Supplementary Table 1.

Exercise prescriptions for low back pain.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	160 subjects, G1 = 44.3 ± 13.0 years G2 = 43.4 ± 13.5 years	G1: usual health care G2: Tai Chi	10 weeks	— 40 min, 2 times per week for 8 weeks followed by once per week for 2 weeks	—	26
	80 subjects, G1 = 48.0 ± 4.0 years G2 = 49.0 ± 3.6 years	G1: physical therapy exercises G2: yoga programs	7 days	once 1 h, twice/day once 1 h, twice/day	—	27
	46 subjects, G1 = 22.8 ± 3.6 years G2 = 21.8 ± 3.2 years	G1: in the sitting position G2: Pilates	once	20 min 20 min	—	28
	54 subjects, G1 = 38.0 ± 12.0 years G2 = 40.0 ± 16.0 years	G1: usual activities G2: Pilates	8 weeks	— 45 min, twice/week	—	29
	87 subjects, G1 = 48.9 ± 16.4 years G2 = 49.3 ± 14.1 years	G1: general exercise G2: clinical Pilates	6 weeks	4 daily 60 min, twice/week	—	30
	60 subjects, G1 = 55.5 ± 7.1 years G2 = 46.9 ± 10.3 years	G1: inactivity control G2: Pilates	6 months	— 1 hour lesson, 5 lessons per week	—	31
	38 subjects, G1 = 41.63 ± 13.01 years	G1: usual activities G2: Pilates	14 weeks	— 50 min, 3 times per week	—	32

	G2 = 41.31 ± 11.24 years					
	101 subjects, G1 = 55.5 ± 7.10 years G2 = 46.9 ± 10.3 years	G1: passive modalities	12 weeks	—	—	33
		G2: AE		30–45 min; 3 days/week	70%–85% HR_{max}	
	469 children, 8–11 years	G1: education alone	9 months	—	—	34
		G2: 4 simple spine movements as part of a health program		3 times/day		
WBV exercise	120 subjects, 18–60 years	G1: the same exercise protocol as the WBV group, but without vibration	3 months	twice a week	—	35
		G2: WBV exercise with 5 exercise positions		twice a week		
	41 subjects, G1 = 44.6 ± 9.1 years G2 = 46.4 ± 9.3 years	G1: usual activities	3 months	—	—	36
		G2: WBV training		2.5 times per week		
	49 subjects, G1 = 59.53 ± 5.47 years G2 = 58.71 ± 4.59 years	G1: non-intervention	12 weeks	—	—	37
		G2: WBV exercise		2 times/week, with 1 day of rest between sessions		

Abbreviations: AE = aerobic exercise; G = Group; HR_{max} = maximum heart rate; WBV = whole body vibration.

Supplementary Table 2.

Exercise prescriptions for tendon injury.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
RE	81 patients with tennis elbow, G1 = 48.6 ± 12.3 years G2 = 50.2 ± 10.8 years	G1: wait and see	3 months	—	—	45
		G2: daily exercise with progressively increasing load on the extensor muscles of the affected forearm		once daily	3 sets of 15 repetitions, 45 repetitions in total	
	86 patients with a clinical diagnosis of rotator cuff tendinopathy, G1 = 48.6 ± 12.3 years G2 = 50.2 ± 10.8 years	G1: usual physiotherapy	3 months	—	—	51
		G2: self-managed loaded exercise		twice per day	3 sets of 10–15 repetitions	
	24 participants with rotator cuff tendinopathy, G1 = 44–79 years G2 = 46–76 years	G1: usual physiotherapy treatment	3 months	—	—	52
		G2: self-managed loaded exercise		twice per day	3 sets of 10–15 repetitions	
AE	120 patients with shoulder pain, G1 = 49.5 years G2 = 50.4 years G3 = 49.8 years	G1: minimally loaded range of movement exercises	6 weeks	twice per day	—	53
		G2: open chain resisted exercises		twice per day	complete 10 repetitions before rest	
		G3: closed chain exercises		twice per day	3 sets of 10 repetitions	

eccentric exercise	120 patients with tennis elbow, G1 = 47.0 ± 9.4 years G2 = 48.8 ± 6.7 years	G1: concentric exercise	12 months	once daily	3 sets of 15 repetitions, in total 45 weight lifting manoeuvres	41
		G2: eccentric exercise		once daily	3 sets of 15 repetitions, in total 45 weight lowering manoeuvres	
	36 patients with rotator cuff tendinopathy, G1 = 48.6 ± 12.3 years G2 = 50.2 ± 10.8 years	G1: conventional exercise	12 weeks	daily	3 sets of 8 repetitions	44
		G2: isolated eccentric exercise		daily	a speed of 6–8 s per repetition	
	107 subjects with affected elbows, G1 = 47.0 ± 9.4 years G2 = 48.8 ± 6.7 years	G1: Astym treatment	4 weeks	2 times weekly	—	48
		G2: eccentric exercise and stretching		2 times per week for 2 pain free sets of 15 repetitions each	2 pain free sets of 15 repetitions, increasing to 3 sets as tolerated	
	9 male adults without AT and 11 male adults with unilateral mid-portion AT, G1 = 48.2 ± 3.8 years G2 = 49.0 ± 4.5 years	G1: control	once	—	—	50
		G2: eccentric exercise		15 times per exercise set	—	
vibration training and eccentric	58 patients with AT, G1 = 44.4 ± 7.7 years	G1: wait and see	12 weeks	—	—	47

training	G2 = 46.0 ±6.9 years G3 = 45.7 ±8.5 years	G2: vibration training		1–4 weeks: 4–5 min; 5–8 weeks: 5–6 min; 9–12 weeks: 6–7 min	—	
		G3: eccentric training using a Reebok Step		—	3 sets of 15 repetitions on each leg	
concentric and eccentric exercise	86 patients with tennis elbow, G1 = 47.0 ±9.4 years G2 = 48.8 ±6.7 years	G1: Alfredson isolated eccentric training program	12 weeks	twice daily	3 sets of 15 repetitions	49
		G2: Silbernagel combined concentric-eccentric program		once daily	3 sets of 15 repetitions	

Abbreviations: AE = aerobic exercise; AT = Achilles tendinopathy; G = Group; RE = resistance exercise.

Supplementary Table 3.

Exercise prescriptions for osteoporosis.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE and RE	36 subjects, 45–65 years	G1: usual care	6 weeks	—	—	61
		G2: aerobic walking exercise on a treadmill		30 min daily, 3 times a week	0–2 weeks: 50%HRR, 2–4 weeks: 55% HRR, 4–6 weeks: 60% HRR	
		G3: weighted-vest		30 min daily, 3 times a week	4% of the body weight and was increased 2%/ 2 weeks	
AE	86 subjects, G1 = 60.4 ± 5.3 years G2 = 58.8 ± 5.6 years	G1: usual care	9 months	—	—	62
		G2: Tai Chi plus usual care		30 min per session, 2 classes per week for the first month, and 1 class per week for 8 months	—	
ME	65 subjects, G1 = 57.4 ± 4.8 years G2 = 58.8 ± 4.5 years	G1: usual habits	24 weeks	—	—	16
		G2: strength and balance exercises		60 min, 3 sessions per week	low intensity	
	53 subjects, G1 = 56.3 ± 6.4 years G2 = 53.1 ± 7.6 years	G1: AE program on treadmill	4 weeks	30 min, twice a week	60%–85% HR_{max}	63
		G2: control		—	—	
	150 subjects, ≥ 65 years	G1: usual care	12 weeks	—	—	64

		G2: multicomponent exercise program		1 h, twice a week	RPE scale: 13–14	
CT	85 subjects, G1 = 54.9 ± 3.5 years G2 = 55.8 ± 3.2 years	G1: unvarying lifestyle	12 years	—	—	65
		G2: supervised exercise		2 supervised classes (60 min) and 2 home training sessions (20 min) per week	AE: 70%–85% HR_{max}; RE: 1–4sets, 70%–90% 1-RM, 4–12 repetitions	
	137 subjects, G1 = 55.5 ± 3.2 years G2 = 53.5 ± 3.4 years	G1: sedentary control	16 years	—	—	66
		G2 : low and high-impact aerobic dance exercises with high-intensity resistance training		60–65 min and 2 home training sessions of 20–25 min for 49–50 weeks per year	AE: 70%–75% HR_{max}; RE: on machines (1–4weeks: 70%–90%1-RM, 4–6 weeks: 50–55% 1-RM) but higher volume (2–3 sets, 20–25 repetitions) or free weights	

Abbreviations: 1-RM = one-repetition maximum; AE = aerobic exercise; CT = combined aerobic exercise with resistance training; G = Group; HRR = heart rate reserve; HR_{max} = maximum heart rate; ME = multimodal exercise; RE = resistance exercise; RPE = rating of perceived exertion.

