

## Supplementary file 7. Characteristics of the interventions adopted in the included studies

Orthotic devices							
Authors	Setting	Intervention	Intervention characteristics	Supervision	Adherence	Attrition	Adverse events
Glanzman et al. (2011) <sup>42</sup>	Home-based	Serial casting	Below-knee serial casting. Individualised period of casting (range: 2 to 5 casts; mean: 3 casts). Casts applied with a comfortable dorsiflexed ankle position and were changed weekly, increasing dorsiflexion each time.	No	N.A.	N.A.	Foot pain (n=3). Focal redness (n=1).
Aprile et al. (2013) <sup>43</sup>	Home-based	AFO/FO	1 month use of customised ankle-foot/foot orthosis.	No	No information	None	None
Taktak et al. (1995) <sup>44</sup>	Inpatient, outpatient clinics, or schools	KAFO	2 months of daily use of the modular knee ankle foot orthosis combined with periodical use of the conventional knee ankle foot orthosis.	No	No information	n=2	None
Manual therapy							
Carroll et al. (2021) <sup>18</sup>	Outpatient clinics	Massage	10-minute calf massage (2 sessions), including effleurage (4 min), petrissage (3 min), and muscle stripping (3 min).	No	N.A.	None	None
Assistive technologies							
Heutinck et al. (2018) <sup>30</sup>	Home-based	Non-powered dynamic mobile arm support	SG: 20-week (5 times/week, 15 min per session) upper limb gravity-compensated 3D-training with suspension type arm support on a moveable frame. CG: usual care	Semi-supervised through home visits	Reported compliance was high.	SG: n=2 CG: n=4	Shoulder and thumb pain (n=1). Femur fracture following a fall (unrelated to training) (n=1). Hospitalisation unrelated to training (n=1).
Vry et al. (2014) <sup>45</sup>	Outpatient clinics and home-based	WBVT	8-week WBVT (side-alternating) Week 1-4 (home-based), 5 days/week, 2 training sessions/day, (f=15-18 Hz). Week 5-8, (home-based), 5 days/week, 2 training/day, (f=18-24 Hz). Week 9-12: follow-up period (no training). Vibration platform exercises included mild squatting, gastrocnemius stretching and alternating weight shift.	Supervised and semi-supervised sessions via phone calls	No information	n=3	Muscle pain (1 <sup>st</sup> day: n=6; 4 weeks: n=4; 8 weeks, n=1); muscle weakness (1 <sup>st</sup> day, n=1; 4 weeks, n=4) and muscle cramps (4 weeks: n=1). Skin erythema or pruritus (1 <sup>st</sup> day, n=1; 4 weeks, n=4). Talus fracture (n=1)
Pegoraro et al. (2020) <sup>47</sup>	Inpatient setting	c-FES	c-FES for 15 days, 5 days/week, 30-minute daily session. Patients with contraindications to c-FES performed 6-weeks aerobic and strength training.	No	No information	None	None
Zupan et al. (1995) <sup>16</sup>	Home-based	FES	2/3-month tibialis anterior (right) electrical stimulation (1 hour-session, 2 times/day, f=8 Hz (8 participants) or 20 Hz (4 participants)).	No	No information	None	None
Chisari et al. (2013) <sup>46</sup>	Home-based	NMES	Tibialis anterior electrical stimulation (phase on: 10 s; phase off: 10 s, f=20 Hz) for 15 days, two 60-minute daily sessions.	No	No information	None	None
Colson et al. (2010) <sup>19</sup>	Outpatient clinics	NMES	5-month program (35 Hz) for deltoid, trapezius transversalis, vastus lateralis, and vastus medialis. 5 sessions/week (20 min each), including electrical stimulation (2 min), 75 isometric contractions (1.5s rise, 6s steady tetanic stimulation, 1.5s fall; duty cycle: 56.25%), and 3-minute relaxation periods.	No	All participants completed all sessions.	None	Skin redness.
