

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
Bang & Shin, 2016 PEDro: 7/10 Country: Republic of Korea	18 patients with chronic stroke	<p><b>Lokomat Gait Training vs. Treadmill gait training</b></p> <p><b>Treatment details:</b> 60 minutes/session, 5 sessions/week for 4 weeks (total 20 sessions)</p> <p><b>Gait Training:</b> performed using the Lokomat device.</p> <p><b>Treadmill gait training:</b> not specified.</p>	<p><b>At post-treatment (4 weeks):</b></p> <p>(+) Berg Balance Scale</p> <p>(+) Activities-Specific Balance Confidence scale</p> <p>(+) GAITRite – Gait speed</p> <p>(+) GAITRite – Cadence</p> <p>(+) GAITRite – Step length</p> <p>(+) GAITRite – Double limb support period</p>
Chang et al., 2012 PEDro: 7/10 Country: Republic of Korea	48 patients with acute stroke	<p><b>Lokomat gait training (n=24) vs. Conventional physical therapy (n=24)</b></p> <p><b>Treatment details:</b> 40 minutes/session, 5 days/week for 2 weeks. Both groups also received additional conventional physical therapy for 60 minutes/session, 5 days/week.</p> <p><b>Lokomat gait training:</b> performed using the Lokomat orthosis with initial 40% partial body weight support and 100% guidance force at 1.2km/h; increase in speed and reduction in body weight support over time.</p> <p><b>Conventional physical therapy:</b> time-matched intervention based on Bobath neurodevelopmental techniques to address sitting/standing balance, transfers, functional gait and strengthening.</p>	<p><b>At post-treatment (2 weeks):</b></p> <p>(+) Fugl-Meyer Assessment– Lower extremity score</p> <p>(-) Motricity Index – Leg score</p> <p>(-) Functional Ambulation Categories</p> <p>(+) Peak VO<sub>2</sub> (L/min)</p> <p>(+) Peak VO<sub>2</sub>, mL/kg/min</p> <p>(+) Peak VO<sub>2</sub>, percentage predicted</p> <p>(-) Respiratory exchange ratio (RER) at peak exercise</p> <p>(-) Heart rate (HR) at rest (bpm)</p> <p>(-) HR at peak exercise (bpm)</p> <p>(-) Peak oxygen pulse (mL/beat)</p> <p>(-) Systolic blood pressure (SBP) peak exercise (mm Hg)</p> <p>(-) Diastolic blood pressure (DBP) peak exercise (mm Hg)</p> <p>(-) Rate of perceived exertion (RPE) at peak exercise</p>

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) Minute ventilation at peak exercise (L/min) (-) Minute ventilation versus VCO <sub>2</sub> slope
Cho et al., 2015 PEDro: 4/10 (cross-over design study) Country: Republic of Korea	20 patients with chronic stroke	<p><b>Exoskeleton Gait Training (n=13) vs. No Gait Training (n=7)</b></p> <p><b>Treatment details:</b> 30 minutes/session, 3 days/week for 4 weeks Both groups received conventional physical therapy for 30 minutes/day, 5 days/week for 8 weeks.</p> <p><b>Exoskeleton gait training:</b> performed using Lokomat orthosis with initial 40% partial body weight support and 100% guidance force at 1.0-1.8km/h; increase in speed and reduction in body weight support over time.</p> <p><b>Conventional physical therapy:</b> Bobath training approach, neurophysiological exercise training, inhibition of spasticity and synergy pattern movement, and standing/sitting exercises.</p>	<p><b>At post-treatment (4 weeks):</b></p> <p>(-) Berg Balance Scale (-) Modified Functional Reach Test (mFRT) – Forward (-) mFRT – Lateral (-) Functional Ambulation Category (-) Modified Ashworth Scale (-) Fugl-Myer Assessment – Lower Extremity (-) Motricity Index (-) Modified Barthel Index (mBI) – Total (+) mBI – Transfers (-) mBI - Ambulation</p>
Chua, Culpan & Menon, 2016 PEDro score: 7/10 Country: Singapore	106 patients with acute/subacute stroke	<p><b>End-effector gait trainer (n=53) vs. Conventional physical therapy alone (n=53)</b></p> <p><b>Treatment details:</b> 45 minutes/session, 6 days/week for 8 weeks.</p> <p><b>Gait trainer:</b> Gait Trainer GT1 (Reha-Stim) for 20 minutes/session. Weight support of 10-20% was provided initially then reduced over time; step lengths of 48cm with initial velocities of 1.4-1.8 km/h, increasing to</p>	<p><b>At follow-up*:</b></p> <p>(-) Functional Ambulation Categories (-) Barthel Index (-) 10 meter walking test (-) 6 Minute Walk Test (-) Stroke Impact Scale (SIS) – Physical (-) SIS – Memory and thinking (-) SIS – Mood and emotion (-) SIS – Communication (-) SIS – Participation</p>

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p>2.0km/h as tolerated. Participants also received stance training (5 minutes), standing (10 minutes), cycling (10 minutes).</p> <p><b>Conventional physical therapy:</b> time-matched intervention that comprised stance/gait training (25 minutes), standing (10 minutes), cycling (10 minutes)</p>	<p>(-) SIS – Recovery</p> <p>* Measures were taken at 4, 8, 12, 24 and 48 weeks and analysed using generalized linear model analysis</p>
<p>Chung, 2017 PEDro score: N/A (case controlled retrospective comparison study design) Country: Hong Kong</p>	<p>41 patients with subacute stroke</p>	<p>Exoskeleton Gait Trainer (n=14) Vs. No robotic-assisted gait training (n=27) <u>Treatment details:</u> 15-30 minutes/session, 3-5 sessions/week for average 34-41 days. <i>Robot-assisted gait training:</i> performed using the Lokomat with body-weight support adjusted to each individual's needs, from 1.5km/h starting speed. <i>Conventional physical therapy:</i> limb mobilisation, electrical muscle stimulation, and transfer, gait and balance training. Both groups also received conventional physiotherapy for 60-90 minutes (robot-assisted gait training was included in this time), for an average of 21-26 sessions during hospitalisation.</p>	<p><b>On discharge</b> (approximately 34-41 days): (+) modified Functional Ambulation Category (+) modified Rivermead Mobility Index (+) Berg Balance Scale (-) modified Barthel Index</p>
<p>Dias et al., 2007 PEDro: 4/10 Country: Portugal</p>	<p>40 patients with chronic stroke</p>	<p>End-effector gait trainer (n=20) Vs. Conventional rehabilitation (n=20) <u>Treatment details:</u> 40 minutes/session, 5 times/week for 5 weeks</p>	<p><b>At post-treatment (5 weeks):</b> (-) Motricity Index (MI) (-) Toulouse Motor Scale (TMS) – Balance (items 1-10) (-) TMS – Balance (items 11-20)</p>

