TOOLS FOR PRACTICE #382 | February 3, 2025

TOOLS FOR PRACTICE

PEER PATIENTS EXPERIENCE EVIDENCE RESEARCH

Exercise for Parkinson's Disease: More movement = Better movement?

CLINICAL QUESTION

How effective is exercise in Parkinson's disease?

BOTTOM LINE

In patients with Parkinson's Disease, exercise results in clinically meaningful improvements in motor symptoms similar to changes seen with medications (4-9 points better on a 108-point scale) compared to control over 1-6 months. It doesn't provide clear improvements in quality of life. Six more patients out of 100 who exercise will avoid one or more falls over 6-12 months compared to control.

EVIDENCE

- Results statistically significant unless stated.
- 11 systematic reviews [7-78 Randomized Controlled Trials (RCTs), 174-4859 patients][1-11] over the last 5 years evaluated exercise (includes group, individual, home-based such as dance, strength/resistance, balance/functional training, endurance, yoga) versus control (usual care or self-directed activity) in predominantly mild-to-moderate Parkinson's Disease. At ~1-6 months:
    - Motor symptoms:
        - Unified Parkinson's Disease Rating Scale (UPDRS III) [0-108 points (lower=better); baseline ~20-30; clinically meaningful change: 3 points]:[12,13]

        - 3.6 to 9.3-point improvement versus control[3-5] [Example:~2 to 11 point improvement from baseline versus 0-2 point improvement (control)]
        - No clear differences between exercise types.[1,3-5]
    - Depressive symptoms:
        - Symptom scores (various scales) improved versus non-active comparators:[7-10]
            - Clinically meaningful change (>20% improvement on Beck Depression Inventory) seen in 8/9 RCTs.[8,14,16]
    - Quality of life:
        - Parkinson's Disease Questionnaire-39 [0 to 100-points (lower=better); baseline ~25-35; clinically meaningful change 4.5 points]:[15]
            - 0.5 to 3.1-point improvement.[2,4,6] Not clinically meaningful.
    - Proportion of people who fell (at least once). At 6-12 months:[6,11]
        - 57% versus 63% (non-active comparators).
        - Injurious falls or fractures: no difference.
- Limitations: Non-blinded intervention (assessors unblinded in ~1/3 of RCTs), different exercise types and intensities, often short durations (4-6 weeks) and small sample sizes (10-20 patients); baseline depression scores commonly suggest no to mild depression; inconsistent reporting of medication status and few severe patients complicates generalizability.

CONTEXT

- Levodopa-carbidopa improves motor score (UPDRS III) by 2-4 points over baseline (3.5-11.5 points over placebo).[17]
    - Adding a second medication improves motor scores by only 2-3 points more versus levodopa alone.[18,19]
- Guidelines recommend early exercise initiation.[20,21]
- Compliance dependent on ability to integrate physical activity into daily life.[22] Patients should choose activities that they can easily access and enjoy.[23]

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