Supplementary Table 4.

Exercise prescriptions for osteoarthritis.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
aquatic exercise	85 subjects, G1 = 63.3 ± 5.3 years G2 = 65.7 ± 8.9 years G3 = 67.7 ± 7.8 years	G1: control	8 weeks	—	—	71
		G2: aquatic exercises		30 min, 3 times a week	65% HR_{max}	
		G3: land-based exercise		40 min, 3 times a week	40%–60% 1-RM	
	87 subjects, G1 = 63.9 ± 2.4 years G2 = 63.8 ± 2.4 years	G1: normal physical activity	16 weeks	—	—	72
		G2: 48 supervised intensive aquatic resistance training sessions		1 h, 3 times a week	RPE scale:12–16; 80%–95% HR_{max}	
	249 subjects, G1 = 66.0 ± 6.1 years G2 = 65.7 ± 5.9 years	G1: usual activity levels	20 weeks	—	—	73
		G2: aquatic exercise		2–5 times per week	—	
	50 subjects, 40–65 years	G1: educational attention	3 months	1.5 h, on a weekly basis	—	74
		G2: aerobic aquatic exercise (water temperature of 31 ℃)		60 min, twice a week	57%–67% HR_{max}, RPE scale: 4–6; 64–74% HR_{max}, RPE scale: 5–6	
	79 subjects, G1 = 75.8 ± 6.2 years G2 = 74.4 ± 7.5 years G3 = 73.2 ± 4.8 years	G1: usual activities	11 weeks	a phone call from the study coordinator every 2 weeks	—	75
		G2: aquatics exercise		45 min, twice/week	—	

		G3: aquatics exercise and education		aquatic exercise: 45 min, 2 times/week and a 30 min educational session preceding the aquatic class once a week	—	
	34 subjects, G1 = 66.0 ± 6.35 years G2 = 65.62 ± 7.15 years	G1: a traditional aquatic exercise program	8 weeks	45 min, 3 times/week	RPE scale: 4–6	76
		G2: dance-based aquatic exercise (water temperature was 32 ℃)		21 min, 3 times/week		
AE	83 subjects, G1 = 71.8 ± 8.0 years G2 = 68.9 ± 7.7 years G3 = 74.4 ± 7.5 years	G1: OA education brochures and weekly phone calls	8 weeks	weekly	—	77
		G2: Hatha yoga		45 min class/week and additional 30 min/day, 4 times/week of yoga practice at home	—	
		G3: aerobic/strengthening exercise		aerobic exercise: 15–30 min/day, 4 times/week, the strengthening exercise: 30 min/day, 2 times/week on non-consecutive days at home	low-impact	
	31 subjects, G1 = 71.1 ± 9.3 years	G1: meditation with no exercise	12 weeks	—	—	78

	G2 = 63.7 ± 8.9 years G3 = 65.5 ± 5.6 years	G2: traditional leg strengthening on machine		3 of 4 available 1 h classes/sessions each week	7 out of 10 on the Borg Perceived Exertion Scale	
		G3: biomechanically-based yoga exercises		3 of 4 available 1 h classes/sessions each week	7 out of 10 on the Borg Perceived Exertion Scale	
	46 subjects, G1 = 64.53 ± 3.43 years G2 = 64.61 ± 3.4 years	G1: educational classes	24 weeks	bi-weekly educational classes	—	79
		G2: Tai Ji Quan training		60 min session, three times/week	—	
	48 subjects, G1 = 59.0 ± 2.0 years G2 = 61.0 ± 1.0 years	G1: swimming (water temperature:27 ℃–28 ℃)	12 weeks	20–30 min/day, then 40–45 min/day, 3 days/week	40%–50% HRR, then 60%–70% HRR	69, 80
		G2: cycling (a stationary cycle ergometer)		20–30 min/day, then 40–45 min/day, 3 days/week	40%–50% HRR, then 60%–70% HRR	
RE	41 subjects, G1 = 70.8 ± 8.4 years G2 = 65.0 ± 8.4 years	G1: conventional modality treatments	8 weeks	—	—	81
		G2: supervised exercise with elastic bands in addition to conventional modality treatments		2–3 times/week	2 sets of 12 repetitions of elastic-band leg-press exercises in the last session with RPE of 13	
	40 subjects, G1 = 63.20 ± 3.69	G1: lecture and discussion	8 weeks	1 h session/week	—	82

	years G2 = 64.07 ± 4.45 years	G2: strength exercise		1 h, 3 times/week	—	
	46 subjects, G1 = 51.9 ± 7.0 years G2 = 53.1 ± 10.2 years	G1: high-velocity resistance training	8 weeks	daily	2 sets of 10 repetitions for the first 2 weeks and 3 sets of 10 repetitions thereafter	83
		G2: low-velocity resistance training		daily	2 sets of 10 repetitions for the first 2 weeks and 3 sets of 10 repetitions thereafter	
WBV and RE	180 subjects, 50–70 years	G1: health education	12 weeks	1 h session/week	—	84
		G2: lower extremity resistance training		30 min, 3 sessions/week	3 sets of 10 repetitions	
		G3: WBV exercise		3 days/week with at least 1 day between each session	progressively increasing intensity	
	49 subjects, G1 = 61.5 ± 9.1 years G2 = 61.2 ± 9.6 years	G1: quadriceps resistance exercises	24 weeks	40min/day, 5 days/week	3 sets of 10 repetitions	85
		G2: WBV exercise associated with quadriceps resistance exercises		30 min/day, vibration 60 seconds, interval rest 60s, 5 days/week	3 sets of 10 repetitions	
	52 subjects, G1 = 61.1 ± 8.5 years G2 = 61.5 ± 9.2 years	G1: no training	8 weeks	—	—	86
		G2: WBV exercise on a stable platform		twice a week with at least 2 days of rest	progressively increasing intensity	

	G3 = 58.7 ± 11.0 years			between 2 sessions		
		G3: WBV exercise on a balance board		twice a week with at least 2 days of rest between 2 sessions	progressively increasing intensity	
ME	53 subjects, 60–90 years	G1: usual activities	8 weeks	—	—	87
		G2: high-speed resistance training		twice a week	1–2weeks: 20%–40% 1-RM; 3–5weeks: 60%–80% 1-RM; 6–8weeks: 60%–80% 1-RM	
		G3: high-speed resistance training and balance training		twice a week	1–2weeks: 20%–40% 1-RM; 3–5weeks: 60%–80% 1-RM; 6–8weeks: 60%–80% 1-RM	
	109 subjects, G1 = 57.2 ± 9.8 years G2 = 58.4 ± 10.0 years	G1: education	12 weeks	once weekly	—	88
		G2: exercise therapy and education		2 or 3 weekly sessions	—	

Abbreviations: 1-RM = one-repetition maximum; AE = aerobic exercise; G = Group; HRR = heart rate reserve; HR_{max} = maximum heart rate; ME = multimodal exercise; RE = resistance exercise; RPE = rating of perceived exertion; WBV = whole body vibration.

Supplementary Table 5.