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p><i>Gait Trainer</i>: 20 minutes joint mobilisation and muscle strengthening followed by 20 minutes using the Gait Trainer GT1 (Reha-Stim); maximum 30% body weight relief in initial sessions, with gradual reduction of partial body weight support over time.</p> <p><i>Conventional rehabilitation</i>: 20 minutes joint mobilisation and muscle strengthening followed by 20 minutes balance and gait training using Bobath methods.</p>	<p>(-) TMS – Total            (-) Berg Balance Scale (BBS)            (-) Rivermead Mobility Index (RMI)            (-) Barthel Index (BI)            (-) Fugl-Meyer Stroke Scale (F-MSS)            (-) 10 meter walking test (10mwt) – Step cadence (with gait aid)            (-) 10mwt – Velocity (with gait aid)            (-) 10mwt – Step length (with gait aid)            (-) 10mwt – Step cadence (without gait aid)            (-) 10mwt – Velocity (without gait aid)            (-) 10mwt – Step length (without gait aid)            (-) 6 Minute Walk Test (6MWT)            (-) Step test            (-) Modified Ashworth Scale (mAS)            (-) Functional Ambulation Categories (FAC)            (-) Timed Up and Go test (TUG)  <b>At follow-up (3 months):</b>            (-) MI            (-) TMS – Items 1-10            (-) TMS – Items 11-20            (-) TMS – Total            (-) BBS            (-) RMI            (-) BI            (-) F-MSS            (-) 10mwt – Step cadence (with gait aid)            (-) 10mwt – Velocity (with gait aid)            (-) 10mwt – Step length (with gait aid)            (-) 10mwt – Step cadence (without gait aid)</p>

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) 10mwt – Velocity (without gait aid) (-) 10mwt – Step length (without gait aid) (-) 6MWWT (-) Step test (-) mAS (-) FAC (-) TUG
dos Santos et al., 2018 PEDro: 4/10 Country: Brazil	19 patients with chronic stroke and ataxia	Lokomat gait training (n=11) Vs. Therapist-assisted gait training (n=8) <u>Treatment details:</u> 60 minutes/session, 1 session/week for 5 months. <i>Lokomat gait training:</i> performed using the Lokomat 5.0 at low speed (0.8-1.5kph) and partial body weight support (50%) initially, with increase in speed and body weight support over time. <i>Therapist-assisted gait training:</i> overground walking, with walker if needed. Both groups received conventional physical therapy for 60 minutes/session, 2 sessions/week and home exercises to target muscle stretching and strengthening, balance training, postural stability control, sensory techniques and functional activities.	<b>At post-treatment (5 months):</b> (-) Berg Balance Scale (-) Functional Independence Measure (-) Timed Up and Go test (-) Scale for the Assessment and Rating of Ataxia
Dundar et al., 2014 PEDro: N/A (retrospective study) Country: Turkey	107 patients with subacute/chronic stroke	Lokomat gait Training (n=36) Vs. Physical therapy (n=71) <u>Treatment details:</u> 2 sessions/week for a minimum of 30 sessions	<b>At post-treatment (discharge):</b> (-) modified Ashworth Scale (+) Brunnstrom Recovery Scale – Lower extremity categories (+) Functional Independence Measure

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p><i>Lokomat gait training</i>: performed using the Lokomat device for 2 sessions/week, in addition to physical therapy for 3 sessions/week.</p> <p><i>Physical therapy</i>: provided for 5 sessions/week.</p>	<p>(-) Functional Ambulation Categories            (-) Berg Balance Scale            (+) Mini Mental Status Examination            (+) Medical Outcomes Study Short Form 36 (SF-36) – Physical functioning            (+) SF-36 – Physical role limitations            (+) SF-36 – Pain            (+) SF-36 – General health            (+) SF-36 – Physical component            (+) SF-36 – Social functioning            (+) SF-36 – General mental health            (+) SF-36 – Emotional role limitations            (+) SF-36 – Vitality            (+) SF-36 – Mental component</p>
<p>Freivogel, Schmalohr &amp; Mehrholz, 2009            PEDro score: 8/10            (crossover design study)            Country: Germany</p>	<p>16 patients with subacute/chronic stroke</p>	<p>End-effector gait trainer (n=8)            Vs.            Treadmill/overground gait training (n=8)  <u>Treatment details:</u>            30 minutes/session, 3-5 sessions/week for 6 weeks (total 20 sessions)  <i>Gait Trainer</i>: LokoHelp electromechanical gait device.  <i>Treadmill/overground gait training</i>: time-matched gait training; treadmill training used body weight support.            Both groups also received conventional rehabilitation.</p>	<p><b>At post-treatment (6 weeks):</b>            (-) Functional Ambulation Categories            (-) 10 meter walking test            (-) Motricity Index – Leg score            (-) Rivermead Mobility Index            (-) Berg Balance Scale            (-) Modified Ashworth Scale</p>
<p>Geroïn et al., 2011            PEDro score: 6/10            Country: Italy</p>	<p>30 patients with chronic stroke</p>	<p>End-effector gait trainer + sham stimulation (n=10)            Vs.            End-effector gait trainer + transcranial direct current stimulation (GT+tDCS, n=10)</p>	<p><b>At post-treatment (2 weeks):</b>  <i>Gait Trainer + sham stimulation vs. conventional overground walking training:</i>            (+) 6 Minute Walk Test (6MWT)</p>

**Electromechanical Gait Trainers**

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p>Vs. Conventional overground walking training (n=10) <u>Treatment details:</u> 50 minutes/session, 5 sessions/week for 2 weeks <i>Gait Trainer + sham stimulation:</i> performed using the electromechanical Gait Trainer GT1; patients were supported with a harness and their feet were placed on motor-driven footplates; maximum 30% body weight relief in initial sessions and decreased over time; speed at 1.4-1.8km/h. Electrodes were placed on the body but no stimulation was applied. GT+tDCS: Stimulation was applied during the first 7 minutes of Gait Training; anodal electrode placed over the presumed leg area of the lesioned hemisphere, the cathode placed above the contralateral orbit of the eye (ipsilaterally to the impaired lower limb); stimulation intensity 1.5 mA Conventional overground walking training: time-matched over-ground walking exercises according to the Bobath approach.</p>	<p>(+) 10 meter walking test (+) Functional Ambulation Categories (FAC) (+) Rivermead Mobility Index (RMI) (+) Motricity Index (MI) – Leg score (+) modified Ashworth Scale (hip adductors, quadriceps femoris, ankle plantiflexors) (+) GAITRite – Cadence (+) GAITRite – Temporal symmetry ratio (+) GAITRite – Single-double support duration ratio <i>Gait Trainer + sham stimulation vs. GT+tDCS:</i> (-) 6MWT (-) 10 meter walking test (-) FAC (-) RMI (-) MI – Leg score (-) modified Ashworth Scale (-) GAITRite – Cadence (-) GAITRite – Temporal symmetry ratio (-) GAITRite – Single-double support duration ratio <i>GT+tDCS vs. conventional overground walking training:</i> (+) 6MWT (+) 10 meter walking test (+) FAC (+) RMI (+) MI – Leg score (+) modified Ashworth Scale (+) GAITRite – Cadence</p>

