PROJECT INFORMATION

May 2019

Evaluating Two Rehab Approaches for Patients with Traumatic Brain Injury

Principal investigator

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Organization

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What was the research about?

Traumatic brain injury, or TBI, is a change in brain function due to damage caused by a jolt to the head, shaking, or other external forces. TBI can happen from car crashes, sports, falls, violence, or other events. Patients with severe TBI often have a hard time focusing or remembering things. They can also have trouble with walking, dressing, and other daily tasks. Rehabilitation, or rehab, therapy can help patients recover from a TBI.

In this study, the research team looked at two types of rehab therapy:

- **Advanced therapy.** In advanced therapy, people work on difficult tasks, such as problem solving. The team compared patients who spent more versus less of their therapy time in advanced therapy.
- **Therapy with real-life tasks.** In this type of therapy, people practice doing tasks of daily life, such as remembering a phone number or calling someone on the phone. The team compared patients who spent more versus less of their therapy time working on real-life tasks.

What were the results?

Advanced therapy. Compared with patients who spent less of their therapy time in advanced therapy, patients who spent more of their therapy time in this type of therapy

- Spent more time in their communities

- Could do more daily tasks without help
- Reported improved well-being

Among those who spent a greater portion of time in advanced therapy, patients with more severe disability improved more on doing daily tasks compared with patients with less severe disability.

Therapy with real-life tasks. Compared with patients who spent less of their therapy time working with real-life tasks, patients who spent more of their therapy time this way

- Spent more time in their communities.

However, the two groups did not differ in their well-being or ability to do daily tasks without help.

Among those who received a greater portion of time in this therapy, patients with more severe disability improved more on doing daily tasks compared with patients with less severe disability.

Who was in the study?

The research team looked at health and research records for 1,843 patients who received rehab therapy while staying in one of nine hospitals across the United States after a TBI. The typical length of patients' hospital stay was 25 days, with about 15 hours of therapy delivered each week. Of the patients, 82 percent were white, 15 percent were black, and 3 percent were of another race. The average age was 44, and 72 percent were men.

What did the research team do?

The research team reviewed patient records to see

- How much of their therapy was advanced therapy
- How much of their therapy used real-life tasks
- Results from patient surveys about spending time in the community and well-being

The research team used these records to divide people into groups that received a lesser portion of each type of therapy and groups that received a greater portion of each type of therapy. Then they compared the different groups.

Patients with TBI and rehab professionals helped design and conduct the study.

What were the limits of the study?

Although the results suggested that patients with TBI could benefit from spending more time in both types of therapy, the research team can't be sure it was the amount of time in the two types of therapy that caused the benefits.

Future research could use other study designs and look at the longer term effects of these two types of therapy.

How can people use the results?

Doctors and patients with TBI can use these results when considering what type of therapy patients should get.

To learn more about this project, visit www.pcori.org/Bogner228.