Exercise prescriptions for hip fractures.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	98 subjects, G1 = 61.9 ± 9.6 years G2 = 61.5 ± 8.2 years	G1: usual care	20 weeks	—	—	93
		G2: program consisted of 11 groups of balance exercise or activities		1 h, twice weekly		
HE	26 subjects, G1 = 82.0 ± 6.0 years G2 = 79.6 ± 5.9 years	G1: conventional transcutaneous electrical nerve stimulation	10 weeks	—	—	92
		G2: leg-strengthening exercises		30–40 min, twice a week	8-RM, 3 sets of 8 repetitions	
	232 subjects, G1 = 78.9 ± 9.4 years G2 = 77.2 ± 10.2 years	G1: in-home and telephone-based cardiovascular nutrition education	6 months	1 h	—	94
		G2: functionally oriented exercises		1 h, 3 times per week		
ME	82 subjects, ≥ 60 years	G1: usual care	3 months	—	—	7
		G2: physical exercise program		1 h, once a week by physiotherapists, at home, twice a week, using a	progressive strengthening: 10–15 repetitions, 2–3 sets. balance training:1–2 sets of 10 repetitions	

				booklet		
	162 subjects, G1 = 67.2 ± 5.5 years G2 = 67.7 ± 6.5 years	G1: usual care	12 months	—	—	95
		G2: Traditional PRT, weight-bearing impact training and/or balance training		60–180 min/session, 3 times weekly	2 sets of 12–15 repetitions at 40%–60% 1-RM (3–4 RPE scale); PRT: 2 sets of 8–12 repetitions (5–8 RPE scale)	

Abbreviations: 8-RM = eight-repetition maximum; AE = aerobic exercise; G = Group; HE = home-based exercise; ME = multimodal exercise; PRT= progressive resistance training; RE = resistance exercise; RPE = rating of perceived exertion.

Supplementary Table 6.

Exercise prescriptions for obesity.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	42 subjects (lean, intermediate, obese), G1 = 23.8 ± 1.0 years G2 = 29.0 ± 2.0 years G3 = 25.0 ± 1.2 years	G1: aerobic interval training	8 weeks	42 min; 3 days/week	60% HR_{max} (10 min); 88%–92% HR_{max} (4×4 min, intervals); 70% HR_{max}; 60% HR_{max} (4×4 min intervals)	9
		G2: aerobic interval training		42 min; 3 days/week		
		G3: aerobic interval training		42 min; 3 days/week		
	22 subjects, G1 = 25.10 ± 6.52 years G2 = 31.14 ± 8.57 years	G1: training on a cycle ergometer or a treadmill	6 weeks	30–60 min; 3 days/week	60%–75% HRR	98
		G2: training on a cycle ergometer or a treadmill		30–60 min; 3 days/week	60%–75% HRR	
	11 subjects, G1 = 35.4 ± 1.5 years	G1: cycling and running	8 weeks	45–60 min, 5 times a week	35–85% VO_{2max}	99
	15 subjects, G1 = 38.3 ± 2.4 years	G1: training on a treadmill or a bike	10 weeks	1 h, 3 times a week	≥ 65 % VO_{2max}	100
RE and HIIT	8 subjects, 48.4 ± 3.9 years	G1:RE	36 days	25 min	70% 1-RM	101
		G2: combined RE with HIIT		47 min	70% 1-RM; 90% HR_{max} (10 repetitions of 1 min cycling during HIIT)	

Abbreviations: 1-RM= one-repetition maximum; AE = aerobic exercise; G = Group; HIIT = high intensity interval training; HRR = heart rate reserve; HR_{max} = maximum heart rate; RE = resistance exercise; VO_{2max} = maximum oxygen uptake.

Supplementary Table 7.

Exercise prescriptions for type 2 diabetes.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
CT	230 subjects, G1 = 45.76 ±9.91 years G2 = 48.28 ±8.17 years	G1: training on a treadmill or a stationary bicycle	3 months	50 min; 3 days/week	10-min at 50–60% HR_{max} and 40 min of the prescribed exercise program at 65–80% HR_{max}	106
		G2: training on a treadmill or a stationary bicycle		50 min; 3 days/week		
	243 subjects, G1 = 54.6 ±7.1 years G2 = 54.0 ±6.6 years G3 = 54.8 ±7.6 years G4 = 53.6 ±7.2 years	G1: control	6 months	—	—	107
		G2: AE		60–65 min; three times weekly	15–20 min/session at 60% HR_{max} to 45 min/session at 75% HR_{max}	
		G3: RE		60–65 min; three times weekly	2–3 sets of each exercise at the maximum weight that could be lifted 7–9 times	
		G4: CT		60–65 min; three times weekly	AE: 15–20 min/session at 60% HR_{max} to 45 min/session at 75% HR_{max} ; RE: 3 sets of each exercise at the maximum weight that could be lifted 7–9 times	
RE	18 subjects, G1 = 49.62 ±8.05 years G2 = 47.60 ±7.70 years	G1: control	8 weeks	—	—	108

		G2: RE		65–85 min; 3 non-consecutive days per week	50%–70% 1-RM with 8–15 repetitions of within 45–60s (1–4weeks); 70–80% 1-RM with 8–10 repetitions of within 45–60s (5–8weeks)	
	14 subjects, G1: 61.3 ±8.4 years	G1: consisted of 8 strength exercises for the lower and upper body	3 months	2 nonconsecutive days per week	75% 1-RM	109
HIIT	19 subjects, G1 = 55.8 ±9.0 years G2 = 57.9 ±5.4 years	G1: healthy age-matched controls completed an acute bout of HIIT	once	7 × 1 min separated by 1 min recovery	85% peak power output	110
		G2:T2D completed an acute bout of HIIT			85% peak power output	

Abbreviations: 1-RM = one-repetition maximum; AE = aerobic exercise; CT = combined aerobic exercise with resistance training; G = Group; HIIT = high intensity interval training; HR_{max} = maximum heart rate; RE = resistance exercise.

Supplementary Table 8.

Exercise prescriptions for type 1 diabetes.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
HIIT	20 subjects, G1 = 25.2 ±5.5 years G2 = 23.9 ±4.4 years G3 = 25.7 ±5.8 years	G1: healthy controls: HIIT session was performed on a cycle ergometer	once	15 min	a Borg score of >15 (running from 6, indicating no exertion to 20, indicating maximal exertion)	112
		G2:type 1 diabetes and normal awareness of hypoglycemia: HIIT session was performed on a cycle ergometer		15 min	a Borg score of >15 (running from 6, indicating no exertion to 20, indicating maximal exertion)	
		G3: type 1 diabetes and impaired awareness of hypoglycemia : HIIT session was performed on a cycle ergometer		15 min	a Borg score of >15 (running from 6, indicating no exertion to 20, indicating maximal exertion)	
endurance training	16 subjects, without age data in the reference	G1: healthy control: supervised cycle sprint training	7 weeks	3 times/week	high-intensity	113
		G2: patients with type 1 diabetes: supervised cycle sprint training		3 times/week	high-intensity	

Abbreviations: G = Group; HIIT = high intensity interval training.

Supplementary Table 9.

Exercise prescriptions for nonalcoholic fatty liver disease.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	80 subjects, G1 = 51.0 ± 13.0 years G2 = 41.0 ± 14.0 years G3 = 46.0 ± 9.0 years	G1: control	4 weeks	—	—	116
		G2: HIIT		—	4 min intervals, 80% VO_{2peak}; separated by 3 min active recovery, 50% VO_{2peak}	
		G3: energy-matched moderate intensity continuous exercise training		—	55% VO_{2peak}	
	18 subjects, G1 = 47.5 ± 3.1 years G2 = 48.6 ± 2.2 years	G1:observation	16 weeks	—	—	117
		G2: walking on a motor-driven treadmill		30–60 min, 5 days/week	45%–55% VO_{2peak}	
	220 subjects, G1 = 54.0 ± 6.8 years G2 = 54.4 ± 7.4 years G3 = 53.2 ± 7.1 years	G1: health education sessions	12 months	biweekly	—	118
		G2: moderate exercise		—	moderate intensity	
		G3: vigorous-moderate exercise		—	vigorous-moderate intensity	
CT	22 subjects, G1 = 57.6 ± 8.1 years G2 = 54.5 ± 6.8 years	G1: males matched individuals without nonalcoholic: control	12 weeks	—	—	119
		G2:males with NAFLD: combined aerobic and resistance exercise training		3 exercise sessions per week	AE: 70% of maximal work load; RE: 3 series of 10 repetitions 60% of the	

					maximal voluntary contraction	

Abbreviations: AE = aerobic exercise; CT = combined aerobic exercise with resistance training; G = Group; HIIT = high intensity intermittent aerobic training; NAFLD = nonalcoholic fatty liver disease; RE = resistance exercise; VO_{2peak} = peak oxygen uptake.