**Electromechanical Gait Trainers**

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(+) GAITRite – Temporal symmetry ratio (+) GAITRite – Single-double support duration ratio <b>At follow-up (4 weeks):</b> <i>Gait Trainer + sham stimulation vs. conventional overground walking training:</i> (+) 6MWT (+) 10 meter walking test (+) FAC (+) RMI (+) MI – Leg score (+) modified Ashworth Scale (+) GAITRite – Cadence (+) GAITRite – Temporal symmetry ratio (+) GAITRite – Single-double support duration ratio <i>Gait Trainer + sham stimulation vs. GT+tDCS:</i> (-) 6MWT (-) 10 meter walking test (-) FAC (-) RMI (-) MI – Leg score (-) modified Ashworth Scale (-) GAITRite – Cadence (-) GAITRite – Temporal symmetry ratio (-) GAITRite – Single-double support duration ratio <i>GT+tDCS vs. conventional overground walking training:</i> (+) 6MWT



## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(+) 10 meter walking test (+) FAC (+) RMI (+) MI – Leg score (+) modified Ashworth Scale (+) GAITRite – Cadence (+) GAITRite – Temporal symmetry ratio (+) GAITRite – Single-double support duration ratio
Han et al., 2016 PEDro: 5/10 Country: Republic of Korea	60 patients with subacute stroke	Robot-assisted gait training (n=30) Vs. Conventional physical therapy (n=30) <u>Treatment details:</u> 30 minutes/session, 5 sessions/week for 4 weeks. <i>Robot-assisted gait training:</i> performed using the Lokomat at initial speed of 1.2kph, partial body weight support (50%) and guidance force at 100%, with increase in speed and reduction in body weight support and guidance force over time. <i>Conventional physical therapy:</i> neurodevelopmental approach to improve balance and mobility through sitting and standing balance training, active transfers, sit-to-stand training, and strengthening exercises, with progression to dynamic standing balance and gait training. Both groups also received additional physical therapy for 30 minutes/session, 5 sessions/week and occupational therapy for 60 minutes/session, 5 sessions/week that provided stretching and strengthening upper extremity	<b>At post-treatment (4 weeks):</b> (-) Berg Balance Scale (-) Korean modified Barthel Index (-) Functional Ambulation Category (-) Fugl-Meyer Assessment – Lower Extremity

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		exercises, task-oriented training for ADLs, fine motor training and sensorimotor recovery.	
Hesse et al., 2001 PEDro score: N/A (non-randomized study) Country: Germany	14 nonambulatory patients with subacute/chronic stroke	Gait trainer using a mechanized gait trainer (n=14) <u>Treatment details:</u> 30 minutes/session, 5 days/week for 4 weeks. Participants also received conventional physiotherapy for 45 minutes/day. <u>Gait Trainer:</u> a mechanized gait trainer was developed using a harness and two footplates to simulate symmetrical stance and swing phases; initial mean body weight support was 17% of body weight, and was reduced over time; gait velocity reduced from 0.31m/s to 0.42m/s over time.	<b>At 4 weeks:</b> (-) Functional Ambulation Categories (-) Rivermead Motor Assessment – Gross function (-) Rivermead Motor Assessment – Legs and trunk (-) modified Ashworth Scale (+) Velocity (m/s) (+) Stride length (m) (+) Cadence (s) (+) Single-stance period – affected lower extremity (+) Terminal double-stance phase (+) Swing symmetry (-) Relative stance duration (-) Relative swing duration – affected lower extremity (-) Relative double-stance phase (-) Stance symmetry Note: results reflect significant improvements.
Hesse et al., 2012 PEDro score: 6/10 (non-randomized controlled trial) Country: Germany	30 non-ambulatory patients with subacute stroke	End-effector gait trainer (n=15) Vs. Conventional physical therapy (n=15) <u>Treatment details:</u> 60 minutes/session, 5 days/week for 4 weeks <u>Gait Trainer:</u>	<b>At post-treatment (4 weeks):</b> (+) Functional Ambulation Categories (+) Rivermead Mobility Index (+) 10 meter walking test (+) Motricity Index – Lower limb score (-) Resistance to Passive Movement Scale

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p>30 minutes/session using the G-EO system device (Reha Technology AG) + 30 minutes/session physical therapy; G-EO system was developed based on end-effector principle.</p> <p><i>Conventional physical therapy:</i> time-matched intervention that focused on restoration and improvement of gait and stair climbing using a task-specific repetitive training approach.</p>	<p><b>At follow-up (3 months):</b></p> <p>(+) Functional Ambulation Categories            (-) Rivermead Mobility Index            (-) 10 meter walking test            (+) Motricity Index – Lower limb score            (-) Resistance to Passive Movement Scale</p>
<p>Hidler et al., 2009            PEDro score: 5/10            Country: United States of America</p>	<p>63 patients with subacute stroke</p>	<p>Robot-assisted gait training (n=33)            Vs.            Conventional gait training (n=30)</p> <p><u>Treatment details:</u>            90 minutes/session, 3 sessions/week for 8-10 weeks (total 24 sessions).</p> <p><i>Robot-assisted gait training:</i> performed using the Lokomat with initial body-weight support up to 40%, from 1.5km/h starting speed.</p> <p><i>Conventional gait training:</i> physical therapist facilitated improvements in walking ability (speed, endurance, postural stability, symmetry) through static/dynamic postural tasks, trunk positioning, upper/lower extremity range of motion, and overground walking; patients progressed to more challenging tasks such as stair climbing and locomotor treadmill training as appropriate.</p>	<p><b>At mid-treatment (12 sessions):</b></p> <p>(+) 5 meter walking test*            (+) 6 Minute Walk Test* (6MWT)            (-) Berg Balance Scale (BBS)            (-) Functional Ambulation Category (FAC)            (-) National Institutes of Health Stroke Scale (NIHSS)            (-) Motor Assessment Scale            (-) Rivermead Mobility Index (RMI)            (-) Frenchay Activities Index (FAI)            (-) SF-36 Health Survey            (-) GaitRITE - Cadence</p> <p><b>At post-treatment (24 sessions):</b></p> <p>(+) 5 meter walking test*            (+) 6MWT*            (-) BBS            (-) FAC            (-) NIHSS            (-) Motor Assessment Scale            (-) RMI            (-) FAI</p>

