

### Additional File 3: Proximal objectives, strategies and evidence levels cited in guidelines.

Abbreviations: App – appendix; Cons – expert consensus; GL – guidelines; LT – long term; RCT – randomised control trial; SR – systematic review

Different systems of rating evidence were used in guidelines. See individual guidelines for system employed. Where evidence was not rated by guideline, the type of evidence cited is identified.

Levels of evidence for recommendations in one guideline [7] are provided in a related publication by the same organisation [20]

		Au	Ca1	Ca2	Ca3	Ca4	Ca5	Eu	Ne	NZ	SA	Si	UK1	UK2	UK3	US1	US2	US3	US4	US5
	<b>Objective &amp; Strategy</b>	[1]	[2]	[3]	[4]	[5]	[6]	[7] [20]	I[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]
<b>1</b>	<b>Increase muscle strength</b>	SR		other GLs		I			1	B			SRs		SR	II-2	other GLs		I	
1a	Lower limb strengthening			other GLs		I	conflicting		1						part RCT		other GLs	1		
1b	Upper limb strengthening		A (LT)	other GLs			1a		unclear				SR		part RCT		other GLs	1	I	
1c	Trunk and core muscle strengthening			other GLs											RCT		other GLs			
<b>2</b>	<b>Increase aerobic endurance</b>		B (LT)	A			1a	SR	3	A			SR		SR	II-2	other GLs		I	
2a	Treadmill training		B (LT)	other GLs		I	1a		1								other GLs		I	
2b	Use of static bicycle			other GLs			1a										other GLs			
2c	Other large muscle group aerobic activity			other GLs											part RCT					
<b>3</b>	<b>Regain and maintain normal joint range of movement</b>		C										cons; SR		part RCT		other GLs		I	
3a	Lower limb stretching		RCT	other GLs											part RCT					
3b	Upper limb stretching		C (LT)	other GLs			1a		2											
3c	Trunk stretching			other GLs											part RCT					
3d	Lower limb movement through range		C												part RCT					
3e	Upper limb movement through range		C (LT)		cons										part RCT					
3f	Unspecified stretch/range of movement exercises			other GLs	cons								cons; SR				other GLs			

4	<b>Enhance sensorimotor functions required for functional activity</b>		A (LT)		I								cons				other GLs		III	
4a	Standing balance training			other GLs			1a								RCT (other condition)				I	
4b	Sitting balance training			other GLs					1										I	
4c	Aquatic balance training						1b												I	
4d	Unspecified balance training												SRs				other GLs			
4e	Cyclic movements of paretic arm								3						part RCT					
4f	Proprioceptive & kinaesthetic training		B (LT)		cons	II			3	C										
4g	Mental rehearsal of upper limb movements	SR	B (LT)		cons	multiple RCTs	conflicting			B			SR						I	
5	<b>Enhance functional ability</b>	B	A (LT)		cons				1	B							other GLs	1	I	
5a	Standing up & sitting down practice		RCTs	other GLs					1	A			SR		part RCT					
5b	Step training / stair climbing			other GLs											part RCT		other GLs			
5c	Walking (including treadmill training)	SR	B (LT)	other GLs			1a		1	A			SR		SRs		other GLs	1	I	
5d	Walking with rhythmic cueing	SR					1a		2	B									I	
5e	Paretic upper limb task-related training	SR	A (LT)			II	1a		1	C			SR		part RCT			1		
5f	Bilateral upper limb task-related training	SR					conflicting			C			SR					1	I	
6	<b>Establish &amp; maintain motivation for regular physical exercise</b>	C		cons						C			cons	2	cons					
6a	Address personal beliefs & attitudes														RCT: advice insufficient					
6b	Promote personal goal-setting									cons			SR not stroke specific		cons					
6c	Use motivational interviewing												Part of RCT							
6d	Promote use of personal reflective														cons					