Supplementary Table 10.

Exercise prescriptions for coronary artery disease.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	34 subjects, G1 = 59.6 ± 11.8 years G2 = 63.8 ± 8.0 years	G1: control	4 weeks	—	—	124
		G2: walking		30 min of walking per day, 5 days per week	moderate-intensity equivalent to 60% VO_{2peak}	
	30 subjects, G1 = 58.33 ± 1.88 years G2 = 56.80 ± 1.82 years	G1: control	10 weeks	—	—	125
		G2: intermittent exercise at 10 min bouts		30 min per day, 3 days a week	60%–79% the HR_{max}	
	72 subjects, G1 = 58.0 ± 11.0 years G2 = 58.0 ± 11.0 years	G1: moderate continuous training	8 weeks	40 min/session	1 month: RPE scale: 11–13, 2 months: RPE scale: 14–16	15, 126
		G2: HIIT		40 min/session	1 month: RPE scale: 11–13, 2 months: RPE scale: 14–16	
	163 subjects, G1 = 59.9 ± 9.2 years G2 = 57.4 ± 8.7 years	G1: aerobic continuous training	12 weeks	47 min, 3 times/week	5 min of warm-up at 60%–70% HR_{peak}, 37 min of at least 70%–75% HR_{peak}, 5 min cool-down at 60%–70% HR_{peak}	127
		G2: aerobic interval training		38 min, 3 times/week	10 min of warm-up at 60%–70% HR_{peak}, 4 × 4-min intervals at 85%–95% HR_{peak}, 4 × 3 min of active rest at 50%–70% HR_{peak}	
	200 subjects, G1 = 57.0 ± 8.8 years	G1: aerobic interval training	12 weeks	38 min, 3 times/week	90%–95% HR_{peak}	128

	G2 = 59.9 ± 9.2 years	G2: aerobic continuous training		47 min, 3 times/week	70%–75% HR_{peak}	
HE	196 subjects, G1 = 70.3 ± 8.26 years G2 = 70.2 ± 10.7 years	G1: hospital-based exercise training	6 months	30–50 min, 3 times per week	60%–80% target HRR	129
		G2: home-based exercise training		30–50 min, 3 times per week	60%–80% target HRR	
	53 subjects, G1 = 67.0 ± 8.0 years G2 = 65.0 ± 10.0 years	G1: usual care	6 months	—	—	130
		G2: home-based AE training using a stationary cycle or treadmill; RE or calisthenics exercises		AE: 30 min, twice daily; RE or calisthenics exercises: 20 min of on alternate days	AE: light to moderately hard perceived exertion; RE: at 70%–80% of maximal workload based on 1-RM (3 sets of 4 exercises with 10–12 repetitions of each exercise)	

Abbreviations: 1-RM= one-repetition maximum; AE = aerobic exercise; G = Group; HE = home-based exercise; HR_{peak} = peak heart rate; HRR = heart rate reserve; RE = resistance exercise; RPE = rating of perceived exertion; VO_{2peak} = peak oxygen uptake.

Supplementary Table 11.

Exercise prescriptions for stroke.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	57 subjects, G1 = 65.7 ± 2.3 years G2 = 64.7 ± 3.6 years	G1: conventional rehabilitation	12 weeks	—	—	132
		G2: aerobic cycle aerometry		30 min, 3 days/week	50%–75% of WR achieved at VO_{2peak}	
	75 subjects, 20–90 years	G1: cognitive training	12 weeks	60 min per day, 3 days per week	—	133
		G2: AE		60 min per day, 3 days per week	40%–70% HR_{max}	
		G3: combination of AE and cognitive training		first receive 30 min of AE, followed by 30 min of cognitive training, 3 days per week	40%–70% HR_{max}	
	38 subjects, G1 = 64.10 ± 12.40 years G2 = 58.96 ± 14.68 years	G1: AE	8 weeks	45 min, 3 times a week	70% HR_{max}	134
		G2: stretching exercise		45 min, 3 times a week	—	
	56 subjects, G1 = 70.4 ± 8.1 years G2 = 71.3 ± 7.0 years	G1: no exercise	12 weeks	—	—	135
		G2: AE		60 min, 2 times/week	RPE scale: 14–15	

	23 subjects, G1 = 65.9 ± 6.4 years G2 = 66.9 ± 7.8 years	G1: AE	6 months	60 min, 3 times/week	40% to 70%–80% HRR by increasing 10% HRR every 4 weeks	137
		G2: balance and flexibility		60 min, 3 times/week	< 40% HRR	
RE	67 subjects, G1 = 72.6 ± 5.5 years G2 = 73.7 ± 5.3 years	G1: regular activities	3 months	—	—	136
		G2: progressive resistance and balance exercises		75 min, 2 days/week	low (>15 repetitions) to moderate (10–15 repetitions) intensity	
	20 subjects, G1 = 53.90 ± 5.82 years G2 = 54.10 ± 11.69 years	G1: basic exercise treatment followed by an automated full-body workout	4 weeks	50 min, 3 times per week	—	138
		G2: basic exercise treatment followed by an automated full-body workout and respiratory muscle training regimen		70 min, 3 times per week	—	
CT	41 subjects, G1 = 63.6 ± 13.5 years	G1: CT	6 weeks	90 min, once per week	40%–70% HRR or VO_{2peak}; RPE scale: 13–14	139

Abbreviations: AE = aerobic exercise; CT = combined aerobic exercise with resistance training; G = Group; HR_{max} = maximum heart rate; HRR = heart rate reserve; RE = resistance exercise; RPE = rating of perceived exertion; VO_{2peak} = peak oxygen uptake.

Supplementary Table 12.

Exercise prescriptions for chronic heart failure.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	90 subjects, G1 = 51.91 ±15.20 years G2 = 51.64 ±10.48 years	G1: usual care	12 weeks	—	—	141
		G2: received the walking and breathing intervention		twice daily in the morning and afternoon	RPE: 12–13	
	56 subjects, mean age: G1 = 54.0 ±2.0 years G2 = 56.0 ±2.0 years	G1:untrained	4 months	—	—	142
		G2: cycling on an ergometer bicycle		60 min, 3 times/week	60%–72% VO_{2peak}	
RE	72 subjects, G1 = 53.0 ±3.0 years G2 = 54.0 ±4.0 years G3 = 71.0 ±3.0 years G4 = 71.0 ±4.0 years	G1: middle-age: home-based exercise	4 weeks	—	—	148
		G2: middle-age: closed-chain resistive activities and abdominal exercises		30–60 min, 6 times weekly	60%–70%–85% progressively of the individual VO_2	
		G3: elderly: home-based exercise		—	—	
		G4: elderly: closed-chain resistive activities and abdominal exercises		30–60 min, 6 times weekly	60%–70%–85% progressively of the individual VO_2	
	36 subjects, G1 = 64.4 ±2.4 years G2 = 61.3 ±2.8 years	G1: untrained control	12 weeks	—	—	149
		G2: aerobic training		46.5 min, 3 supervised sessions	1–6 weeks: 50%–60% VO_{2peak} 7–12 weeks: 60%–70% VO_{2peak}	

	G3 = 58.8 ±3.5 years			per week		
		G3: resistance training		46.5 min, 3 supervised sessions per week	1–6 weeks: 50%–60% 1-RM 7–12 weeks: 60%–70% 1-RM	
HIIT	100 subjects, G1 = 63.0 ±9.0 years G2 = 56.0 ±11.0 years	G1: as usual	12 weeks	—	—	143
		G2: HIIT		45min/day, 3 days/week	80% WR_{peak} and progressively to 100% WR_{peak}	
	26 subjects, G1 = 55.0 ±12.0 years G2 = 54.0 ±9.0 years	G1: continuous training	8 weeks	168 min of exercise weekly	heart rate at the first ventilatory threshold and a final 5 minutes of active recovery	144
		G2: interval training		360 min of exercise weekly	50% and 80% of the maximal power	
	17 subjects, G1 = 59.7 ±10.8 years G2 = 59.8 ±7.4 years	G1: continuous aerobic exercise training	24 weeks	3 times a week	40%–60% VO_{2peak}	145
		G2:HIIT		3 times a week	very low intensity active cycling phases of 1 min at 20%–30% of peak power output followed by high intensity cycling for 30 s at 50% of the maximum workload	
	100 subjects, G1 = 63.0 ±9.0 years G2 = 56.0 ±11.0 years	G1: no exercise	12 weeks	—	—	146
		G2: HIIT		45 min, 3days/week	1–2weeks: 30% 1-RM, 3 sets of 8–10 repetitions; 3–5weeks: 50% 1-RM; 6–12weeks: 90% 1-RM	
	28 subjects, G1 = 52.0 ±11.0 years	G1: interval cycle exercise	3 months	40 min, 3 times/week	50% of the peak workload	147

	G2 = 54.0 ± 10.0 years	G2: interval cycle exercise and strength training		40 min, 3 times/week	50% of the peak workload; 55%–65% 2-RM	

Abbreviations: 1-RM = one repetition maximum; 2-RM= two-repetition maximum; AE = aerobic exercise; G = Group; HIIT = high intensity interval training; HRR = heart rate reserve; RE = resistance exercise; VO_2 = oxygen uptake; VO_{2peak} = peak oxygen uptake; WR_{peak} = peak work rate.