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) SF-36 Health Survey (-) GaitRITE - Cadence <b>At follow-up (3 months):</b> (+) 5 meter walking test* (-) 6MWT (-) BBS (-) FAC (-) NIHSS (-) Motor Assessment Scale (-) RMI (-) FAI (-) SF-36 Health Survey (-) GaitRITE - Cadence Note: results reflect change scores from baseline. * Significant between-group difference in favour of conventional gait training.
Hornby et al., 2008 PEDro score: 5/10 Country: United States of America	48 patients with chronic stroke	Robot-assisted locomotor training (n=24) Vs. Therapist-assisted locomotor treadmill training (n=24) <u>Treatment details:</u> 30 minutes/session, total 12 sessions. <i>Robot-assisted locomotor training:</i> performed using the Lokomat with initial body-weight support at 30-40%, from 2.0km/h starting speed; body weight support reduced and speed increased over sessions. <i>Therapist-assisted locomotor training:</i> time-matched locomotor treadmill training; body-weight support and walking speed matched with robotic-assisted training	<b>At post-treatment (12 sessions):</b> (+) 10 meter walking test – self-selected velocity* (+) 10 meter walking test – fast velocity* (-) Gait parameters: % single limb stance – self-selected velocity (+) Gait parameters: % single limb stance – full velocity* (-) Gait parameters: step asymmetry – self-selected velocity (-) Gait parameters: step asymmetry – full velocity

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		group; physical therapist facilitated stepping movements of the paretic limb.	(-) 6 Minute Walk Test (6MWT) (-) Berg Balance Scale (BBS) (-) modified Emory Functional Ambulation Profile (-) Frenchay Activities Index (FAI) (+) Medical Outcomes Questionnaire SF-36 Health Survey (SF-36) – Physical component summary score* <b>At follow-up (6 months):</b> (-) 10 meter walking test – Self-selected velocity (-) 10 meter walking test – Fast velocity (-) Gait parameters: % single limb stance – self-selected velocity (-) Gait parameters: % single limb stance – full velocity (-) Gait parameters: Step asymmetry – self-selected velocity (-) Gait parameters: Step asymmetry – full velocity (-) 6MWT (-) BBS (-) modified Emory Functional Ambulation Profile (-) FAI (-) SF-36 – Physical component summary score * Significant between-group differences in favour of therapist-assisted locomotor training

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
Husemann et al., 2007 PEDro score: 7/10 Country: Germany	30 patients with subacute stroke	Robot-assisted locomotion training (n=16) Vs. Conventional physical therapy (n=14) <u>Treatment details:</u> 30 minutes/session, total 12 sessions over 4 weeks. <i>Robot-assisted locomotor training:</i> performed using the Lokomat with initial body-weight support at 30%; participants walked at maximum tolerated speed. <i>Conventional physical therapy:</i> time-matched physical therapy gait rehabilitation to facilitate trunk stability and symmetry, step initiation and weight support; participants progressed to therapist-assisted treadmill training where possible. All participants received additional physical therapy for 30 minutes/day (total 20 sessions).	<b>At post-treatment (4 weeks):</b> (-) Functional Ambulation Categories (-) 10 meter walking test (-) Gait parameters: cadence (-) Gait parameters: stride duration (-) Gait parameters: stance duration – affected leg (-) Gait parameters: stance duration – unaffected leg (+) Gait parameters: Single Support Time – affected leg (-) Gait parameters: Single Support Time – unaffected leg (-) Modified Ashworth Scale (-) Motricity Index (-) Barthel Index
Iacovelli et al., 2018 PEDro: N/A (non-randomized study) Country: Italy	27 patients with subacute stroke	End-effector gait trainer (n=15) Vs. Conventional gait rehabilitation (n=12) <u>Treatment details:</u> Intensity and duration of interventions not specified <i>Gait Training:</i> conducted using the G-EO system end-effector device. <i>Conventional gait rehabilitation:</i> not specified. Both groups also received traditional physical therapy.	<b>At post-treatment (20 sessions):</b> (-) Motricity Index (+) Ashworth Scale – Total score (+) Ashworth Scale – Hip (+) Ashworth Scale – Knee (+) Medical Research Council (MRC) scale – Hip extension (-) MRC scale – knee flexion (+) MRC scale – Ankle flexion (+) Timed Up and Go test (+) 6 Minute Walk Test (+) 10 meter walking test (-) Functional Ambulation Categories

**Electromechanical Gait Trainers**

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) Walking Handicap Scale (-) Tinetti Scale (-) Fugl-Meyer Assessment – Lower Extremity (-) Trunk Control Test (-) Range of motion (ROM) – Hip (-) ROM – Knee (-) ROM – Ankle (-) Stride time (-) Cadence (-) Step length (-) Velocity (-) Swing velocity (-) Stride length (-) Mean velocity (+) Step length* (-) Swing time* (-) Stance time* (-) Double support time* (-) Swing:Stance time ratio* *Symmetry index: symmetry ratio, symmetry index, gait asymmetry, symmetry angle ** Ratio step length; symmetry angle step length
Kelley et al., 2013 PEDro score: 6/10 Country: United States	21 patients with chronic stroke	Robot-assisted gait training (n=11) Vs. Overground gait training (n=10) <u>Treatment details:</u> 60 minutes/session, 5 sessions/week for 8 weeks (total 40 sessions).	<b>At post-treatment (4 weeks):</b> (-) 10 meter walking test (-) 6 Minute Walk Test (6MWT) (-) Functional Independence Measure (FIM) – Locomotion (-) Fugl-Meyer Assessment – Lower Extremity