Kiliç et al. (2015) <sup>22</sup>	Outpatient clinics and home-based	HVPGS	Electrical stimulation group: 8-week training (deltoid and quadriceps femoris) (3 days/week), followed by an 8-week home-based program. Each muscle stimulated for 10 min at 50 Hz (phase on: 5s; phase off: 10s). Exercise group: 8-week strength exercises (deltoid and quadriceps femoris). 1-2 weeks: 25% of 1RM, 10 repetitions × 2 sets, 3 times/week. 2-4 weeks: 30% of 1RM, 10 repetitions × 3 sets, 3 times/week. 5-6 weeks: 35% of 1RM, 10 repetitions × 3 sets, 3 times/week. 7-8 weeks: 40% of 1RM 10 repetitions × 3 sets, 3 times/week.	Yes	No information	None	None
Ribot-Ciscar et al. (2015) <sup>41</sup>	Outpatient clinics	VPA	4-week training, one session (approx. 40 min - 1 hour) every 4 days (8 total sessions), targeting biceps brachialis, triceps brachialis and pectoralis major muscle (f=80 Hz). Each session: 6 vibratory blocks (e.g., shoulder abduction, shoulder elevation, elbow flexion and extension), 20-30 s rest in between.	No	All participants completed the intervention.	n=1	Pain (n=2)

Exercise interventions							
Authors	Setting	Intervention	Intervention characteristics	Supervision	Adherence	Attrition	Adverse events
<b>Aerobic training</b>							
Bulut et al. (2022) <sup>38</sup>	CG: home-based, SG: outpatient clinics and home-based	Aerobic training (cycle ergometer)	SG: 12-week exercise program combined with 12-week aerobic training (3 sessions/week). Each session lasted 40 min (5-minute warm up, 30-minute training and 5-minute cool-down). Training started at 60% HRmax, intensity reviewed every two weeks. CG: 12-week exercise program (3-5 times/week) including breathing exercises, stretching exercises, active-assisted, active and low-level resistance exercises, especially for lower limb muscles, and functional exercises (e.g., climbing and climbing stairs, taking steps).	CG: semi-supervised through biweekly phone calls. SG: supervised	Not available	SG: n=1 CG: n=2	None
Sherief et al. (2021) <sup>32</sup>	Outpatient clinics	Aerobic training (cycle ergometer vs treadmill)	Group A: 12-week exercise program (physiotherapy program combined with aerobic training on a cycle ergometer), 3 times/week. Each session lasted 20 min (5-minute warm up, 10 min training, 5-minute cool down). Resistance gradually increased on individual basis. Group B: 12-week exercise program (physiotherapy program combined with aerobic training on a treadmill), 3 times/week. Exercise training on treadmill lasted 20 min (5-minute warmup, 10 min training, 5-minute cool-down). Training practiced at 75% of over ground speed, no inclination. Physiotherapy program (group A and B): stretching exercises for biceps brachii, hamstrings and calf muscles (20 s each, performed 5 times); isometric muscle contractions for quadriceps, hamstrings, anterior tibial group, calf muscles, biceps and triceps muscles (contraction 5 s each, repeated 5 times); gait and balance training with obstacles.	No	Not available	None	None
Bankolé et al. (2016) <sup>33</sup>	Home-based	Aerobic training (stationary ergocycle)	SG: 6-month cycling training (3 sessions/week, each session lasting 35 min at 60% of MAP). CG: no intervention	Supervised and unsupervised sessions	>80%	SG: n=2	None
