

Special Populations Guidelines Summary

Condition	Cardiorespiratory	Resistance	Comments
Coronary artery disease	<p>F = 3–5 days/wk</p> <p>I = up to 40–75% HRR</p> <p>T = gradually increase to 20–30 min of continuous training, plus additional time for warm-up and cool-down activities</p> <p>T = low-/non-impact</p>	<p>Refer to guidelines given by client's personal physician</p>	<p>If a low-risk client has been stable for at least 6 months, follow exercise guidelines for sedentary, healthy adults</p>
Hypertension BP ≥140/90 mmHg	<p>F = 5–6 days/wk</p> <p>I = 40–65% MHR initially, then progress to 55–70% MHR</p> <p>T = 30–60 min</p> <p>T = low-/non-impact</p>	<p>Reps: 15–20 Sets: 1–3</p> <p>Avoid isometrics and Valsalva maneuver</p> <p>Circuit training rather than heavy lifting</p>	<p>Stop if BP reaches 250/110 mmHg</p> <p>Use RPE for clients on beta-blockers</p>
Stroke	<p>Refer to guidelines given by client's personal physician</p>	<p>Refer to guidelines given by client's personal physician</p>	<p>For clients at risk for stroke, or who have experienced a stroke and have completed rehab, follow the same guidelines used for CAD and hypertension</p>
Peripheral vascular disease	<p>F = 7 days/wk initially, then reduced to 4–6 days/wk as fitness improves</p> <p>I = claudication pain scale</p> <p>T = shorter duration initially with frequent rest periods, progressing to 30–40 min</p> <p>T = low-/non-impact</p>	<p>Reps: 15–20 Sets: 1–3</p>	<p>Avoid exercising in cold air or cold water to reduce vasoconstriction</p> <p>Many PVD clients are also diabetic</p> <p>Absence or reduction of pain will dictate how often to progress program</p>

Diabetes (Type 1) Insulin-dependent	F = 3–5 days/wk I = 50–60% HRR initially, progressing to 60–70% HRR T = 20–30 min T = low-/non-impact	Reps: 15–20 Sets: 1–3	Reduce insulin intake or increase carbohydrate intake prior to exercise Always have juice or candy on hand Proper foot care
Diabetes (Type 2) Non-insulin dependent	F = 5–7 days/wk I = 50–60% HRR initially, progressing to 60–70% HRR T = 40–60 min T = low-/non-impact	Reps: 15–20 Sets: 1–3	Emphasis is on reducing weight, cholesterol, and triglycerides
Asthma	F = 3–4 days/wk I = below the point where breathing difficulty occurs T = 20–45 min; initially, intermittent exercise may be necessary T = low-/non-impact	Reps: 15–20 Sets: 1–3	Clients must have inhaler with them at all times during exercise Swimming is beneficial because it allows the client to inhale moist air Avoid exercising in the cold or among pollutants
Chronic obstructive pulmonary disease (bronchitis, emphysema)	F = 4–5 days/wk I = below the point where breathing difficulty occurs T = 20–30 min; initially, intermittent exercise may be necessary T = low-/non-impact	Reps: 15–20 Sets: 1–3	Swimming is beneficial because it allows the client to inhale moist air Avoid exercising in the cold or among pollutants
Cancer	Refer to guidelines given by client's personal physician	Refer to guidelines given by client's personal physician	Exercise training is generally safe and beneficial for cancer patients

Osteoporosis	<p>F = 4–5 days/wk</p> <p>I = 40–65% MHR</p> <p>T = 30–60 min; initially, intermittent exercise may be necessary</p> <p>T = low-/non-impact</p>	<p>Reps: 15–20 initially, then progress to 8–12 reps to promote strength and bone density</p> <p>Sets: 1–3</p>	<p>Avoid: high-impact activities; spinal twisting; spinal flexion; trampolines and step aerobics; slippery floors; abducting or adducting hip against resistance; moving legs in the frontal plane</p>
Low-back pain	<p>No special recommendations other than low-/non-impact activities</p>	<p>Reps: 15–20</p> <p>Sets: 1–3</p> <p>Basic core and back exercises should be performed regularly</p>	<p>Avoid: unsupported forward spinal flexion; twisting at the waist with planted feet; lifting both legs while in a prone or supine position; rapid spinal movements; spinal compression</p>
Arthritis	<p>F = 4–5 days/wk</p> <p>I = low, based on client's comfort level</p> <p>T = initial sessions should last no longer than 10–15 min</p> <p>T = low-/non-impact</p>	<p>Reps: 15–20</p> <p>Sets: 1–3</p> <p>Isometrics when appropriate</p>	<p>If client experiences exercise-associated pain more than 2 hours after exercise, reduce intensity</p> <p>Avoid exercise during rheumatoid flare-ups</p> <p>Warm-water exercise is best (83°–88° F; 28–31° C)</p>
Older adult (50 years and older)	<p>F = 4–5 days/wk</p> <p>I = 40–65% MHR</p> <p>T = 30–60 min; initially, intermittent exercise may be necessary</p> <p>T = low-/non-impact</p>	<p>Reps: 15–20 initially, then progressing to 8–12</p> <p>Sets: 1–3</p>	<p>Program should focus on increasing ADLs</p> <p>RPE is recommended</p> <p>Older adults generally have higher BP</p>
Obesity BMI ≥30 Females: ≥32% BF Males: ≥25% BF	<p>F = 5–6 days/wk</p> <p>I = 40–50% MHR initially</p> <p>T = emphasize longer duration to increase caloric expenditure</p> <p>T = low-/non-impact</p>	<p>Reps: 8–12</p> <p>Sets: 1–3</p>	<p>Both aerobic exercise and strength training have been shown to make the greatest contribution to weight loss</p> <p>Initial goal: lose 10% of body weight</p>

Children	<p>F = 7 days</p> <p>I = vigorous</p> <p>T = 20–30 min initially, working up to 60 min/day</p> <p>T = low- or high-impact activities, recreational pursuits and sports</p>	<p>Risk to children participating in resistance programs is low</p> <p>A higher number of repetitions (10–15) may facilitate long-term weight management in overweight children</p>	<p>Never have children perform single maximal lifts or sudden explosive movements</p> <p>Resting 1–2 min (or more) between exercises is recommended</p> <p>Always have adult supervision for children's exercise activities</p>
Pregnancy	<p>Gradually reduce FITT during 2nd and 3rd trimesters based on comfort</p> <p>Use RPE</p>	<p>Avoid Valsalva maneuver</p> <p>Include Kegel exercises</p> <p>Be mindful of joint laxity</p>	<p>Avoid supine exercises lasting longer than 5 min after the 1st trimester</p> <p>Avoid exercising in heat and high humidity</p> <p>Replace calories expended during exercise, as this is not a time for weight loss</p>