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p><i>Robot-assisted locomotor training:</i> performed using the Lokomat with initial body-weight support at 40%, 100% guidance force and speed of 0.42m/second; body weight support and guidance force reduced over time and speed increased over time.</p> <p><i>Overground gait training:</i> physiotherapist supervised walking tasks and gait-related activities including standing and walking balance, lower extremity forced use exercises, transfers, passive range of motion and strengthening.</p>	<p>(FMA-LE)            (-) Barthel Index (BI)            (-) Stroke Impact Scale (SIS) – Strength            (-) SIS – Mobility            (-) SIS – ADL/IADL            (-) SIS – Social participation            (-) SIS – Total recovery  <b>At follow-up (3 months):</b>            (-) 10 meter walking test            (-) 6MWT            (-) FIM – Locomotion            (-) FMA-LE            (-) BI            (-) SIS – Strength            (-) SIS – Mobility            (-) SIS – ADL/IADL            (-) SIS – Social participation            (-) SIS – Total recovery</p>
<p>Kim et al., 2015            PEDro score: 5/10            Country: Korea</p>	<p>30 patients with subacute/chronic stroke</p>	<p>Robot-assisted gait training (n=15)            Vs.            Conventional locomotor training (n=15)  <u>Treatment details:</u>            80 minutes/session, 5 days/week for 4 weeks.            Participants then received ongoing conventional locomotor training for 40 minutes/session, 5 days/week for 4 weeks.  <i>Robot-assisted gait training:</i> WALKBOT-assisted locomotor training for 40 minutes/session + conventional locomotor training for 40 minutes/session; Walkbot</p>	<p><b>At post-treatment (4 weeks):</b>            (+) Functional Ambulation Categories (FAC)            (+) Berg Balance Scale (BBS)            (+) Korean modified Barthel Index (K-mBI) – Total            (+) K-mBI – Dressing            (+) K-mBI – Ambulation            (-) K-mBI – Grooming            (-) K-mBI – Bathing            (-) K-mBI – Feeding            (-) K-mBI – Toilet use</p>



## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p>training provided lumbopelvic stability and initial body weight support at 40-60%, variable guidance force from 100% and velocity at 1.0-1.2 km/hr; body weight support and guidance force reduced over time and speed increased over time.</p> <p><i>Conventional locomotor training:</i> physical therapy facilitating bed mobility exercises, stretching, balance training, transfer training, strengthening, and treadmill locomotor training with partial body weight support progressing to overground locomotor training, with/without assistive devices or functional electrical stimulation.</p>	<p>(-) K-mBI – Stairs            (-) K-mBI – Bowels            (-) K-mBI – Bladder            (-) K-mBI – Transfers            (-) Modified Ashworth Scale            (-) EuroQoL 5 dimension (EQ-5D)</p> <p><b>At follow-up (4 weeks post-treatment):</b>            (+) Functional Ambulation Categories (FAC)            (+) Berg Balance Scale (BBS)(+)            (+) Korean modified Barthel Index (K-mBI) – Total            (+) K-mBI – Dressing            (+) K-mBI – Ambulation            (-) K-mBI – Grooming            (-) K-mBI – Bathing            (-) K-mBI – Feeding            (-) K-mBI – Toilet use            (-) K-mBI – Stairs            (-) K-mBI – Bowels            (-) K-mBI – Bladder            (-) K-mBI – Transfers            (-) Modified Ashworth Scale            (-) EuroQoL 5 dimension (EQ-5D)</p>
Lewek et al., 2009 PEDro score: 6/10 Country: United States	26 patients with chronic stroke	<p>Robot-assisted gait training (n=11)            Vs.            Therapist-assisted gait training (n=15)</p> <p><u>Treatment details:</u>            60 minutes/session (30 minutes stepping), 3 sessions/week for 4 weeks (total 12 sessions).</p>	<p><b>At post-treatment (4 weeks):</b>            (-) Average coefficient of correspondence (ACC) – Hip (involved)            (-) ACC – Hip (uninvolved)            (-) ACC – Knee (involved)            (-) ACC – Knee (uninvolved)</p>

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p><i>Robot-assisted locomotor training:</i> performed using the Lokomat with initial body-weight support at 40%, and speed of 3.0km/hour; body weight support was reduced over time and speed increased over time.</p> <p><i>Therapist-assisted gait training:</i> physiotherapist provided manual assistance for limb advancement or pelvic control if necessary during treadmill training; an ankle-foot orthosis was used if necessary.</p>	
<p>Morone et al., 2011 PEDro score: 6/10 Country: Italy</p>	<p>48 patients with acute/subacute stroke Participants were stratified according to motor impairment, as measured by the Motricity Index: Motricity Index score <math>\leq 29</math> = lower motricity; Motricity Index score <math>&gt;29</math> = higher motricity</p>	<p>Gait Trainer (n=24) Vs. Conventional gait training (n=24) <u>Treatment details:</u> 40 minutes/session, 5 sessions/week for 4 weeks All participants also received an additional physiotherapy session/day, 5 days/week. <i>Gait Trainer:</i> performed using an electromechanical device whereby one physiotherapist manually assisted knee flexion/extension; walking speed started at 1.0-1.5 km/h and increased over time; partial body weight support began at 0-50% and reduced over time. <i>Conventional gait training:</i> facilitated trunk stabilisation, weight transfer and walking between parallel bars. Conventional physiotherapy comprised facilitation of movements on the paretic side, upper limb exercises, balance, standing, sitting and transfers.</p>	<p><b>At discharge (average 86-102 days post-stroke):</b> <i>Low Motricity Index score (<math>\leq 29</math>):</i> (+) Functional Ambulation Categories (-) Ashworth Scale (+) Rivermead Mobility Index (-) Motricity Index (+) Trunk Control Test (-) Canadian Neurological Scale (+) Barthel Index (+) Rankin Scale (+) 6 Minute Walk Test (-) 10 meter walking test <i>High Motricity Index score (<math>&gt;29</math>):</i> (-) Functional Ambulation Categories (-) Ashworth Scale (-) Rivermead Mobility Index (-) Motricity Index (-) Trunk Control Test (-) Canadian Neurological Scale (-) Barthel Index</p>