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Supplementary Table 13.

Exercise prescriptions for Parkinson's disease.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	62 subjects, G1 = 66–75 years G2 = 64–71 years G3 = 66–68 years	G1: functional training	8 weeks	50 min, 3 times/week	progressively with barbells and manual resistance	152
		G2: Kinect Adventures exergames		50 min, 3 times/week	progressively with different game levels of difficulty	
		G3: stationary bicycle		50 min, 3 times/week	1 week: 50% HR_{max} ; 2–3 weeks: 55% HR_{max} ; 4–5 weeks: 65% HR_{max} ; 6–7 weeks: 70% HR_{max} ; 8 weeks: 75% HR_{max}	
	43 subjects, G1 = 64.7 ±5.2 years G2 = 67.6 ±7.5 years	G1: interval walking	6 months	45 min, 3 times/week	every 3 min between slower (60%–70% HR_{max}) and faster (80%–90% HR_{max}) walking	153
		G2: continuous walking		45 min, 3 times/week	70%–80% HR_{max}	
	49 subjects, G1 = 68.78 ±3.72 years G2 = 68.78 ±11.33 years	G1:community group: walking program	12 weeks	40–55 min, 3 times/week	RPE scale: 10–12	154
		G2: walking program		40–55 min, 3 times/week	RPE scale: 10–12	
	2 subjects, G1 = 61 years G2 = 72 years	G1: woman with PD dementia: stationary bicycle	8 weeks	1 h, 3 times/week	50%–75% HR_{max}	155

		G2: man with mild cognitive impairments: stationary bicycle		1 h, 3 times/week	50%–75% HR_{max}	
	23 subjects, G1 = 71.2 ±9.2 years	G1:treadmill training	12 weeks	60min, sessions a week	RPE scale: 10–15	156
RE	26 subjects, G1 = 62.2 ±2.0 years G2 = 62.7 ±1.3 years	G1: patients without PD: bilateral and unilateral knee extension exercises	once	30–50 min	2 sets of 5 repetitions for each exercise: the first set with a comfortable workload, a 2-min rest interval, and the second set with the estimated workload corresponding to 10–12 RM	157
		G2: patients with PD: bilateral and unilateral knee extension exercises		30–50 min	2 sets of 5 repetitions for each exercise: the first set with a comfortable workload, a 2-min rest interval, and the second set with the estimated workload corresponding to 10–12 RM	
	60 subjects, G1 = 61.2 ±7.7 years G2 = 59.0 ±4.6 years G3 = 58.6 ±5.6 years	G1: control	24 months	—	—	158
		G2: progressive RE		60–90 min,(2×/week for 6 months, 1×/week for remaining 18 months), and number of exercises sessions (2×/week for 24	—	

				months)		
		G3: modified fitness counts: non-progressive strength, balance, and stretching exercises		60–90 min, 2 ×/week for 6 months, 1 ×/week for remaining 18 months), and number of exercises sessions (2 ×/week for 24 months)	-	
	27 subjects, G1 = 61.89 ±6.79 years G2 = 61.44 ±11.91 years G3 = 63.44 ±8.79 years	G1: control	4 weeks	30 min, 3 times/week	75% HR_{max}	159
		G2: treadmill with 5% of load		30 min, 3 times/week	75% HR_{max}	
		G3: treadmill with 10% of load		30 min, 3 times/week	75% HR_{max}	
ME	40 subjects, G1 = 66.00 ±11.80 years G2 = 64.35 ±10.53 years	G1: Tai Chi	12 weeks	1 h, twice weekly	—	160
		G2: ME		1 h, twice weekly	gradually increasing resistance	
	23 subjects, G1 = 74.9 ±5.1 years G2 = 74.5 ±9.4 years G3 = 68.4 ±6.3 years	G1: individualized exercises	6 months	1 h, 2 attendances per week	3 series of 10 repetitions	161
		G2: group exercises		1 h, 2 attendances per week	3 series of 10 repetitions	
		G3: basic activities unchanged		—	—	
	48 subjects, G1 = 64.6 ±6.8 years G2 = 64.2 ±6.7 years G3 = 63.9 ±8.5 years	G1: home exercise program	4 weeks	60 min,3 times/week	—	162
		G2: individual physical therapy		60 min,3 times/week	—	
		G3: group class intervention		60 min,3 times/week	—	
aquatic exercise	18 subjects,	G1: usual care	6 weeks	—	—	163

	G1 = 67–77 years G2 = 67.75–71.75 years	G2: aquatic exercise (water temperature: 32 ℃)		45min, twice a week	—	

Abbreviations: AE = aerobic exercise; G = Group; HR_{max} = maximum heart rate; ME = multimodal exercise; PD = Parkinson's disease; RE = resistance exercise; RM = repetition maximum; RPE = rating of perceived exertion.

Supplementary Table 14.

Exercise prescriptions for Huntington's disease.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
HIIT	24 subjects, G1 = 49.1 ±6.8 years G2 = 54.8 ±7.1years	G1: health control, endurance training	6 months	30 min, 3 times a week	1–10 weeks, 65%VO_{2peak}; after the first regeneration week, HIIT (4×4 min cycling at a power eliciting 90%–95 % HR_{peak}) during regeneration weeks, at 50% VO_{2peak}	166
		G2:patients with HD, endurance training		30 min, 3 times a week	1 – 10 weeks, 65%VO_{2peak}; after the first regeneration week, high-intensity interval trainings (4×4 min cycling at a power eliciting 90%–95% HR_{peak}) during regeneration weeks, at 50% VO_{2peak}	
	24 subjects, G1 = 49.7 ±6.8 years G2 = 53.2 ±8.8 years	G1: healthy controls, constant load cycling and HIIT	26 weeks	30 min, 3 times a week	1–10 weeks: 65% VO_{2peak} 11–18 weeks: HIIT (4×4 min at 90%–95% HR_{peak} with 3 min low-intensity rest intervals at 70% HR_{peak})	167
		G2: HD patients, constant load cycling and HIIT		30 min, 3 times a week	1–10 weeks: 65% VO_{2peak} 11–18 weeks: HIIT (4×4 min at 90%–95% of HR_{peak} with 3	

					min low-intensity rest intervals at 70% HR_{peak})	
CT	21 subjects, G1 = 47.4 ± 9.5 years G2 = 53.3 ± 12.5 years	G1:no exercise	12 weeks	—	—	168
		G2: stationary cycling and resistance exercises and home-based walking program		CT: 20–30 min, 3 times/week home-based walking: 10–30 min, twice weekly	AE: 55%–75% HR_{max}; RE: 2 full sets of 8–12 repetitions could be performed at 60%–70% of 1-RM, with a 2-min rest between sets; home-based walking: RPE scale: 3–4	
ME	62 subjects, < 50 years or ≥ 50 years	G1: social interaction	16 weeks	6 home visits and interim telephone calls over a course of 14 weeks	—	165
		G2: physical activity intervention		45 min, daily	—	
	33 subjects, G1 = 51.0 ± 17.0 years G2 = 53.0 ± 11.0 years	G1: as usual	12 weeks	—	—	169
		G2: AE, strengthening and stretching		50 min, 3 times/week	65%–85% age-predicted HR_{max}	
	30 subjects, G1 = 59.4 ±10.0 years G2 = 55.0 ±10.0 years	G1: usual care	8 weeks	—	—	170
		G2: task-specific mobility training		twice a week	—	

Abbreviations: 1-RM = one-repetition maximum; AE = aerobic exercise; CT = combined aerobic exercise with resistance training; G = Group; HD = Huntington's disease;

HIIT = high intensity interval training; HR_{peak} = peak heart rate; ME = multimodal exercise; RPE = rating of perceived exertion; $\dot{V}O_{2peak}$ = peak oxygen uptake.