Mikhail et al. (2022) <sup>55</sup>	Laboratory	Aerobic training (cycle ergometer)	12-week cycling exercise program (3 sessions/week). Each training session included a 3-minute warmup (25 Watts) and a 2-minute cooldown (25 Watts). Training intensity: Week 1-2: 30 min at 65% V02max Week 3-4: 35 min at 65% V02max Week 5-6: 30 min at 70% V02max Week 7-8: 35 min at 70% V02max Week 9-10: 30 min at 75% V02max Week 11-12: 35 min at 75% V02max	Yes	60%	40% dropout rate	None
Sveen et al. (2008) <sup>54</sup>	Home-based	Aerobic training (cycle ergometer)	12-week training. Number of weekly sessions increased reaching 5 times/week (50 total sessions). Each session lasted 30 min, intensity: 65% of V02max. After the 12 weeks, some participants continued to reach 1 year of training exercising 3 times/week.	Semi-supervised via weekly phone calls	12 weeks: 94% ± 2% (range: 75–100%). 1 year: 82% ± 3% (range: 74–88%)	None	None
Orngreen et al. (2005) <sup>53</sup>	Home-based	Aerobic training (cycle ergometer)	12-week training. Number of weekly sessions increased reaching 5 times/week (50 total sessions). Each session lasted 35 min, intensity: 65% of V02max. Workload increased until exhaustion.	Semi-supervised via phone calls	92%	n=5	Worsening fatigue (n=1)
<b>Aerobic training and/or cognitive behavioural therapy</b>							
Okkersen et al. (2018) <sup>23</sup>	Outpatient clinics, home-based and community settings	CBT, standard care +/- aerobic training vs standard care	10-month of CBT plus standard care +/- optional graded exercises (SG) vs standard care alone (CG). CBT group: 10-14 sessions (each lasting between 15 and 75 min). Therapy focused on addressing reduced patient initiative, increasing physical activity, optimising social interaction, regulating sleep-wake patterns, coping with pain, and addressing beliefs about fatigue and living with muscular dystrophy. Graded exercises included moderate intensity aerobic exercises (e.g., walking, cycling or swimming) (between 120-170 min per week).	CG group was supervised	Not available	SG: n=8 at first F/U; n=6 at second F/U CG: n=5 at first F/U; n=1 at second F/U	50% of participants reported adverse events; of them, 226 (57%) were related to falls. 47 serious adverse events in 34 participants (13%).
Voet et al. (2014) <sup>24</sup>	Home-based and outpatient	Aerobic training (cycle ergometer) vs CBT vs usual	16-week aerobic training group vs 16-week CBT vs 16-week usual care. CBT: up to 6 CBT sessions. Session number decided on individual basis. Sessions targeted fatigue, cognition, pain, poor social support/interactions, and sleep disturbances. Each session lasted 50 min.	Supervised and unsupervised sessions	Insufficient adherence in 39% (n=11) of ATG and	n=1	Knee, neck, back, shoulder pain as well as saddle

	clinics	care	ATG: aerobic cycling training (30 min), 3 times/week, at 50-65% of HRR. Training included warm-up (5 min) and cool-down (3 min). Usual care: Occasional physiotherapy allowed (no fatigue-specific).		24% (n=6) of CBT group.		soreness (n=15).
