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Picture This for Treating Parkinson's

▸▸ You run into an old friend for the second time in years. Last time he told you he had just been diagnosed with Parkinson's disease (PD) and he casually asks you if he should be doing physical therapy. You extol the benefits of seeing a PT in his hometown.

Two years later you see him again—and he looks much worse. He tells you he decided to go to a trainer who does a lot massage and it felt good, and then he had a bad fall a month ago and took your advice and went to a therapist. This therapist works with sports teams and told him that the fall had nothing to do with his Parkinson's but with his rigid ankle. Your friend has now had 10 visits where this therapist just stretched his one ankle and he feels better. But you see that he is not. Keep this picture in mind as we discuss evidence-based treatment options for patients with PD.

Parkinson's disease has so many pieces to it that to just work on a stiff ankle is missing the bigger picture. In the last treatment article, we discussed many evidence-based techniques from breathing to freezing to posture. This article will review resistance training, gait and balance, and finally will discuss the axial mobility program, a comprehensive program for patients with PD.

Resistance Training

Hirsch in 2003 conducted a randomized controlled study comparing balance and progressive resistive exercise (PRE) and balance training alone and found after the 10 weeks, 3x/wk intervention that the combined program showed more improvements in both strength and balance than the balance program alone.[1] The program is listed below:

- PRE = 60 to 80 percent, one repetition maximum to all muscle groups;
- Balance = standing on foam and non-foam, eyes open and closed, head and body turns, weight shifts, swaying to limits of stability all directions.

Scandalis published a study in 2001 looking at resistance training, gait and function in patients with mild to moderate Parkinson's. The program showed improvements in strength, posture and gait as compared to the controls. The program was two times a week for eight weeks. The only exercises done (all at 60 percent of the patient's 1RM) were leg press, toe raise, leg curl/extensions and crunches.[2]

Gait and Balance

Treadmill training with body weight support has been shown in several studies to improve gait and balance significantly.[3-6] One study compared this technique to standard PT and found it to be more effective.[3] In this study, the components of PT were general conditioning, range of motion (ROM), activities of daily living (ADL), training and gait training. The treadmill program was walking at self-selected speed with 20 percent, 10 percent and 0 percent of the body weight supported for 12 minutes each.[3]

When we first graduated PT school, one of the most common treatments for the deficit arm swing during gait of patients with PD was the reciprocal cane exercise. There was no evidence to back this treatment up, therefore we no longer do it. However, Baatile in 2000 conducted an eight-week pole-striding exercise program that showed increases in function, gait and quality of life. The program was conducted three times a week for 37 minutes. Patients used Exerstriders (which look like Nordic Track poles) and walked with them actively with reciprocal arm movements. We believe the active use of the arms in reciprocal arm swing is the reason why this intervention showed improvements and the passive reciprocal canes of our past did not.[7]

Hackney did a fun study looking at the effects of tango on functional mobility in PD. The researcher compared exercises classes to tango classes and found both improved on the Unified Parkinson's Disease Rating Scale (UPDRS), but the tango group did better on the Berg Balance Scale (BBS) and Timed Up and Go (TUG).[8]

Nieuwboer wrote an excellent meta analysis of cueing and gait for patients with PD. She looked at many studies showing positive outcomes for various problems that are improved with cueing. She also gave examples of different ways to cue, including lines on the floor; walking stick with laser beam; patterned carpet or tiles; using a metronome beat or electrical pulse; and using rhythmic vibration and flashes of light.[9]

Axial Mobility

More than a decade ago, Margaret Schenkman developed a comprehensive program for patients with PD titled the Axial Mobility program.

It is a 10-week exercise program for early and mid-stage patients with PD and helps improve functional reach and axial rotation. Each stage has between six and 10 different exercises associated with it.

We have the tools and skills to design comprehensive programs that get results. It is a travesty to watch as those who need good PT get bounced around. Using evidence, we can paint a better picture. ■

References are available at www.advanceweb.com/pt. Select "magazine" on the top menu bar.

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