Supplementary Table 15.

Exercise prescriptions for Alzheimer's disease.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	65 subjects, G1 = 71.1 ± 8.8 years G2 = 74.1 ± 6.8 years	G1:stretching and toning	26 weeks	weekly	HR below 100 beats per minute	173
		G2: AE		1 week: 60 min and increased their weekly by 21 min per week until 150 min per week	40%–55% HRR, then 60%–75% HRR	
	19 subjects, G1 = 78.6 ± 11.3 years	G1: group balance training	12 weeks	40 – 45 min, twice per week	—	174
ME	16 subjects, G1 = 76.0 ± 4.0 years G2 = 73.0 ± 4.0 years	G1: routine nursing/medical care	12 weeks	—	—	175
		G2: joint mobility, resistance, coordination exercises, stretching, walking		75 min, 3 times/week	medium-resistance bands (3 sets of 15 repetitions each)	
HE	214 subjects, without age data in the reference	G1:usual care	24 weeks	—	—	176
		G2: home-based balance exercise		5 times a week	—	
	210 subjects, G1 = 78.1 ± 5.3 years G2 = 71.1 ± 8.8 years G3 = 78.3 ± 5.1 years	G1: as usual	12 months	—	—	177
		G2: HE		1 h, twice a week	—	
		G3: group exercise		1 h, twice a week	—	

	210 subjects, G1 = 78.1 ± 5.3 years G2 = 78.3 ± 5.1 years G3 = 77.7 ± 5.4 years	G1: usual community care	1 year	—	—	178
		G2: group-based exercise		1 h, twice a week	—	
		G3: tailored home-based exercise		1 h, twice a week	—	

Abbreviations: AE = aerobic exercise; G = Group; HE = home-based exercise; HR_{peak} = peak heart rate; HRR = heart rate reserve; ME = multimodal exercise.

Supplementary Table 16.

Exercise prescriptions for depression.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	119 subjects, G1 = 45.3 ±10.6 years G2 = 48.5 ±9.4 years	G1: AE	12 weeks	a high dose of 16kcal/kg/week	—	182
		G2: AE		a low dose of 4kcal/kg/week	—	
	121 subjects, G1 = 75.6 ±5.6 years G2 = 74.9 ±6.2 years G3 = 74.9 ±6.2 years	G1: antidepressants (sertraline)	24 weeks	—	—	183,184
		G2: antidepressants plus low-intensity, non-progressive exercise		3 times per week	not to exceed 70% HR_{peak}	
		G3: antidepressants plus high-intensity, progressive aerobic exercise		3 times per week	not to exceed 70% HR_{peak}	
	50 subjects, G1 = 41.76 ±10.4 years G2 = 38.84 ±11.5 years	G1:as usual	2 weeks	—	—	185
		G2: AE		16.5 kcal/kg/week, 3 sessions per week	—	

Abbreviations: AE = aerobic exercise; G = Group; HR_{peak} = peak heart rate.

Supplementary Table 17.

Exercise prescriptions for anxiety disorders.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	41 subjects, G1 = 30.95 ± 11.68 years G2 = 35.33 ± 13.3 years	G1: stretching routine	once	30 min	below 50% age-adjusted maximum HRR	189
		G2: AE		30 min	60%–80% age-adjusted maximum HRR	
HE	86 subjects, G1 = 40.45 ± 11.25 years G2 = 39.76 ± 11.09 years	G1: traditional care	3 months	—	—	190
		G2: home-based exercise		30 min per day, 5 days per week	moderate to vigorous	
AE or RE	77 subjects, G1 = 19.74 ± 1.72 years G2 = 20.12 ± 2.64 years G3 = 19.19 ± 2.00 years	G1: no exercise	once	—	—	191
		G2: AE		20 min	65%–75% age-adjusted predicted HR_{max}	
		G3: RE		20 min	2 sets of each exercise to exhaustion	
	30 subjects, G1 = 24.2 ± 6.3 years G2 = 20.7 ± 3.0 years G3 = 25.6 ± 7.1 years	G1: no exercise	6 weeks	—	—	192
		G2: AE		2 weekly sessions of 16 min	weekly 5% progression in load	
		G3: RE		46 min and 40 s and required 16 min	1 week: 50% of 1-RM and progressing by 5% of 1-RM weekly	

Abbreviations: 1-RM = one-repetition maximum; AE = aerobic exercise; G = Group; HE = home-based exercise; HRR = heart rate reserve; HR_{max} = maximum heart rate; RE = resistance exercise.

Supplementary Table 18.

Exercise prescriptions for chronic obstructive pulmonary disease.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
RE	49 subjects, G1 = 65.59 ± 8.65 years G2 = 65.85 ± 8.21 years	G1: control	6 months	—	—	197
		G2: individualized physical strength outpatient training		90 min, 2 days/week	35%–75% of the maximal muscle strength	
	29 subjects, G1 = 63.5 ± 5.9 years	G1: endurance and strength training	12 weeks	38 min, 3 days/week	70%–80% WR_{peak} ; 1 set each with 8–15 repetitions	198
water-based exercise	53 subjects, G1 = 70.0 ± 9.0 years G2 = 72.0 ± 10.0 years G3 = 73.0 ± 7.0 years	G1: no exercise training	8 weeks	—	—	199
		G2: land-based exercise training		60 min sessions, three times per week	intensity of dyspnoea and perceived exertion ratings of 3–5	
		G3: water-based exercise		60 min sessions, three times per week	intensity of dyspnoea and perceived exertion ratings of 3–5	
ME	58 subjects, G1 = 72.12 ± 8.19 years G2 = 75.65 ± 6.25 years	G1: standard medical and pharmacological care	12 days	—	—	200
		G2: training with a pedal exerciser		once per day	level 6 of dyspnea or fatigue in the Borg scale	
AE	40 subjects, G1 = 61.3 ± 2.89 years G2 = 59.7 ± 2.76 years	G1: only routine care	6 months	-—	—	201
		G2: Tai Chi		50min, 7 sessions per week with one session per day	adjusted for each COPD patient according to her/his toleration	

	143 subjects, G1 = 68.0 ± 9.0 years G2 = 69.0 ± 8.0 years	G1: usual medical care	10 weeks	—	—	202
		G2: ground-based walking training		45 min, 3 times per week	dyspnoea score of 3–4	

Abbreviations: AE = aerobic exercise; COPD = chronic obstructive pulmonary disease; G = Group; RE = resistance exercise; RPE = rating of perceived exertion; WR_{peak} = peak work rate.

Supplementary Table 19.

Exercise prescription for interstitial lung disease.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
CT	142 subjects, G1 = 73.0 ± 9.0 years G2 = 70.0 ± 10.0 years	G1: usual care	8 weeks	—	—	204
		G2: supervised outpatient exercise training program		30 min, twice weekly	70% WR_{max}; 10–12 RM	
	116 subjects, without age data in the reference	G1: usual care	8 weeks	—	—	205
		G2: supervised exercise training		30 min, twice weekly	70% WR_{max}; RPE:12–14	

Abbreviations: CT = combined aerobic exercise with resistance training; G = Group; RM = repetition maximum; RPE = rating of perceived exertion, WR_{max} = maximum work rate.

Supplementary Table 20.

