

Comparing Treatments for Improving Physical Function in Patients Who Had Knee Replacement Surgery

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What was the research about?

Arthritis is a long-term health problem that causes joint swelling, pain, and reduced motion. Some patients with severe arthritis in their knees choose to have surgery to replace their knee joint. Patients often have physical therapy, or PT, after surgery. Patients can also take part in group exercise programs in their community to help them improve their physical function. Physical function refers to how well patients can move and do things like walk or climb stairs.

In this study, the research team looked at ways to improve patients' physical function at a later stage of recovery, two to four months after surgery. The team compared three types of treatment:

- **PT.** Patients had 24 sessions. Twelve were with a physical therapist at a clinic for one hour. Twelve were at home doing exercises the therapist picked, based on the patient's needs.
- **Group exercise.** Patients had 24 group classes at a community center. These classes, taught by a fitness coach, were twice a week for one hour. Exercises included aerobic training, strength, balance, and flexibility.
- **Usual care.** Patients didn't take part in any study-related exercise.

Each treatment started about four months after surgery and lasted for three months.

What were the results?

Patients' answers to a survey showed that all three groups improved about the same in overall physical function and amount of physical activity they did. Compared with patients who had usual care, patients with PT or group exercise improved more in their ability to do activities they reported as important to them. Patients with PT improved more than those doing group exercise. Patients' ability to care for themselves and do everyday things, and feelings of health and well-being, didn't differ among the groups.

Patients with PT and group exercise improved more than patients with usual care on some performance tests. These tests can include walking, climbing stairs, balancing on one leg, and getting up from a chair. Patients with PT improved more on these tests than patients with group exercise.

Who was in the study?

The study included 240 patients who had knee replacement surgery four months before in Allegheny County, Pennsylvania. Of these, 83 percent were white, and 16 percent were African American. The average age was 70, and 62 percent were women.

What did the research team do?

The research team assigned patients to one of the three types of treatment by chance. Patients filled out surveys and took performance tests at the start of the study and again three months later.

Patients, doctors, physician assistants, physical therapists, and representatives from community centers and the Arthritis Foundation advised the research team. They suggested including the group exercise and what types of results to look for.

What were the limits of the study?

The study took place over a short amount of time and in one location. Results may differ if the study was longer or took place in other areas.

Future studies comparing these kinds of programs could last longer to see if patients keep improvements

over time on performance tests and in their ability to do things that are important to them.

How can people use the results?

Patients and doctors can consider the results when looking at options for improving physical function at later stages of recovery after knee replacement surgery.

To learn more about this project, visit www.pcori.org/Piva189.