



| F.I.T.T.-<br>V.P.              | Aerobic   | Strength   | Balance, Agility, & Multi-Tasking  | Flexibility  |
|--------------------------------|---|--|--|--|
| Fre-quency                     | At least 3 days per week.   | 2-3 days per week, challenging all major muscle groups on nonconsecutive days.   | 2-3 days per week focused workout, with daily integration as possible.   | ≥ 2-3 days/week, with daily being most effective.  |
| Intensity & Progression        | Moderate Intensity: 40% - 60% HRR (or VO <sub>2</sub> R), RPE of 12-13/20 or 3-4/10. <b>Progress</b> to vigorous intensity: 60-85% HRR; RPE 14-17/20 or 5-7/10), when physiologically appropriate and safe. Teach client to self-assess.  | 40-50% of 1-RM for beginners. 60-70% 1-RM for more advanced exercisers. <b>Progress</b> number of repetitions and resistance, working muscles to fatigue.  | Appropriate challenge delivered in a safe manner given the setting (individual vs group). <b>Progress</b> motor and cognitive challenges as patient improves and can tolerate.   | Full extension, flexion, or rotation stretch to the point of slight discomfort. <b>Progress</b> as patient can tolerate  |
| Time & Volume                  | ≥30 min of continuous or intermittent exercise per session.<br>Build to at least 150 minutes/week.  | 10-15 repetitions starting an exercise program. ≥1 set of 8-12 repetitions (~60% 1-RM) and progress to 3 sets of 8 -10 to fatigue. Build to 2-3 hours/week.  | 30-60 minutes per workout.<br>Build to 2-3 hours/week.   | Static Stretching: 15-60 seconds per muscle; 2-4 repetitions of each stretch.<br>Dynamic Stretching: 8-10 movements in each direction.   |
| Type                           | Prolonged, rhythmic activities using large muscle groups.   | Major muscle groups of the upper and lower body using weight machines, resistance bands, or body weight. Focus on extensors. Could use resistance training with instability.   | Multi-directional stepping, weight shifting, reaching, large amplitude movements, functional agility (steps, turning, obstacles, backwards, floor activities, sit-to-stand). Multi-task training (motor, cognitive, distractions). Static and dynamic balance with varied surfaces, limb support, perturbations. | Static Stretching: All major muscle groups after exercise, first thing in the morning or before bed.<br>Dynamic stretching/active range of motion: Prior to intense aerobic and strengthening exercise.<br>Include diaphragmatic breathing and meditation. |
| Disease-Related Considerations | Prioritize safety (ambulatory status, physical assistance, equipment). Risk of freezing of gait. Consider comorbidities (e.g. musculoskeletal, cardio-respiratory). Risk of autonomic dysfunction, including orthostatic hypotension, blunted heart rate response to exercise, arrhythmias associated with PD or medications. | Posture and body mechanics. Estimate 1-RM safely. Progressive with high repetitions. Timed for ON periods of optimal functioning. For safety, avoid heavy free weights. Consider comorbidities (e.g. spinal stenosis, osteoporosis, osteopenia). | Consider varied ability levels related to cognitive engagement and attention. Allow upper extremity support when needed. Consider comorbidities (e.g. peripheral neuropathy, cognitive decline). Risk of freezing of gait. Use of gait belt for safety.  | Consider dystonia (tonic or activity-induced) and general worsening of flexed posture with disease progression. Consider comorbidities (e.g. osteoporosis, pain, dystonia).  |
|                                | Consider collaborating with a licensed physical therapist specializing in Parkinson's disease to assist with full functional evaluation and individually-tailored exercise recommendations taking into account complex medical history.   |  |  | Draft: 2.9.21  |