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) Rankin Scale (-) 6 Minute Walk Test (-) 10 meter walking test
Ng et al., 2008 PEDro score: 6/10 Country: Hong Kong	54 patients with acute/subacute stroke	End-effector gait trainer (n=17) Vs. Gait Trainer + Functional Electrical Stimulation (GT+FES, n=16) Vs. Conventional gait training (n=21) <u>Treatment details:</u> 20 minutes/session, 5 sessions/week for 4 weeks. <i>Gait Trainer:</i> performed using the electromechanical GT II (RehaStim) gait trainer with partial body weight support reduced over time; gait cycle ratio of 60-40% between stance and swing phases; velocity 0.20-0.60 m/s gradually increased over time. <i>GT+FES:</i> same ambulatory training on the GTII gait trainer, in addition to FES to the paretic side to stimulate the quadriceps in the stance phase and common peroneal nerve in the swing phase. <i>Conventional gait training:</i> time-matched conventional physical therapy gait training with or without a walking aid, orthoses or manual assistance; based on the Bobath concepts, including stretching exercises, cardiovascular exercises, strengthening exercises and transfers. All groups also received physical therapy for 40 minutes/session and multidisciplinary intervention for 1.5 hours/session, 5 days/week.	<b>At post-treatment (4 weeks):</b> <i>Gait Trainer vs. Conventional gait training:</i> (-) Functional Ambulation Categories (FAC) (+) 5 Minute Walking Test (-) Functional Independence Measure (FIM) (-) Barthel Index (BI) (-) Motricity Index (MI) – Leg score (+) Elderly Mobility Scale (EMS) (-) Berg Balance Scale (BBS) <i>Gait Trainer vs. GT+FES:</i> (-) FAC (-) 5 Minute Walking Test (-) FIM (-) BI (-) MI – Leg score (-) EMS (-) BBS <i>GT+FES vs. Conventional gait training:</i> (+) FAC (+) 5 Minute Walking Test (-) FIM (-) BI (-) MI – Leg score (+) EMS (-) BBS

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			<p><b>At follow-up (6 months):</b>  <i>Gait Trainer vs. Conventional gait training:</i>            (+) FAC            (+) 5 Minute Walking Test            (-) FIM            (-) BI            (-) MI – Leg score            (+) EMS            (-) BBS  <i>Gait Trainer vs. GT+FES:</i>            (-) FAC            (-) 5 Minute Walking Test            (-) FIM            (-) BI            (-) MI – Leg score            (-) EMS            (-) BBS  <i>GT+FES vs. Conventional gait training:</i>            (+) FAC            (+) 5 Minute Walking Test            (-) FIM            (-) BI            (-) MI – Leg score            (+) EMS            (-) BBS</p>
Park et al., 2015 PEDro score: 4/10 (non-randomized study) Country: Republic of Korea	30 patients with chronic stroke	End-effector gait trainer (n=15) Vs. Conventional overground gait training (n=15)	<p><b>At post-treatment (4 weeks):</b>            (-) Functional Ambulation Categories            (-) 10 meter walking test            (-) GAITRite – Walking speed (m/sec)</p>

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p><u>Treatment details:</u> 30 minutes/session, 5 days/week for 4 weeks <i>Gait Trainer:</i> performed using the Gait Trainer 2; partial body weight support was initially set at 30-40% and was increased/reduced over time as necessary; treadmill velocity was set to a comfortable cadence and stride length <i>Conventional overground gait training:</i> time-matched training. Both groups also received daily physical therapy.</p>	<p>(-) GAITRite – Walking cycle (cycles/sec) (-) GAITRite – Stance phase of affected side (sec/%) (-) GAITRite – Stride length of affected side (cm) (-) GAITRite – Symmetry index of stance phase (%) (-) GAITRite – Symmetry index of stride length (%)</p>
Peurala et al. 2005 PEDro score: 6/10 Country: Finland	45 patients with chronic stroke and low ambulatory status at baseline	<p>Gate Trainer (n=15) vs. Gait Trainer + functional electrical stimulation (GT-FES) (n=15) vs. Over ground walking training (n=15) <u>Treatment details:</u> 20 minutes/session, 5 days/week for 3 weeks, as well as usual care for 55 minutes/session, 5 days/week.</p>	<p><b>At mid-treatment (2 weeks):</b> <i>Gait Trainer vs. Gait Trainer + FES:</i> (-) 10 Meter Walking Test (10MWT) (-) 6 Minute Walk Test (6MWT) (-) Postural sway measured by a force plate (-) Modified Ashworth Scale (MAS) (-) Modified Motor Assessment Scale (MMAS) (-) Functional Independence Measure (FIM) <i>Gait Trainer vs. Overground walking training:</i> (-) 10MWT (-) 6MWT (-) Postural sway measured by a force plate (-) MAS (-) MMAS (-) FIM <i>Gait Trainer + FES vs. Overground walking training:</i> (-) 10MWT (-) 6MWT</p>

**Electromechanical Gait Trainers**

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) Postural sway measured by a force plate (-) MAS (-) MMAS (-) FIM <b>At post-treatment (3 weeks):</b> <i>Gait Trainer vs. Gait Trainer + FES:</i> (-) 10MWT (-) 6 Minute Walk Test (6MWT) (-) Postural sway measured by a force plate (-) Modified Ashworth Scale (MAS) (-) Modified Motor Assessment Scale (MMAS) (-) Functional Independence Measure (FIM) <i>Gait Trainer vs. Overground walking training:</i> (-) 10MWT (-) 6MWT (-) Postural sway measured by a force plate (-) MAS (-) MMAS (-) FIM <i>Gait Trainer + FES vs. Overground walking training:</i> (-) 10MWT (-) 6MWT (-) Postural sway measured by a force plate (-) MAS (-) MMAS (-) FIM <b>At follow up (6 months):</b> <i>Gait Trainer vs. Gait Trainer + FES:</i> (-) 10MWT

**Electromechanical Gait Trainers**

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) 6 Minute Walk Test (6MWT) (-) Postural sway measured by a force plate (-) Modified Ashworth Scale (MAS) (-) Modified Motor Assessment Scale (MMAS) (-) Functional Independence Measure (FIM) <i>Gait Trainer vs. Overground walking training:</i> (-) 10MWT (-) 6MWT (-) Postural sway measured by a force plate (-) MAS (-) MMAS (-) FIM <i>Gait Trainer + FES vs. Overground walking training:</i> (-) 10MWT (-) 6MWT (-) Postural sway measured by a force plate (-) MAS (-) MMAS (-) FIM Note: While there were no significant between-group differences, all 3 groups improved in most aspects of walking, and improvements remained at 6 months. The authors noted that the best results were found for GT-FES.
Peurala et al. 2009 PEDro score: 5/10 Country: Finland	56 patients with acute stroke and low ambulatory status at baseline	End-effector gait trainer (n=22) vs. Overground walking training (n=21) vs.	<b>At 3 weeks (post treatment):</b> <i>Gait Trainer vs. Overground walking training:</i> (-) Functional Ambulation Category (-) 10 meter walking test (10MWT)