<b>Strength and aerobic training</b>							
Kontou et al. (2020) <sup>52</sup>	Outpatient laboratory gym	Strength and aerobic training on stationary bicycle	4-week training, 2 times/week. Each session included 15-minute warm-up (10 min on a stationary bike at 25 Watts, 5-minute stretching), aerobic training on a stationary bicycle (15 min at 50% of MAP in the 1 <sup>st</sup> week, 70% in the 3 <sup>rd</sup> week), upper-limb and lower limb strength exercises (bench press, leg press, seated row, arm lateral raise, knee extension, leg curl, arm curl, elbow extension, calf raise, sit-ups and back extension). 2 sets of 12 repetitions at 50% of 10-RM (2-minute rest between sets).	Yes	Not available	None	None
Jensen et al. (2016) <sup>51</sup>	Outpatient clinics	Strength and aerobic training on an antigravity-treadmill	10-week training on an anti-gravity treadmill, 3 times/week, each session lasted 40 min. Strength exercises included closed-chain lower limb exercises (3 series per each exercise). Aerobic training: walk/run, jogging in place or high knee-lift at 70-80% of HR. Aerobic training was performed as interval training (1-2 min exercise, 1-minute rest). Training workload: 50% body weight support. Velocity individually set.	No	91% (range: 72–100%).	None	None
Berthelsen et al. (2014) <sup>50</sup>	Outpatient clinics	Strength and aerobic training on an antigravity-treadmill	Same protocol as the study above (Jensen et al. 20216).	Yes	91% (range: 72–100%).	None	None
<b>Strength training</b>							
Güneş Gencer et al. (2022) <sup>34</sup>	Home-based (conventional exercises) and outpatient clinics (trunk exercises)	Strength training	SG: 8-week conventional exercises (1 time/day) combined with trunk-oriented exercises (1 time/day). Daily sessions lasting 45 min, 5-10 repetitions. CG: 8-week conventional exercises (2 times/day). Daily sessions lasting 45 min, 5-10 repetitions. Conventional exercise program included stretching exercises, and active or active-assisted strength exercises targeting upper extremity, lower extremity, abdominal and back muscles. Trunk-oriented exercises included stretching exercises, stabilization exercises (active or active-assisted), arm exercises in fixed trunk position, trunk-oriented exercises (active or active-assisted), trunk mobilization (sitting and lying position), and functional upper limb reaching exercises.	SG group was supervised	Not available	None	None
Kenis-Coskun et al. (2022) <sup>35</sup>	Home-based	Strength training	SG: 8-week program, each session lasted 30-40 min. 10 repetitions for each exercise. CG: 8-week home-based program, 3 times/week. 10 repetitions for each exercise. Both groups performed the same exercises: shoulder flexion, shoulder abduction, arm cross flexion exercise, elbow flexion- extension, wrist flexion- extension, hip flexion in sitting position, hip abduction in sitting position, ankle dorsiflexion in sitting position, Chin Tuck exercise, quadriceps strength exercise in sitting position, pectoral stretching exercise, trunk lateral stretching, posterior pelvic tilt exercise, bridge exercise, hip abductor strength exercise in side-lying position, tensor fascia latae stretching, hamstring stretching and Achilles tendon stretching.	SG group was supervised	97% (234/240) in SG and 83.3% (180/216) in CG.	SG: None CG: n=3	None
Maghbouli et al. (2021) <sup>28</sup>	Outpatient clinics	Strengthening training	SG: 6-week program using EMG-BFB, 2 times/week. Intensity: 50% of MVC. Exercise program included isometric strengthening exercises targeting hip flexors/extensors/adductors/abductors and knee flexors/extensors. CG: 6-week program, 2 times/week, each session lasted 30 min. Exercise program included isometric strengthening exercises targeting hip flexors/extensors/adductors/abductors and knee flexors/extensors.	CG group was supervised	60%	SG: n=7 CG: n=8	None
Alemdaroglu et al. (2015) <sup>36</sup>	CG: Home-based SG: Outpatient clinics	Strength training (arm ergometer)	SG: 8-week upper-limb training with arm ergometer (5 days/week). Each session lasted 40 min (5 min in passive mode (warm-up), 30 min in active mode and 5 min in passive mode (cooldown)). Intensity set at 50% of maximal difficulty level. CG: 8-weeks upper-limb range of motion training (e.g., shoulder flexion/extension/abduction, shoulder internal/external rotation, elbow flexion/extension and wrist flexion/extension), 3 times/week, each session lasted approx. 40 min. Each exercise repeated 5-10 times.	Yes	Not available	None	None
Aldehag et al. (2013) <sup>39</sup>	Home-based and outpatient clinics	Strength training (hand only)	12-week hand training exercises (3 times/week (one as a group session), each session lasted 1 hour), targeting mass wrist- and finger movements and isolated finger movements. Mass movements: Week 1-4: 1 set of 10 repetitions Week 5-8: 2 sets of 10 repetitions	Supervised and unsupervised sessions	Group A: <75%, n=2; ≥ 75%, n=9). Group B: <75%, n=10; ≥ 75%, n=4.	29% (group A, n=7; group B, n=2)	None

			Week 9-12: 3 sets of 10 repetitions Isolated finger movement: Week 1-4: 1 set of 3 repetitions Week 5-8: 2 sets of 3 repetitions Week 9-12: 3 sets of 3 repetitions				
Jansen et al. (2013) <sup>29</sup>	Home-based and school	Strength training	6-month assisted bicycle training (both arm and leg cycling), 5 days/week for 15 min. Cycling at a constant speed (65 revolutions/minute) and OMNI scale <6.	Assistance from parents or teachers	Adherence considered good overall.	SG: n=1	Knee/foot pain (n=3). Ankle trauma (n=1). Femur fracture (n=1).
