

Clear strategies for treating traumatic brain injury are elusive, panel finds

By [David Brown](#), Published: October 11

There might be really good ways to restore brain-damaged people — especially the young wounded of the Iraq and Afghanistan wars — to a healthy, if not entirely normal, state. But it's difficult to say with certainty what those techniques are.

That's the conclusion of a scientific review of "cognitive rehabilitation therapy" performed by the Institute of Medicine at the request of the Defense Department.

This less-than-satisfying message from a [250-page report](#) prepared by 14 experts is a testament to how difficult it is to study treatments for problems such as clouded thinking, inarticulate speech, poor planning, bad moods, unemployability and family conflict. It's not as simple as determining whether a drug for hypertension reduces blood pressure.

"It doesn't mean beneficial therapies don't exist. It just means that at this point in time it's hard to ascertain them," said Ira Shoulson, a neurologist at Georgetown University who headed the Institute of Medicine panel.

"There are certainly deficiencies in the evidence about what works," he added. "But there are also some glimpses of benefit. I'm fairly upbeat about this."

Nevertheless, the report, which was released Tuesday, is unlikely to answer questions that patients and medical practitioners have about optimal treatment of blast injuries suffered on the battlefield.

As of late last year, 196,000 men and women in the military had been diagnosed with traumatic brain injury (TBI) since 2000. Early in the current wars, about 65 percent of cases were mild, which the military calls concussions. The rest were in the "moderate to severe" category, characterized by loss of consciousness for more than 30 minutes and mental confusion or memory loss lasting more than a day.

While the number of combat brain injuries rose steadily over the past decade (peaking at 29,000 in 2009), their severity has fallen. Today, about 80 percent are mild, with full recovery expected in most cases.

Although the wars, and to a lesser extent football injuries, have put traumatic brain injury on the public agenda, the problem isn't new. Each year about 1.7 million Americans suffer a brain injury requiring medical treatment. About 52,000 die, and about 125,000 have long-term impairments.

Those disabilities include problems paying attention, following conversation, communicating clearly, reading, remembering, feeling oriented in space, tracking objects with the eyes, and planning and solving problems. Mood disorders, family problems and difficulties holding a job are common.

Brain-injury rehabilitation is a murky subject, and evaluating what works is an unusually hard task.

That's because patients vary in their pre-wounded intelligence and emotional state, as well as the severity of their injuries. Further, rehabilitation consists of many activities, including speech therapy, occupational therapy, physical therapy, psychological counseling and social work. There are also many ways of measuring success, from neuropsychological tests to

asking the patient whether things are better.

And there's no agreement what cognitive rehabilitation therapy (CRT) means.

To some therapists, it denotes attention to the subtle thinking problems that can be addressed in speech therapy, occupational therapy and psychotherapy, along with the more obvious tasks. To others, it signifies an approach in which therapists from many fields work as much as 30 hours a week with the patient, groups of similar patients and their families.

Significantly, there is no specialty known as cognitive rehabilitation therapy that has its own licensing system, as social workers and physical therapists have.

"One of the things we need to do is to come up with a definition of CRT, either as a collection of services or a specific approach," said Mary R. Kennedy, a panel member and associate professor in the Speech-Language-Hearing Sciences Department of the University of Minnesota.

The panel members examined 90 published studies; slightly fewer than half were randomized controlled trials, which is the best way to test a treatment. They found a "modest" amount of evidence for the usefulness of therapies teaching patients to use conscious attention, visual images, sound repetition and other "internal" strategies to remember things. There was a similar amount of evidence in favor of "external" memory strategies that use calendars, notebooks, diaries or electronic devices to cue a person. The panel also found "modest" evidence for the usefulness of three months of weekly or twice-weekly meetings of brain-injury patients to work on social communication skills.

For ways to improve attention and decision-making ("executive function"), there was only "limited" evidence in published studies of the benefit of one rehabilitation strategy over another. The panel did not find clear evidence that intensive "holistic" approaches worked better than the more fragmented speech/occupational/psychotherapy approach.

The panel's review comes after reports by [National Public Radio](#) and the investigative reporting organization [ProPublica](#) criticized the Defense Department for inadequate treatment of many brain-injury patients.

Specifically, the news reports said Tricare — which provides medical care to 9.4 million active-duty service members, family members and retirees with at least 20 years of service — refused to pay for cognitive rehabilitation therapy provided by civilian practitioners.

The panel noted that "Tricare does not state explicitly its coverage policy for CRT." However, some readers worried that the report could harm veterans.

"I fear that these conclusions could be used as a basis for Tricare not to fund cognitive rehabilitation," said [Keith D. Cicerone](#), a rehabilitation researcher at the JFK Johnson Rehabilitation Institute in Edison, N.J. He added: "In the absence of perfect evidence, there is meaningful evidence. It would be a mistake to pretend there is no usable knowledge that can benefit patients."

Asked to comment on the institute's report, a Pentagon spokeswoman provided by e-mail a seven-paragraph statement describing its TBI services. The statement said that since 2009, the military health system has directly provided more than 71,000 hours of cognitive rehabilitation to service men and women, and that "Tricare has reimbursed care in the private sector for an additional 54,000 hours."

It added that "CRT services are frequently a component of a comprehensive package of . . . services provided to beneficiaries with TBI."

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