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p>Conventional rehabilitation (n=13)</p> <p><i>Treatment details:</i> 1 hour/day for 3 weeks (20 minutes total of walking).</p> <p><i>Gait Trainer:</i> performed using the Gait Trainer GT1 device (RehaStim) with partial body weight support; support reduced over time. Participants remained in the acute care hospital for the duration of intervention.</p> <p><i>Overground walking training:</i> time-matched practice walking overground with walking aids and manual assistance; support reduced over time. Participants remained in the acute care hospital for the duration of intervention.</p> <p><i>Conventional rehabilitation:</i> participants received 1-2 physical therapy sessions/day, at a reduced intensity compared to the intervention groups. Participants were transferred from the acute care hospital to a health centre, home or rehabilitation hospital 0-8 days after baseline.</p> <p>All three groups also received gait-oriented physiotherapy for 55 minutes/day.</p>	<p>(-) 6 Minute Walking Test            (-) Modified Motor Assessment Scale            (-) Rivermead Motor Assessment Scale            (-) Rivermead Mobility Index  <i>Gait Trainer vs. Conventional rehabilitation:</i>            (-) Functional Ambulation Category            (-) 10MWT            (+) Modified Motor Assessment Scale            (-) Rivermead Motor Assessment Scale            (-) Rivermead Mobility Index  <i>Overground walking training vs. Conventional rehabilitation:</i>            (-) Functional Ambulation Category            (-) 10MWT            (+) Modified Motor Assessment Scale            (-) Rivermead Motor Assessment Scale            (-) Rivermead Mobility Index  <b>At 6-month follow-up:</b>  <i>Gait Trainer vs. Overground walking training:</i>            (-) Functional Ambulation Category            (-) 10 meter walking test            (+) 6 Minute Walking Test            (-) Modified Motor Assessment Scale            (-) Rivermead Motor Assessment Scale            (-) Rivermead Mobility Index  <i>Gait Trainer vs. Conventional rehabilitation:</i>            (-) Functional Ambulation Category            (-) 10MWT            (-) Modified Motor Assessment Scale</p>



## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) Rivermead Motor Assessment Scale (-) Rivermead Mobility Index <i>Overground walking training vs. Conventional rehabilitation:</i> (-) Functional Ambulation Category (-) 10MWT (-) Modified Motor Assessment Scale (-) Rivermead Motor Assessment Scale (-) Rivermead Mobility Index NOTE: Both the Gait Trainer and overground walking training groups improved walking independence and motor function, however the authors noted that there was lower perceived exertion during Gait Training (measured by the Borg scale) and also the Gait Trainer group achieved 20 minutes of walking in much less time than the 1 hour allocated, whereas patients in the overground walking training group required the full 1 hour.
Pohl et al. 2007 PEDro score: 8/10 Country: Germany	155 patients with subacute stroke and low ambulatory status at baseline	End-effector gait trainer (n=78) Vs. Physical Therapy (n=77) <u>Treatment details:</u> 20 minutes/session, 5 days/week for 4 weeks. <i>Gait Trainer:</i> performed using the Gait Trainer GT1 (RehaStim) electromechanical gait training machine with two footplates driving simulating stance and swing movements; patients were harness-secured; initial body	<b>At 4 weeks:</b> (+) Functional Ambulation Category (FAC) (+) Barthel Index (BI) (+) 10 meter walking test (+) 6 Meter Walk Test (6MWT) (+) Rivermead Mobility Index (RMI) (+) Motricity Index (MI) <b>At 6 months:</b> (+) FAC (-) BI

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		weight support ranged from 10-20% body weight and reduced over time; cadence ranged from 1.4-1.8km/h. <i>Physical therapy:</i> time-matched (45 minutes/session, 5 days/week for 4 weeks). Both groups received physiotherapy for a further 25 minutes/session, 5 days/week to facilitate stance and gait; and occupational therapy for upper limb rehabilitation.	(-) 10 meter walking test (-) 6MWT (-) RMI (-) MI
Schwartz et al., 2009 PEDro score: 6/10 Country: Israel	67 patients with acute/subacute stroke	Robot-assisted gait training (n=37) Vs. Conventional physical therapy (n=30) <u>Treatment details:</u> 30minutes/session, 3 sessions/week for 6 weeks. <i>Robot-assisted locomotor training:</i> performed using the Lokomat with initial body-weight support at 50%, and maximum speed tolerated by the individual; body weight support was reduced over time and speed increased over time. <i>Conventional physical therapy:</i> time-matched gait rehabilitation to facilitate trunk stability and symmetry, step initiation and weight support on the paretic leg. Both groups received physiotherapy for an additional 30 minutes/day, 5 days/week and conventional rehabilitation.	<b>At post-treatment (4 weeks):</b> (+) Functional Ambulation Category (+) National Institutes of Health Stroke Scale (+) Functional Independence Measure (FIM) – Motor (-) FIM – Cognitive (-) Stroke Activity Scale – Walking (-) Stroke Activity Scale – Standing (-) 10 meter walking test (-) 2 Minute Walk Test (-) Timed Up and Go Test (+) Stair climbing (number)* * Significant between-group difference in a subgroup of participants with post-treatment FAC score ≥3
Taveggia et al., 2016 PEDro score: 7/10 Country: Italy	28 patients with subacute stroke	Robot-assisted gait training (n=13) Vs. Conventional physical therapy (n=15)	<b>At post-treatment (5 weeks):</b> (-) 6 Minute Walk Test (6MWT) (-) 10 meter walking test (-) Functional Independence Measure (FIM)

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p><u>Treatment details:</u> 30minutes/session, 5 sessions/week for 5 weeks. <i>Robot-assisted locomotor training:</i> performed using the Lokomat with initial body-weight support at 50%, and speed at 0.4m/sec; body weight support was reduced over time and speed increased over time. <i>Conventional physical therapy:</i> time-matched gait training including strengthening exercises for the knee extensors, hip lateral rotators and abductors, standing practice and reconditioning exercises. Both groups received physiotherapy following the Bobath approach for an additional 60 minutes/day, 5 days/week.</p>	<p>(-) Medical Outcomes Study Short Form 36 (SF-36) (-) Tinetti Balance Scale <b>At follow-up (3 months):</b> (-) 6MWT (-) 10 meter walking test (-) FIM (-) SF-36 (-) Tinetti Balance Scale</p>
Tong et al., 2006 PEDro score: 7/10 Country: Hong Kong	50 patients with acute/subacute stroke	<p>End-effector gait trainer (n=15) Vs. Gait Trainer with Functional Electrical Stimulation (GT+FES, n=15) Vs. Conventional gait training (n=20) <u>Treatment details:</u> 20 minutes/session, 5 sessions/week for 4 weeks. Participants also received physical therapy for 40 minutes/session, 5 sessions/week and conventional rehabilitation for 1.5 hours/day, 5 days/week. <i>Gait Trainer:</i> performed using the electromechanical GTII device; partial body weight support was reduced over time. <i>GT+ FES:</i> time-matched intervention with FES applied to the paretic lower extremity during gait training.</p>	<p><b>At mid-treatment (2 weeks):</b> <i>Gait Trainer vs. Conventional gait training:</i> (-) 5 meter walking test (-) Elderly Mobility Scale (EMS) (-) Berg Balance Scale (BBS) (+) Functional Ambulation Categories (FAC) (-) Motricity Index (MI) – Leg score <i>Gait Trainer vs. GT+ FES:</i> (-) 5 meter walking test (-) EMS (-) BBS (-) FAC (-) MI – Leg score <i>T+ FES vs. Conventional gait training</i> (+) 5 meter walking test (-) EMS (-) BBS</p>