Lindeman et al. (1995) <sup>37</sup>	Home-based	Strength training	SG: 24-week strength exercises (knee extension/flexion and hip extension/abduction), 30 min per session. Week 1-8: 3 sets of 25 repetitions with a load of 60% of 1RM. 1 minute rest between sets. Week 9-16: 3 sets of 15 repetitions with a load of 70% of 1RM. Week 17-24: 1 set of 10 repetitions with a load of 80% of 1RM. CG: no intervention	No	Compliance was defined as good.	n=4	Back pain (n=1)
O'Dowd et al. (2022) <sup>40</sup>	Outpatient clinics	Strength training	12-week training program (2 times/week) including 5-minute warm up, 5-minute balance training, step-ups, freestanding or assisted squats, knee flexion and extension on a knee extension and leg curl machine and six strength exercises (specific to each participant) (e.g., hip flexion, hip extension, plantar flexion, dorsiflexion, hip abduction, hip adduction, hip internal rotation, or hip external rotation exercises). Week 1-3: 2 sets of 10 RM. Exercise velocity: 2 s concentric, 4 s eccentric, 1-min rest between sets. Week 4-1: 3 sets of 10 RM. Exercise velocity: 2 s concentric, 4 s eccentric, 1-min rest between sets.	Yes	Compliance rate: 97%	None	None
Lessard et al. (2021) <sup>27</sup>	Home-based	Strength training	10-week strength training (3 times/week) including sit to stand, squat with wall support and alternated lunges. 2-4 sets with 5-8 repetitions, each repetition lasted 6 s, 1-minute rest between sets and 2-minute rest between each exercise. Intensity: 13-15 on Borg RPE scale.	Semi-supervised via weekly phone calls	96.7% (range: 90.0-100.0)	n=1	Persistent low back pain (n=1)
Roussel et al. (2020) <sup>26</sup>	Outpatient clinics	Strength training	12-week strength training (2 times/week, 21 sessions in total). Session included: 5-minute low-moderate intensity cycling, 3 series of 6-8 RM of five exercises (leg extension, leg press, hip abduction, squat and plantar flexion) (3-minute rest between exercises).	Yes	97%.	None	None
Bostock et al. (2019) <sup>25</sup>	Outpatient clinics	Strength training	12-week training including 2 sessions/week (24 total sessions). Each session included 5-minute warm up on a seated cross-trainer, cycle ergometer or rowing machine, 5-10 min of balance training using exergames, lower limb strength exercises with exercise machines and free weights. 2 sets of 10 RM (3 sets after third week). 1 minute rest between sets. Exercises velocity: 2 s concentric, 4 s eccentric.	Yes	13 participants completed all sessions.	n=2	Falls (n=1)
Tollbäck et al. (1999) <sup>49</sup>	Outpatient clinics	Strength training	12-week strength training (knee extensors) (3 times/week). Week 1: 3 sets of 8 repetitions with a load of 60% of 1RM. Week 2: 3 sets of 8 repetitions with a load of 70% of 1RM. Week 3-12: 3 sets of 8 repetitions with a load of 80% of 1RM. Each repetition lasted 9 s (concentric, isometric and eccentric phases, each lasting 3 s).	Yes	76% (range 69-85%) (based on 6 participants)	n=3	Knee pain. Increasing discomfort (n=1).
