

Driving after stroke

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
Akinwuntan et al., 2005 PEDro: 6	83 patients with subacute stroke	Simulator-based driving training (n=52) vs Driving-related training (control group) (n=21) Treatment details: In addition to the conventional rehabilitation program, each subject received 1 hour of their respective training 3x/week for 5 weeks (15 hours total).	At post-treatment (11-14 weeks post-stroke): (-) Binocular acuity (-) Kinetic vision (-) Useful Field of View (UFOV) test (-) Stroke Driver Screening Assessment (SDSA) Dot cancellation time (-) SDSA Dot cancellation error (-) SDSA Dot cancellation false positives (-) SDSA Square matrix direction (-) SDSA Square matrix compass (-) SDSA Road sign recognition (-) On-road test (-) Three-class classification of on-road driving test (-) Pass/fail classification of on-road driving test At follow-up (6 months post-stroke): (+) On-road test* (+) Three-class classification of on-road driving* (+) Pass/fail classification of on-road driving test by intention-to-treat analysis only
Akinwuntan et al., 2010 PEDro: 6	83 patients with subacute stroke	Simulator-based driving training (n=42) vs. Non-computerized cognitive training (n=41)	At post-treatment (5 weeks): (-) Useful Field of View (UFOV) total score (-) UFOV Speed of processing (-) UFOV Divided attention (-) UFOV Selective attention

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		Treatment details: 60 minute training sessions 3x/week for 5 weeks in addition to conventional rehabilitation.	At follow-up (3 months): (-) UFOV total score (-) UFOV Speed of processing (-) UFOV Divided attention (-) UFOV Selective attention
Bergsma et al., 2011 PEDro: N/A (pre-post study)	9 patients with chronic stroke with homonymous Visual Field Defect (VFD) Note: 6 control participants were also included in the study, but comparative results are not reported in this summary.	Visual Restorative Function Training (vRFT) Treatment details: 1-hour sessions, 5 times a week for 15 weeks.	At post treatment (15 weeks): (+) STISIM Driving simulator - average speed (-) STISIM Driving simulator - number of collisions with other vehicles (-) STISIM Driving simulator - number of pedestrians hit (-) STISIM Driving simulator - number of times speed was exceeded (-) STISIM Driving simulator - percentage of total distance driving out of lane (+) Visual Field Defect border shift* (+) Oculomotor behaviour* * n=2
Crotty et al., 2009 PEDro: 7	26 patients with subacute or chronic stroke	Dynavision training (n=13) vs No intervention (n=13) Treatment details:	At post-treatment (6 weeks): (-) Standardized on-road driving assessment (+) Abilities in Response Time Measures: 2-choice inspection time (-) Abilities in Response Time Measures: 2-choice responding time (+) Abilities in Response Time Measures: 2-choice reaction time

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		Participants in the experimental group received driving training using Dynavision apparatus during 40 minute sessions 3x/week for 6 weeks.	(-) Abilities in Response Time Measures: 2-choice response initiation time (-) Abilities in Response Time Measures: 2-choice checking and preparation time (+) Abilities in Response Time Measures: 4-choice inspection time (-) Abilities in Response Time Measures: 4-choice responding time (+) Abilities in Response Time Measures: 4-choice reaction time (-) Abilities in Response Time Measures: 4-choice response initiation time (-) Abilities in Response Time Measures: 4-choice checking and preparation time (+) Visual Scanning Analyzer: Neglect total time (+) Visual Scanning Analyzer: Scan 3 total seen (-) Visual Scanning Analyzer: Fixate task (-) Visual Scanning Analyzer: Scan and field 5 (-) Adelaide Driving Self-Efficacy Scale
Devos et al., 2010 PEDro: 5	61 patients with chronic stroke	Driving training (n=21) vs Cognitive training (n=23) Treatment details: All participants received their respective treatment for 1 hour/day, 3x/week for 5 weeks.	5 year follow-up from study by Akinwuntant et al. (2005): (-) Fitness-to-drive (pass/fail)

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Klavora et al., 1995 PEDro: N/A (pre-post study)	10 patients with chronic stroke	Dynavision training Treatment details: 45 minute sessions, 3x/week for 6 weeks.	At post-treatment (6 weeks): (+) Dynavision Endurance Score (+) Dynavision Speed Score (+) Simple Response Time (+) Simple Visual Reaction Time (+) Simple Movement Time (+) Choice Response Time (-) Choice Visual Reaction Time (+) Choice Movement Time (-) Bassin Anticipation Time (+) Behind-the-Wheel driving At follow-up (3 months): (+) Dynavision Endurance Score (+) Dynavision Speed Score (+) Simple Response Time (+) Simple Visual Reaction Time (+) Simple Movement Time (+) Choice Response Time (-) Choice Visual Reaction Time (+) Choice Movement Time (-) Bassin Anticipation Time (+) Behind-the-Wheel driving
Mazer et al., 2003 PEDro: 6	97 patients with sub-acute stroke	UFOV training (n=47) vs Traditional computer software programs (n=50)	At post-treatment (after 20 sessions): (-) Useful Field of View (UFOV) – total (-) UFOV – visual processing speed (-) UFOV – divided attention (-) UFOV – selective attention (-) Complex Reaction Timer

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		Treatment details: Both groups received 30-60 minute sessions 2-4 times a week for a total of 20 sessions.	(-) Motor-Free Visual Perception Test (-) Single Letter Cancellation Test (-) Double Letter Cancellation Test (-) Money Road Map Test of Direction Sense (-) Trail Making Test – A (-) Trail Making Test – B (-) Bells Test (-) Charron Test (-) Test of Everyday Attention (TEA) (-) On-road driving evaluation