

Supplemental material

Table S1 Summary of clinical guidelines for stroke walking recovery

Strong recommendation <i>(Benefits outweigh harm for almost everyone. All or nearly all informed patients would likely want this option)</i>	Definition	Guideline origin AUS & NZ – Australia and New Zealand (47) UK – United Kingdom (49) US -United States of America (48) C – Canada (50)	Notes
<ul style="list-style-type: none"> Tailored repetitive practice of walking (or components of walking) 	Active motor sequence performed repetitively within a single training session with practice aimed towards a clear walking goal.	AUS & NZ, UK, C	
<ul style="list-style-type: none"> Moderate to high intensity walking training chronic stroke 	Exercise training of rhythmic locomotor activities performed at a moderate or high intensity on a treadmill or overground (e.g., 60%-80% of heart rate reserve or 70%-85% of heart rate maximum)	US	
<ul style="list-style-type: none"> <i>Delivery of walking</i> practice via treadmill training with or without body weight support as an adjunct to overground training or when overground training is not available or appropriate 	Walking on a treadmill with or without body weight support via a harness connected to an overhead support system	AUS & NZ, UK, US, C	US - <i>strongly</i> recommend clinicians should not perform BWS treadmill training for improving walking speed and distance >6 months post-stroke as compared with alternate interventions
<ul style="list-style-type: none"> <i>Delivery of walking</i> practice via circuit class 	Practice of functional activities in an intensive manner. Circuit class training is provided in groups (more than two participants per therapist) with a focus on repetitive task practice of functional tasks with exercises progressed as appropriate.	AUS & NZ, US	

<ul style="list-style-type: none"> • <i>Delivery of walking practice via cardiorespiratory fitness training</i> 	Training targeting 'endurance' e.g., the ability to perform physical activity for an extended period	AUS & NZ, UK, C	AUS & NZ and C - recommendation listed under cardiorespiratory fitness / aerobic training rather than walking
<p>Weak recommendation (<i>Benefits outweigh harms for majority but not for everyone. Majority of patients would likely want this option</i>)</p>	Definition	Guideline origin	Notes
<ul style="list-style-type: none"> • Virtual reality coupled with walking practice 	Technology with interactive simulation creating a near-reality environment for users	AUS & NZ, US, C	<p>US - <i>strongly</i> recommend walking training with augmented feedback / virtual reality individuals >6 months for walking speed and distance and weakly recommend static and dynamic (non-walking) balance training with augmented feedback / virtual reality</p> <p>C - considered as an adjunct to conventional gait training (level B)</p>
<ul style="list-style-type: none"> • Biofeedback 	Biofeedback takes intrinsic physiological signals and makes them extrinsic, giving the person immediate and accurate feedback about these body functions. Can be visual, auditory and or tactile providing information about the kinematics, kinetics and/or electromyography of activities	AUS & NZ, C, US	US strongly recommends balance training with virtual reality augmented visual feedback > 6 months post stroke for gait speed and distance
<ul style="list-style-type: none"> • Electromechanically assisted gait training for people <i>who cannot walk independently or would not otherwise practice walking</i> 	Electromechanical gait machines developed to reduce dependence on therapists required during treadmill training. They are either robot	AUS & NZ, UK, C, US	US- <i>strongly</i> recommend clinicians should not perform robotic-assisted walking for improving walking speed and

	driven exoskeleton orthoses or an electromechanical solution with two driven foot plates		distance >6 months post-stroke as compared with alternate interventions
<ul style="list-style-type: none"> Rhythmic auditory stimulation (RAS) - cueing of cadence 	Walking is synchronised to a rhythmical auditory cue delivered via a metronome or music	AUS & NZ, C	C - evidence level A
<ul style="list-style-type: none"> Functional Electrical Stimulation for lower limb 	Stimulates muscles to contract during the performance of walking with the goal of improving the performance of walking	AUS & NZ, UK, C	C - FES may be used to improve walking but effects may not be sustained (level A evidence Early and late) UK – recommend use <i>only</i> for reduced ankle dorsiflexion (foot drop)
<ul style="list-style-type: none"> Individually fitted lower limb orthoses on selected patients with foot drop with follow up to monitor effectiveness 	Splint to stabilize the foot and ankle while weightbearing and lift toes when stepping.	AUS & NZ, UK, C	C – early and late Level A evidence US separate guidelines
<ul style="list-style-type: none"> Strength training for individuals with mild to moderate impairment in lower limb extremity 	Training targeting the ability of a specific muscle or muscle group to exert force strength is associated with the ability to perform forceful movements such as pushing or pulling	AUS & NZ, UK, C, US	AUS & NZ - recommendation listed under weakness rather than walking
<ul style="list-style-type: none"> Cycling and recumbent stepping months post-stroke to improve walking speed and distance 	If walking is a concern seated cycling or recumbent stepping can be used	US	
<ul style="list-style-type: none"> Mixed (combined) training (cardiorespiratory / strength) 	Training providing balance, strength and aerobic exercises	US and UK	
Strongly not recommended <i>(A moderate to high level of certainty of moderate to substantial benefit, harm, or cost)</i>	Definition	Guideline origin	Notes
<ul style="list-style-type: none"> Balance training in sitting or standing directed towards improving postural stability and 		US	

weight bearing symmetry over 6 months post-stroke for walking speed and distance			
<ul style="list-style-type: none"> • Standing balance training with additional vibratory stimuli over 6 months post-stroke for walking speed and distance 		US	