Exercise prescriptions for after lung transplantation.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
WBV exercise	70 subjects, G1 = 55.0 ± 7.0 years G2 = 55.0 ± 9.0 years	G1: the same amount of exercise time on the floor	4 weeks	5–6 days per week	60% WR_{peak}; 3 sets of 20 repetitions	207
		G2: whole body vibration exercise		5–6 days per week	60% WR_{peak}; 3 sets of 20 repetitions	
CT	40 subjects, G1 = 59.0 ± 6.0 years G2 = 59.0 ± 4.0 years	G1: daily physical activity	3 months	—	—	208
		G2: cycling, walking, stair climbing and resistance exercise		90 min, 3 times weekly	Borg score of 4–6	

Abbreviations: CT = combined aerobic exercise with resistance training; G = Group; WBV = whole body vibration; WR_{peak} = peak work rate.

Supplementary Table 21.

Exercise prescriptions for chronic kidney disease.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	46 subjects, G1 = 57.1 ±9.0 years G2 = 58.0 ±8.0 years	G1: sedentary	16 weeks	—	—	212
		G2: AE		40 min, 3 times/week	50%–60% VO_{2peak}	
RE	38 subjects, G1 = 63–72 years G2 = 57–65 years	G1: usual physical activity	8 weeks	—	—	213
		G2: progressive RE		3 times a week	70% of predicted 1-RM, 3 sets of 10–12 repetitions	
CT	47 subjects, G1 = 68.8 ±11.8 years	G1: CT by self-training	6 months	6 sessions per month at 1.5–2 h per session	RPE scale:12–14	214
HE	36 subjects, G1 = 67.8 ±6.9 years G2 = 69.0 ±6.8 years	G1: normal daily activities	12 months	—	—	215
		G2: home-based aerobic and resistance exercises		AE: 30 min/day RE: 3 times/week	moderate-intensity	
	72 subjects, G1 = 62.0 ±8.4 years G2 = 60.2 ±9.7 years	G1: usual care	8 weeks (supervised training) + 10 months (home-based training)	—	—	216
		G2: home-based CT with diet		150 min/week	moderate-intensity	

	32 subjects, G1 = 62.0 ±8.4 years G2 = 60.2 ±9.7 years	G1: diet-alone	12 weeks(CT) + 40 weeks(home-based CT)	—	—	217
		G2: CT+ home-based CT with diet		3 days per week	moderate-intensity	
	40 subjects, G1 = 54.7 ±14.1 years G2 = 51.5 ±11.8 years	G1: usual care	3 months	—	—	218
		G2: home-based AE		at least 40 min/day	moderate-intensity	
	29 subjects, G1 = 54.3 ±8.7 years G2 = 55.9 ±7.7 years	G1: usual care	12 weeks	—	—	219
		G2: home-based AE		40 min, 3 times per week	40%–60% VO_{2max}	
	27 subjects, G1 = 53.4 ±9.6 years G2 = 52.1 ±11.4 years G3 = 50.8 ±7.7 years	G1: control	12 weeks	—	—	220
		G2: centre-based exercise		30–50 min, 3 times/week	40%–60% VO_{2max}	
		G3: home-based exercise		3 times/week	40%–60% VO_{2max}	

Abbreviations: 1-RM = one-repetition maximum; AE = aerobic exercise; CT = combined aerobic exercise with resistance training; G = Group; HE = home-based exercise; RE = resistance exercise; RPE = rating of perceived exertion; VO_{2peak} = peak oxygen uptake; VO_{2max} = maximum oxygen uptake.

Supplementary Table 22.

Exercise prescriptions for kidney transplantation.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE and RE	60 subjects, G1 = 49.5 ±10.6 years G2 = 53.9 ±10.7 years G3 = 54.6 ±10.6 years	G1:standard care	12 weeks	—	—	223
		G2: AE		60 min, 3 times per week	RPE scale:13–15	
		G3: RE		60 min, 3 times per week	high-intensity resistance training at 80% RM	
CT	120 subjects, 18–65 years	G1: standard clinical care	12 months	—	—	224
		G2: progressive exercise rehabilitation		60 min, 2 times /week	low-intensity	

Abbreviations: AE = aerobic exercise; CT = combined aerobic exercise with resistance training; G = Group; RE = resistance exercise; RM = repetition maximum.

Supplementary Table 23.

Exercise prescriptions for breast cancer.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	135 subjects, G1 = 34.6 ± 7.47 years G2 = 35.2 ± 6.38 years G3 = 33.4 ± 6.76 years	G1: maintained exercise	11 weeks	<75 min/week	1–4 weeks: 65%–70 % HR_{max}; 5–11weeks: 70%–80 % of HR_{max}	230
		G2: low-dose exercise		150 min/week	1–4 weeks: 65%–70 % HR_{max}; 5–11weeks: 70%–80 % HR_{max}	
		G3: high-dose exercise		300 min/week	1–4 weeks: 65%–70 % HR_{max}; 5–11weeks: 70%–80 % HR_{max}	
	400 subjects, 50–74 years	G1: moderate volume of AE	1 year	30 min, days per week	65%–75% HRR	231
		G2: high volume of AE		60 min, 5 days per week	65%–75% HRR	
	139 subjects, G1 = 34.6 ± 7.5 years G2 = 35.2 ± 6.4 years G3 = 33.4 ± 6.8 years	G1: pre-study levels of exercise	5 months	—	—	232
		G2: low dose AE		150 min/week	1 month:65%–70% HR_{max}, 2–5 months:70%–80% HR_{max}	
		G3: high dose AE		300 min/week	1 month:65%–70% HR_{max}, 2–5 months:70%–80% HR_{max}	
	101 subjects, G1 = 50.7 ± 9.4 years G2 = 49.3 ± 9.6 years	G1:wait-list control	16 weeks	—	—	234
		G2: moderate-intensity AE		150 min/week	moderate-intensity	
RE	146 subjects,	G1: progressive muscle	12 weeks	—	—	229

	G1 = 55.9 ± 8.7 years G2 = 54.5 ± 9.6 years	relaxation				
		G2: different machine-based RE		—	3 sets with an intensity of a 12-RM	
	101 subjects, G1 = 53.3 ± 10.3 years G2 = 52.2 ± 9.9 years	G1: relaxation control	12 weeks	60 min, twice/week	—	235
		G2: progressive RE		60 min, twice/week	3 sets, 8–12 repetitions at 60%–80% 1-RM	
	160 subjects, G1 = 56.4 ± 8.7 years G2 = 52.2 ± 9.5 years	G1: relaxation control	12 weeks	60 min, twice/week	—	236
		G2: progressive RE		60 min, twice/week	3 sets, 8–12 repetitions at 60%–80% 1-RM	
	103 subjects, G1 = 57.3 ± 8.8 years G2 = 57.1 ± 8.9 years	G1: relaxation control	12 weeks	60 min, twice/week	—	237
		G2: progressive RE		60 min, twice/week	3 sets, 8–12 repetitions at 60%–80% 1-RM	
CT	69 subjects, G1 = 52.48 ± 5.57years G2 = 54.78 ± 3.42years	G1: conventional decongestive therapy	4 weeks	—	—	233
		G2: complex exercise		1 h daily, 5 times a week	moderate-to-severe	
	204 subjects, 25–75 years	G1: usual care	18 weeks	—	—	238
		G2: CT		60 min/week	AE: a heart rate at (3 ×2 min–2 ×7 min) or below (3 ×4 min–1 ×7 min) ventilatory	

					threshold; RE: 65%–75%–45% 1-RM progressively	
	296 subjects, age: < 50 years or ≥ 50 years	G1: a standard dose of AE	12 weeks and 18 weeks	25–30min, 3 days per week	vigorous	239
		G2: a higher dose of AE		50–60min, 3 days per week	vigorous	
		G3: a higher dose of CT		50–60min, 3 days per week	vigorous; 2 sets of 10–12 repetitions of 9 different strength exercises at 60%–75 % 1-RM	
	301 subjects, G1 = 49.5 ± 8.0 years G2 = 49.9 ± 8.7 years G3 = 50.5 ± 9.4 years	G1: standard dose of AE	12 weeks	25–30 min, 3 times/week	vigorous	240, 241
		G2: a higher dose of AE		50–60min, 3 days per week	vigorous	
		G3: a higher dose of CT		50–60min, 3 days per week	vigorous; 2 sets of 10–12 repetitions of 9 different strength exercises at 60%–75 % 1-RM	
	200 subjects, 25–78 years	G1:usual care	17 weeks	—	—	242
		G2: AE		60 min, 3 times/week	15 min at 60% VO_{2peak} and 45 min at 80% VO_{2peak}	
		G3: RE		60 min, 3 times/week	2 sets of 8–12 repetitions of 9 exercises, 60%–70% 1-RM	

Abbreviations: 1-RM = one-repetition maximum 12-RM = twelve-repetition maximum; AE = aerobic exercise; CT = combined aerobic exercise with resistance training; G =

Group; HR_{max} = maximum heart rate; HRR = heart rate reserve; RE = resistance exercise; VO_{2peak} = peak oxygen uptake.