	diaries																		
6e	Promote use of personal exercise record including repetitions, load and time spent													cons					
6f	Use positive feedback											Part of RCT							
6g	Emphasise enjoyment			cons										cons					
<b>7</b>	<b>Develop self-management skills for ongoing physical exercise</b>								cons										
7a	Educate for self-monitoring for adverse events													App1					
7b	Educate about stroke and stroke recovery patterns																		
7c	Promote active problem-solving								cons			cons							
7d	Develop self-efficacy skills											cons; part of RCT							
7e	Encourage self-monitoring to set appropriate exercise levels													cons					
7f	Encourage independent practice of exercises													cons					
7g	Provide guidance booklets													cons					
<b>8</b>	<b>Personalise programme to individual</b>													cons	cons	cons			I
8a	Multidimensional pre-assessment conducted by healthcare professional addressing health status, cautions, contraindications and risks			cons						cons				cons		cons	IIA	III	
8b	Pre-programme assessment by trainers to enable individualisation of programme				cons									cons					
8c	Adapt programme content to personal situation and goals	B		other GLs						C				cons	cons				
8d	Evaluate programme effects on individual, including satisfaction, functional gains, personal goals, resource use, energy levels													cons					cons
8e	Supplement group classes with individual sessions													cons					
8f	Sub-divide group classes according to disability levels													cons					
8g	In group classes, conduct functional strengthening exercises together to													cons					

	allow individual monitoring																		
8h	Intensity should be adjusted to the individual			other GLs								cons		cons		cons			
8i	pre-programme ECG assessment for exercise level															cons			
8j	If maximal heart-rate is unknown, use low intensity but increase training frequency/duration			other GLs												cons			
8k	Shorter, more frequent exercise for frail or deconditioned			other GLs															
8l	Use of memory aids where necessary										D		cons		cons				
<b>9</b>	<b>Provide dosage sufficient to establish and maintain benefits</b>										II		cons						
9a	at least 3 days/week physical exercise															SR			
9b	20-30 minutes daily moderate intensity physical exercise											cons	cons		cons				
9c	Progression: increase load / required effort over time	SRs		other GLs									cons		cons				I
9d	Aerobic exercise 20-60 minutes, 3-7 days/week; continuous or accumulated		B															other GLs	
9e	Cardiovascular endurance should be large proportion of activity																	other GLs	
9f	Strengthening exercises: 4-10 types, 2-3 days/week			other GLs										cons		other GLs			
9g	Flexibility exercises: 2-3 days/week			other GLs												other GLs			
9h	Coordination & balance exercises: 2-3 days/week			other GLs												other GLs			
9i	Upper limb exercises 1 hour, 6 days/week		C (LT)																
9j	Warm-up: 15-20 minutes including range of movement and large muscle group activity															part RCT			
9k	Aerobic warm-up and cool-down, 3-5 minutes at lower intensity			other GLs												part RCT			
9l	Aerobic: up to 10 exercises alternating cardiovascular & local muscle endurance														cons				
9m	Include home exercises to increase dose			other GLs	cons							cons			cons				
<b>10</b>	<b>Provide context facilitating ongoing</b>	RCT													cons				SR-A

	<b>regular physical exercise</b>																			
10a	Pre-programme contact to discuss any programme barriers			other GLs										cons		cons				
10b	Peer/volunteer to accompany to first one or two sessions													cons						
10c	Minimal use of equipment to facilitate home practice													cons						
10d	Promote family / carer involvement	cons		other GLs	cons				cons	IV		RCTs			III	other GLs	I-IIa	I		
10e	Use peer mentoring								cons					RCT (other conditions)						
10f	Use group format for social support													Qualitative						
10g	Provide opportunities to socialise before and after training													cons						
10h	Use of mixed media including internet-based and tele-training								C											IIa
10i	Locate at home or centre according to personal circumstances / preferences	B			cons		1a								II-2					
10j	Locate in own residential environment					1 RCT home based		1		IV										
10k	Provision of transport where necessary, or locate near good public transport links	cons										cons		Qualitative study						
10l	Convenient time																			
10m	Ongoing programme provision													RCTs (benefits don't last)						
10n	Sign-post to other relevant services / facilities	cons							cons			cons								
<b>11</b>	<b>Ensure adequate staffing numbers to provide safe and effective training</b>							II						cons						
11a	Instructor: participant ratio: 1:3 to 1:5			Seen in RCTs																
11b	Instructor: participant ratio: up to 1:8 depending on mix & time since started exercising													cons						



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