian Government's commitment to ensuring the NDIS provides safe, effective and high quality supports that maximise the benefits for people with disability, through the work of the NDIS Evidence Advisory Committee (EAC).

Stroke Foundation's world-leading *Living Guidelines for Stroke Management* (the Guidelines) are critical to ensuring Australians receive the best and most up-to-date stroke treatment and care. The Guidelines provide a series of best-practice recommendations to assist decision-making in the management of stroke and transient ischaemic attack (TIA) in adults, using the best available evidence. The Guidelines use the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) process³ to develop recommendations for specific interventions. This process uses two categories for the strength of

recommendations, based on how confident the guideline panel is that the desirable effects of an intervention outweigh undesirable effects across the range of patients for whom the recommendation is intended:

- **Strong recommendations:** where guideline authors are certain that the evidence supports a clear balance towards either desirable or undesirable effects.
- **Weak (or conditional) recommendations:** where the guideline panel is less certain about the balance between desirable and undesirable effects, but clear enough to make a recommendation.

These strong or weak recommendations can either be for or against an intervention.

Outlined below is a brief summary of the evidence and recommendations for those supports which will be considered by the EAC in this round of assessments, and which are currently captured in the Guidelines.

Robot-assisted gait training

Survivors of stroke have identified the achievement of safe, independent, effective, and efficient walking as critical enablers of future health and quality of life⁴; however, by three months post-stroke, approximately a quarter of survivors have not achieved independent walking.⁵ Even for those who achieve independent walking, issues such as reduced gait speed and endurance can result in survivors not being able to walk independently and safely in diverse, real-world environments beyond their home, such as shops, parks, and public transport, or integrate walking with complex tasks.^{6, 7}

The impact of robotic-assisted gait training on walking post-stroke has been evaluated. The recommendation in the Guidelines is based on a Cochrane review,⁸ which grouped robotic-assisted and electromechanical-assisted gait training devices together under the broad heading of electromechanical-assisted gait training.

Weak recommendation

For survivors of stroke, electromechanically-assisted gait training, when used in combination with usual physiotherapy, improves walking.⁸

Summary of evidence

One systematic review has examined the effect of robotic-assisted and electrically operated mechanical (electromechanical) assisted gait training, in combination with physiotherapy, for improving walking after stroke, compared to physiotherapy alone or usual care.⁸ Robotic-assisted and electromechanical-assisted gait training devices were grouped together under the broad heading of electromechanical-assisted gait training. A total of 62 trials in 2,440 adults, were included in the review. Electromechanical-assisted gait training in combination with physiotherapy increased the odds of participants walking independently and increased mean walking speed, but did not improve mean walking capacity (how far people could walk in six minutes). The authors advised caution when interpreting these results, as some of the trials included people who were able to walk independently at the start of the study, and there was variation between trials with regard to the devices used and duration and frequency of treatment. Post hoc analysis showed that the people most likely to benefit from electromechanical-assisted gait training are those who are in the first three months post-stroke and who are not able to walk. The authors recommended further research to determine the most effective frequency and duration of electromechanical-assisted gait training, as well as how long any benefit may last.

A 2025 update of this review,⁹ which included 39 new trials, and the results of which have not yet been incorporated into the Guidelines, showed that electromechanical-assisted gait training in combination with physiotherapy probably increases the odds of participants walking independently, but does not improve mean walking speed or mean walking capacity.

A further five, smaller systematic reviews have also evaluated the impact of robotic-assisted gait training on walking post-stroke.¹⁰⁻¹⁴

Hsu et al (2023) reviewed 13 trials, in 492 participants, that compared the effect of exoskeleton-assisted training with conventional gait training post-stroke.¹⁰ At the end of the intervention, greater improvements in walking speed and balance were observed with exoskeleton-assisted training compared with conventional gait training. At the end of the follow-up period, exoskeleton-assisted training was superior to conventional gait training with regard to overall mobility and endurance.

A systematic review by Leow, Ng and Lau (2023) reviewed 20 trials, with a total of 758 participants, that compared overground robotic exoskeleton training with overground robotic exoskeleton training combined with conventional rehabilitation post-stroke.¹¹ At the end of the intervention, greater improvements in walking ability and speed were observed with robotic exoskeleton training compared with conventional rehabilitation. At the end of the follow-up period, a greater improvement in walking ability was observed with robotic exoskeleton training compared with conventional rehabilitation.

Calafiore et al (2022) reviewed 14 trials, in 576 participants, that compared the effect of robotic exoskeleton training with conventional rehabilitation in survivors of stroke in the subacute phase (within six months).¹² A variety of robotic exoskeleton training systems were included; however, the Lokomat robotic system was the most investigated. A meta-analysis demonstrated a non-significant difference in walking ability between the Lokomat robotic system and conventional rehabilitation therapy.

A systematic review and meta-analysis by Bruni et al (2018) reviewed 13 trials, with a total of 676 participants, that compared robotic-assisted gait training (end-effector and exoskeleton devices) with conventional rehabilitation post-stroke.¹³ A greater improvement in walking speed was observed with robotic end-effector training compared with conventional rehabilitation; however, there was no evidence that robotic exoskeleton training was more effective than conventional therapy. For stroke patients in the subacute phase (within six months), a greater improvement in walking speed was observed with robotic end-effector training compared with conventional rehabilitation; however, for patients in the chronic phase (more than six months), no significant difference was observed between the impact of robotic-assisted gait training versus conventional therapy on post-stroke gait impairment.

Lo, Stephenson and Lockwood (2017) reviewed 51 trials, in 1,798 participants, that compared the effect of robotic-assisted gait training with conventional training post-stroke; however, only 21 studies evaluated lower limb gait training.¹⁴ No significant difference was observed between robotic-assisted training and conventional training for lower limb walking mobility; however, for lower limb patients with severe impairment, robotic-assisted training demonstrated better outcomes than conventional training. When patients were followed-up three months or more post-intervention, no significant difference was observed between robotic-assisted training and conventional training.

Summary

Stroke Foundation strongly supports the objectives of the NDIS and believes that the scheme should empower survivors of stroke, through appropriate supports, to grow and thrive and maximise their life after stroke. The work of the NDIS EAC is critical to ensuring survivors of stroke have access to the safe, effective and high quality supports that they need to achieve their goals.

In our response to this consultation, we have provided information to inform the EAC's current round of assessments, drawing on the *Living Guidelines for Stroke Management*. Not all supports under consideration by the EAC in this round are currently captured in the Guidelines; however, there is evidence to suggest that robot-assisted gait training, when used in combination with usual physiotherapy, improves the ability of survivors of stroke to walk independently. Recovering the ability to walk independently enhances community participation, provides freedom from dependence, which brings considerable mental health benefits, helps survivors re-establish pre-stroke routines, and is a protective factor against sedentary behavior, which is a risk factor for further strokes. Therefore, the ability of survivors of stroke to access supports such as this through the NDIS is vital.

Thank you for the opportunity to provide feedback as part of this consultation.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M Stirling', written in a cursive style.

Melita Stirling
Head of Evidence, Quality and Research
Stroke Foundation

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