

FORT CAMPBELL, Ky., April 9, 2009

## Military Ramps Up Brain Injury Tests

### Returning Troops Screened In Effort To Better Treat Head Trauma



(AP) Every soldier who's gone to war in the past year paused before leaving to take a brain test - basic math, matching numbers and symbols and identifying patterns to measure response time and accuracy. Now that some of these troops have returned, they're taking a fresh round of tests, all part of a broad effort by the military to better treat head injuries.

The Department of Defense is also deploying some unusual weapons for treating the injuries, including paint guns and motion-sensitive video games integrated into therapy at new trauma centers around the country.

More than 150,000 service members from the Marines, Air Force, Army and Navy have undergone the testing that became mandatory last year. Those who suffer a concussion or similar head injury will get a follow-up test.

The 101st Airborne Division is the only division going a step further and testing all soldiers again over the last few months as they have been returning to Fort Campbell from tours in Iraq and Afghanistan.

The tests alone can't diagnose traumatic brain injuries, the signature injury of the wars, potentially crippling and sometimes hard to detect damage from blows that can include an exploding roadside bomb, a mortar blast or a vehicle crash.

But they help doctors zero in on which mental functions are damaged and the best way to treat that by comparing an individual soldier's brain function before and after the injury.

Dr. David Twillie, director of a newly opened brain injury care center at Fort Campbell, says the individual results are necessary "because the brain is a fairly complex organ and because when they experience a fall or a blast, there's no way to necessarily pinpoint what particular

structures within the brain were injured, because the injuries are microscopic in nature."

"So it's not really one-size-fits-all," he said.

Military doctors estimate that 10 percent to 20 percent of soldiers sent to Iraq or Afghanistan suffer a TBI. Symptoms can range from minor headaches or dizziness to memory loss or vision problems. And it can take some soldiers a while to realize how severely they've been affected.

Spc. Christopher Ottney hit his head in a vehicle rollover in Afghanistan in May 2008. He woke up in a medical helicopter and had trouble walking and talking. His doctor first saw him walking down hallways hanging onto the walls to keep himself upright.

Ottney said it took him a couple of months to really grasp how the injury affected him, but he's made quick progress at Fort Campbell since then.

"I'm pretty stubborn," he admits. "I was in full denial of my injuries and I didn't take it seriously what was wrong."

His cane is gone now, but he still hasn't regained all his balance and his eyesight. Still he says, "I've made a lot of outward progress."

Ottney's injury was severe enough that doctors could diagnose it without checking his pre-combat brain test. But experts say that milder injuries or concussions can often be hard to detect and can have different side effects for each individual. For mild cases that aren't easy to diagnose, a sharp decline in performance on the test can be a warning sign of a brain injury, Twillie said.

The pre-deployment computer exam takes about 20 minutes. Some Fort Campbell soldiers will take the post-deployment test multiple times, along with a survey about injury experiences during deployment, for a special brain study with Walter Reed Army Medical Center.

The military also is establishing new traumatic brain injury clinics at bases across the country to give soldiers better access to treatment. Six are already running and several more are coming with a goal to have a brain injury specialist at every military installation in the country, said Army Col. Rachel Armstrong, who oversees the testing program.

At Fort Campbell's brain injury center, which opened in September just as the 101st Airborne began returning from deployment, about 400 soldiers have been screened for TBI, and the center is currently treating about 60 cases.

Some soldiers can recover from mild brain injuries with rest and time away from the battlefield, Twillie said. Others will have prolonged or lifelong symptoms requiring continuing care. Many soldiers see improvement after therapy.

Soldiers go through a battery of tests to measure different cognitive functions. Visual tests show how fast and accurately a soldier can recognize letters, a driving simulator gives soldiers the feeling of driving under different environmental conditions and a Nintendo Wii game system, with its motion-sensitive controller, helps with coordination skills.

Once a soldier's individual deficiencies are identified, therapy can be designed to help retrain the brain to overcome those problems, Twillie said.

The base is also using combat training techniques to help brain-injured soldiers readjust to life on the battlefield. Recovering soldiers are tested in simulated battle with paint guns in a mock Baghdad neighborhood.

Before a mortar round shook him up in Afghanistan, Sgt. 1st Class Landon Ranker, 38, could lead an entire platoon of infantry soldiers through complicated tasks. His injury made it hard for him focus in stressful and confusing situations.

Part of his therapy program is practicing his ability to focus in a battle simulation: a fake mess hall bombing with several training dummies that bleed and breathe and need medical attention.

"It definitely makes your brain work in overdrive," he said.

For every higher score on a test or every small goal they complete, soldiers regain confidence in their ability to return to their jobs, Twillie said.

"First of all it shows us that the service member is able to perform, but the most important thing is it tells the service member that they will be able to perform," Twillie said. "And that bit of confidence piece of it is really important."

**Comment: I don't get it. The scientific literature shows that there is a 50-80% occurrence of hormonal deficiencies associated with traumatic brain injury and we are playing games with wii to do what, regenerate the hormones?? Again this is a continuum of the philosophy of bad medicine. We are still using an antiquated model to approach the complex sequelae of TBI. We owe it to our servicemen to offer them the newest approaches in medical care.**

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