Supplementary Table 24.

Exercise prescriptions for colon cancer.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	46 subjects, G1 = 62.3 ± 7.9 years G2 = 57.5 ± 8.0 years	G1:usual care	8 weeks	—	—	246
		G2: core stabilization exercises and stretching exercises		90 min, 3 times/week	—	
	39 subjects, 47–61 years	G1: pre-study levels of physical activity	6 months	—	—	245, 247
		G2: low dose AE		150 min/week	moderate-intensity	
		G3: high dose AE		300 min/week	moderate-intensity	
	39 subjects, G1 = 57.9 ± 9.7 years G2 = 58.2 ± 9.8 years G3 = 53.1 ± 10.5 years	G1: pre-study levels of physical activity	6 months	—	—	248, 249
		G2: low dose AE		150 min/week	50%–70% HR_{max}	
		G3: high dose AE		300 min/week	50%–70% HR_{max}	
CT	33 subjects, G1 = 58.1 ± 10.3 years G2 = 58.1 ± 9.6 years	G1: usual physical activity	18 weeks	—	—	250
		G2: CT		60 min, twice a week	AE: a heart rate at (3×2 min–2×7 min) or below (3×4 min–1×7 min) ventilatory threshold; RE: 65%–75%–45% 1-RM	

	31 subjects, G1 = 57.43 ±6.12 years G2 = 55.61 ±7.11 years	G1: unsupervised sitting or walking	—	daily	—	251
		G2: stretching, core, balance, and low-intensity RE		15min/session, 3 sessions/day, twice/day	12 repetition ×3 sets	

Abbreviations: 1-RM = one-repetition maximum; AE = aerobic exercise; CT = combined aerobic exercise with resistance training; G = Group; HR_{max} = maximum heart rate; RE = resistance exercise.

Supplementary Table 25.

Exercise prescriptions for prostate cancer.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
AE	31 subjects, age: < 30 years or 30–60 years	G1: usual care	12 weeks	—	—	254
		G2: community-based exercise training program		2 supervised sessions and 1 unsupervised, home-based session per week	—	
	41 subjects, G1 = 54.5–81.6 years G2 = 61.7–81.7 years	G1: usual care	11 weeks	—	—	255
		G2: walking		1h/week, 10,000 steps/day	—	
RE	51 subjects, G1 = 70.5 ± 7.8 years G2 = 69.9 ± 9.3 years	G1: stretching control	1 year	2 × 1 h, supervised classes and 1 × 30–45 min home-based session/week	—	256, 257
		G2: resistance and impact training		2 × 1 h, supervised classes and 1 × 30–45 min home-based session/week	RE: 60%–80% 1-RM	
CT	63 subjects, G1 = 67.1 ± 7.5 years G2 = 69.6 ± 6.5 years	G1: usual care	3 months	—	—	258
		G2:CT		twice weekly	moderate-high intensity	
	97 subjects, mean age: G1 = 69.1 ± 8.4 years G2 = 69.1 ± 9.4 years	G1: usual care	6 months	—	—	259
		G2: CT		twice weekly	70%–90% VO_{2max}	

	100 subjects, G1 = 71.5 ± 7.2 years G2 = 71.9 ± 5.6 years	G1: physical activity	6 months	—	—	260
		G2: CT		150 min/week	12–6 RM for 2–4 sets; 70%–85% HR_{max}	
	57 subjects, G1 = 70.1 ± 7.3 years G2 = 69.5 ± 7.3 years	G1: usual care	12 weeks	—	—	261
		G2: CT		150 min, 2 times/week	moderate-high intensity	
	57 subjects, G1 = 70.1 ± 7.3 years G2 = 69.7 ± 7.3 years	G1: usual care	12 weeks	—	—	262
		G2: CT		2 times/week	65%–80% HR_{max}; Borg scale:11–13	
	195 subjects, without age data in the reference	G1: usual care	12 months	—	—	263
		G2: resistance/impact loading exercise		60min, 2 times/week	6–12 RM using 1–4 sets/exercise	
		G3: resistance/ cardiovascular exercise		60min, 2 times/week	60%–85% HR_{max}	
	87 subjects, G1 = 66.9 ± 6.6 years G2 = 65.0 ± 6.3 years G3 = 65.3 ± 6.3 years	G1: usual routines	8 weeks	—	—	264
		G2: low-intensity CT		60min, 3 days/week	60%–65% VO_{2peak}; 50%–65% 1-RM	
		G3: high-intensity CT		60min, 3 days/week	75%–80% VO_{2peak}; 65%–80% 1-RM	

Abbreviations: 1-RM = one-repetition maximum; AE = aerobic exercise; CT = combined aerobic exercise with resistance training; G = Group; HR_{max} = maximum heart rate; RE = resistance exercise; RM = repetition maximum; VO_{2max} = maximum oxygen uptake; VO_{2peak} = peak oxygen uptake.

Supplementary Table 26.

Exercise prescriptions for lung cancer.

Types of exercise	Sample size, subjects characteristics	Intervention	Duration	Frequency	Intensity	References
HE	116 subjects, G1 = 63.57 ± 10.54 years G2 = 64.76 ± 11.28 years	G1: usual care	12 weeks	—	—	267
		G2: home-based, walking-exercise		40min, 3 days/week	moderate-intensity	
	92 subjects, ≥ 18 years	G1: usual care	8 weeks	—	—	272
		G2: endurance and resistance home-based exercises		at least 150 min/week	Borg dyspnea scale: 4–6	
AE	27 subjects, G1 = 60.46 ± 7.08 years G2 = 62.64 ± 8.35 years	G1: usual care	16 weeks	—	—	268
		G2: Tai Chi		60 min, 3 times/week	—	
	91 subjects, G1 = 60.46 ± 7.08 years G2 = 62.64 ± 8.35 years	G1: low-impact exercise	12 weeks	1 h session, every other day	—	269
		G2: Tai Chi		1 h session, every other day	—	
CT	78 subjects, G1 = 65.0 ± 9.0 years G2 = 64.0 ± 10.0 years	G1: strength training	10 weeks	30 min, twice a week	RPE scale:11–12	270
		G2: group-based supervised exercise		1 h, once a week	60% – 80% of work capacity; RPE scale:11–12	
AE and RE	123 subjects, without age data in the reference	G1:without specific physical training	12 weeks	20 min weekly	—	271
		G2: AE and		45 min + 20	50%–70% VO_{2peak}	

		respiratory training		min, twice weekly		
		G3: RE and respiratory training		75 min + 20 min, twice weekly	2–6 weeks: 40%–50% 1-RM; 6–12 weeks: 60%–80%1-RM, 3 sets of 8–12 repetitions	
HIIT	61 subjects, G1 = 65.9 ± 8.5 years G2 = 64.4 ± 9.3 years	G1: standard postoperative care	20 weeks	—	—	273
		G2: high-intensity endurance and strength training		60 min, three times a week	80%–95% of HR_{max} and in 3 series of 6–12 RM	
	151 subjects, G1 = 64.0 ±10.0 years G2 = 64.0 ± 13.0 years	G1: walking	4 weeks	30 min, 4 times per week	—	274, 275
		G2: HIIT		2–3 times a week	warm up: 50% HR_{peak}; HIIT: 80%–100% HR_{peak}; cool down: 30% HR_{peak}	

Abbreviations: 1-RM = one-repetition maximum; AE = aerobic exercise; CT = combined aerobic exercise with resistance training; G = Group; HE = home-based exercise; HIIT = high intensity interval training; HR_{peak} = peak heart rate; HR_{max} = maximum heart rate; RE = resistance exercise; RPE = rating of perceived exertion; RM = repetition maximum; VO_{2peak} = peak oxygen uptake.