**Electromechanical Gait Trainers**

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p><i>Conventional overground gait training: time-matched gait training using the Bobath approach.</i></p>	<p>(+) FAC                      (-) MI – Leg score  <b>At post-treatment (4 weeks):</b>  <i>Gait Trainer vs. Conventional gait training:</i>                      (+) 5 meter walking test                      (+) EMS                      (-) BBS                      (+) FAC                      (+) MI – Leg score                      (-) FIM                      (-) BI  <i>Gait Trainer vs. GT+ FES:</i>                      (-) 5 meter walking test                      (-) EMS                      (-) BBS                      (-) FAC                      (-) MI – Leg score                      (-) FIM                      (-) BI  <i>GT+ FES vs. Conventional gait training</i>                      (+) 5 meter walking test                      (+) EMS                      (-) BBS                      (+) FAC                      (+) MI – Leg score                      (-) FIM                      (-) BI</p>

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
Ukar, Paker, & Bugdayci, 2014 PEDro: 4/10 Country: Turkey	22 patients with chronic stroke	Lokomat gait training (n=11) Vs. Conventional physical therapy home exercises (n=11) <u>Treatment details:</u> 30 minutes/session, 5 sessions/week for 2 weeks. <i>Lokomat gait training:</i> performed using the Lokomat gait trainer at a rate of 1.5km/h, with 50% fixed partial body weight. <i>Conventional physical therapy home exercises:</i> time-matched gait exercises including active/passive range of motion, active-assistive exercises, strengthening the paretic leg and balance training.	<b>At post-treatment (2 weeks):</b> (+) Timed Up and Go test (TUG) (+) 10 meter walking test <b>At follow-up (8 weeks):</b> (+) TUG (+) 10 meter walking test
van Nunen et al., 2015 PEDro score: 4/10 Country: Italy	30 patients with subacute stroke	Robot-assisted gait training (n=16) Vs. Conventional overground gait training (n=14) <u>Treatment details:</u> 30 minutes/session, 3 sessions/week + conventional physical therapy for 30 minutes/session, 2 sessions/week for 10 weeks. <i>Robot-assisted locomotor training:</i> performed using the Lokomat; body weight support and guidance force were reduced over time and speed increased over time. <i>Conventional physical therapy:</i> time-matched assisted overground gait training. Both groups received physiotherapy for 30 minutes/day, 2 days/week, in addition to conventional rehabilitation.	<b>At post-treatment (10 weeks):</b> (-) 10 meter walking test (-) Functional Ambulation Category (FAC) (-) Berg Balance Scale (BBS) (-) Fugl-Meyer Assessment – Lower Extremity (FMA-LE) (-) Rivermead Mobility Index (RMI) (-) Timed Up and Go Test (TUG)* (-) maximal voluntary isometric torque (MVT) – knee extensors: paretic limb (-) MVT – knee extensors: nonparetic limb (-) MVT – knee flexors: paretic limb (-) MVT – knee flexors: nonparetic limb (-) Medical Outcomes Study Short Form 36 (SF-36) – General Health (-) SF-36 – Social functioning (-) Stroke Impact Scale 3.0 (SIS) – Activities of

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			Daily Living (ADL) (-) SIS - Mobility <b>At follow-up (week 24, week 36):</b> (-) 10 meter walking test (-) FAC (-) BBS (-) FMA-LE (-) RMI (-) TUG* (-) MVT – knee extensors: paretic limb (-) MVT – knee extensors: nonparetic limb (-) MVT – knee flexors: paretic limb (-) MVT – knee flexors: nonparetic limb (-) SF-36 – General Health (-) SF-36 – Social functioning (-) Stroke Impact Scale 3.0 (SIS) – Activities of Daily Living (ADL) (-) SIS – Mobility * Patients with FAC $\geq 3$
Werner et al., 2002 PEDro: 7 (cross-over design study) Country: Germany	30 patients with subacute stroke and low ambulatory status at baseline	End-effector gait trainer vs. Body-weight supported treadmill training <u>Treatment details:</u> 15-20 minutes/session, 5 days/week for 2 weeks. Gait Trainer: performed with partial body weight support; movements simulated stance and swing phases with a ratio of 60% to 40% between phases; target training velocity was 0.25-0.40m/s.	<b>At post-treatment:</b> (+) Functional Ambulation Categories (-) 10 meter walking test (-) Rivermead Motor Assessment (RMA) – Gross function (-) RMA – Trunk and leg subscale (-) Modified Ashworth Scale <b>At 6 month follow up:</b> (-) Functional Ambulation Categories

## Electromechanical Gait Trainers

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<i>Body-weight supported treadmill training</i> : time-matched gait training using a motor-driven treadmill.	
Westlake & Patten, 2009 PEDro score: 6/10 Country: United States	16 patients with chronic stroke	Robot-assisted gait training (n=8) Vs. Manually-assisted body-weight supported treadmill training (n=8) <u>Treatment details:</u> 30 minutes/session, 3 sessions/week for 4weeks. <i>Robot-assisted locomotor training</i> : performed using the Lokomat; initial body weight support at 35% and speed from 0.83 m/sec; body weight support was reduced over time and speed was increased over time. <i>Manually-assisted body-weight supported treadmill training (BWS-TT)</i> : time-matched gait training using a body-weight supported treadmill system, with 1-2 physical therapists providing manual assistance.	<b>At post-treatment (10 weeks):</b> (-) GaitRite – Self-selected walking speed (-) GaitRite – Fast walking speed (-) GaitRite – Step length ratio (paretic leg) (-) Berg Balance Scale (-) Fugl-Meyer Assessment – Lower Extremity (-) 6 Minute Walk Test (-) Short physical performance battery (-) Late Life Function and Disability Instrument (LLFDI) – Disability: Frequency (-) LLFDI – Disability: Limitation (-) LLFDI – Function