<b>Hydrotherapy</b>							
Hind et al. (2017) <sup>17</sup>	Swimming pool	Hydrotherapy vs land-based exercises	SG: 6-month hydrotherapy (2 times/week, each session lasting 30 min) combined with land-based exercises (4 days/week). CG: 6-month land-based exercise training, 6 days/week Hydrotherapy: upper and lower limb stretching exercises (e.g., hip flexors/extensors, hip abductors, knee extensors, ankle plantar flexors/dorsiflexors, wrist and finger flexors, neck flexors), aerobic exercises including walking, swimming, ball activities, functional activities (e.g., sit to stand, jumping, hopping) and breathing exercises. Land-based exercises: upper and lower limb stretching exercises (e.g., elbow extension, forearm supination, wrist/thumb/finger stretches, hip extension, iliotibial stretch, knee extension, ankle dorsiflexion, trunk and neck stretch in side flexion, trunk and neck stretches in rotation) as well as upper- and lower-limb strength exercises (e.g., shoulder abduction, shoulder flexion/extension, elbow extension, wrist and finger extension, hip extension/abduction, knee extension, trunk side flexion,	Yes	SG: 30-57% CG: 30-57%	CG: n=3	15 mild adverse events, including muscle soreness, falls related, chest infection and sleep hypoventilation.

			trunk extension, ankle dorsiflexion/plantarflexion). Each exercise repeated 5 times, with the position held for 3 s.					
<b>Balance training</b>								
Hammarén et al. (2015) <sup>48</sup>	Outpatient clinics	Balance program	10-week group program (e.g., sitting activities, weight transfers in sitting/standing, step training and walking) (1-3 times/week, each session lasted 60 min). Training also included lower limb stretching.	No	75% (average adherence)	n=2	None	
<b>Multicomponent intervention</b>								
Kierkegaard et al. (2011) <sup>20</sup>	Outpatient clinics	Multicomponent intervention	SG: 14-week group training programme (2 times/week, each session lasted 60 min) including warm-up (9-10 min) flexibility (3-4 min), upper-limb and trunk strength (6-7 min), balance exercises (3-4 min), aerobic exercises (11-12 min at 60-80% of HRmax) and one brisk 30-minute walk/week. CG: no intervention	Yes	SG: ≥ 75% (n=11)	None	None	
Missaoui et al. (2010) <sup>21</sup>	Outpatient clinics	Multicomponent intervention	6-week training (2/3 times/week, 2 hours each) (15 sessions in total) including static and dynamic balance exercises, knee strength training (10 repetitions, 5 sets), endurance training on a treadmill (20 min at 60% of HRR).	Yes	Compliance was reported to be low.	N.A.	None	

Abbreviations: N.A., Not Applicable; AFO, Ankle-Foot Orthosis; FO, Foot Orthosis; SG, Study Group; CG, Control Group; WBVT, Whole-Body Vibration Therapy; c-FES, Functional Electrical Stimulation cycling; FES, Functional Electrical Stimulation; NMES, Neuromuscular Electrical Stimulation; HVPGS, High Voltage Pulsed Galvanic Stimulation; RM, Repetition Maximum; VPA, Vibratory Proprioceptive Assistance; HRmax, Maximum Heart Rate; MAP, Maximal Aerobic Power; VO2max, Maximal Oxygen Uptake; CBT, Cognitive Behavioural Therapy; F/U, Follow-Up; ATG, Aerobic Training Group; HRR, Heart Rate Reserve; HR, Heart Rate; EMG-BFB, Electromyography Biofeedback; MVC, Maximum Voluntary Contraction; RPE, Rating of Perceived Exertion.