Medics start using scanner that could detect TBI earlier

Army Pvt. Jason Kasper, a medic with the 2nd Squadron (Armored), 1st Cavalry, 4th Infantry Division, closes his eyes as another medic places electrodes on his forehead to test for traumatic brain injuries. Soldiers at Advising Post Lightning trained Saturday on the smartphone-sized BrainScope device, a high-tech brain scanner that tests for traumatic brain injuries.

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AP LIGHTNING, Afghanistan -- Soldiers are trying out a high-tech brain scanner that tests for mild traumatic brain injuries.

The 1st Security Force Assistance Brigade is the first unit to use the smartphone-sized BrainScope device in the field.

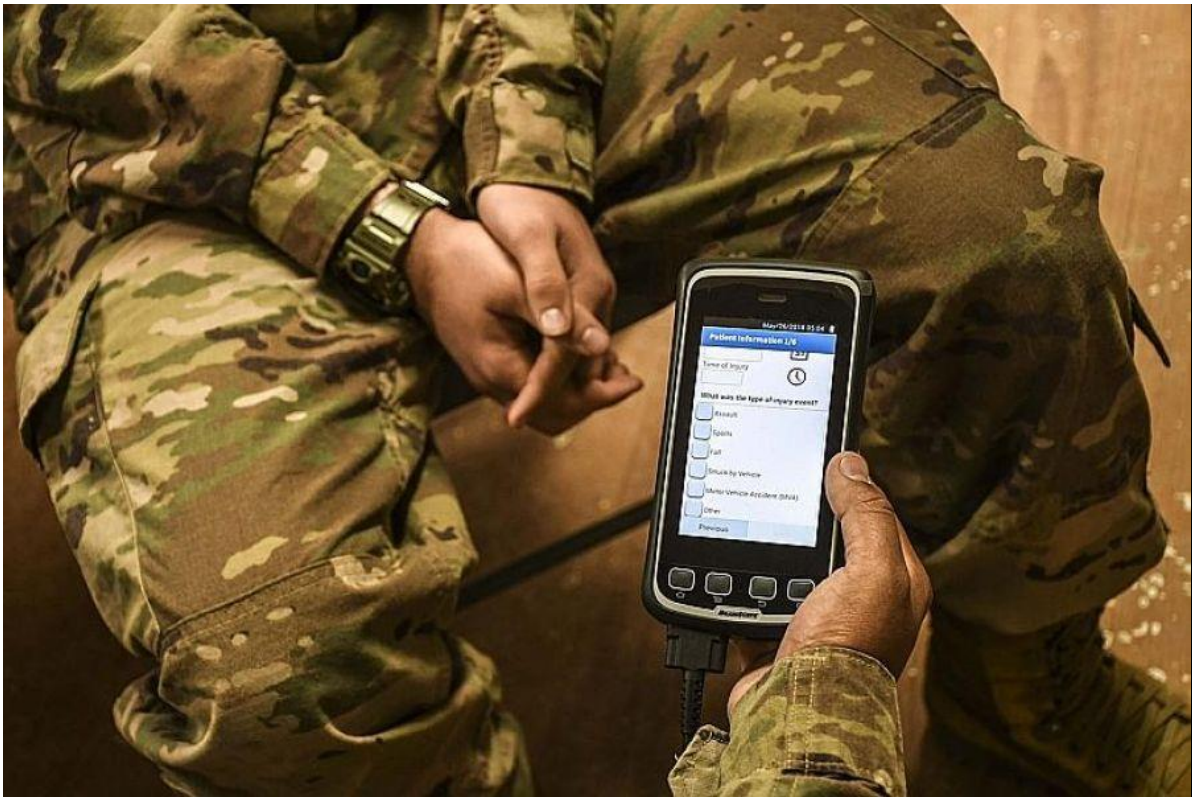
Capt. Nicholas Koreerat, a physical therapist in the 1st SFAB, trained newly-arrived medics from the 2nd Squadron (Armored), 1st Cavalry, 4th Infantry Division on the device Saturday at Advising Post Lightning near Gardez.

“It looks like a smartphone and kinda acts like one,” Koreerat told the soldiers. Medics often rely on injured soldiers to tell them what happened. But those with traumatic brain injuries often lose consciousness or suffer memory loss. Additionally, symptoms such as headache, dizziness, and anxiety aren’t visible and can be hidden or misinterpreted.

“Should we let them go back on mission? It tends to be subjective,” Koreerat said. “But the really neat thing about this is that it gives you objective data.”

Electrical currents course through the brain, and when someone has TBI, these currents will look different when analyzed by a scanner. The device can read these brain currents. It shows on a smartphone-like display whether a brain scan looks like those of people with TBIs.

“Instead of us saying, ‘Hey, they might have one,’ ” Koreerat said, “this says in an objective manner, ‘They have a brain bleed, so let’s take care of them and get them out of here.’ ”

- 

Soldiers at Advising Post Lightning trained Saturday on the smartphone-sized BrainScope device, a high-tech brain scanner that tests for traumatic brain injuries. The device analyzes the brain waves of soldiers with potential brain injuries.
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Researchers estimate between 15 and 23 percent of servicemembers returning from combat have suffered mild traumatic brain injuries. Most of those combat TBIs came from explosive blasts. Moderate to severe TBI is linked to increased risk of Alzheimer’s disease, Parkinson’s disease, and amyotrophic lateral sclerosis (ALS).

For mild TBI, most symptoms resolve over a period of a few weeks, although an estimated 10 to 20 percent of people develop prolonged symptoms.

The Department of Defense has called for a device such as the BrainScope since at least 2012. DOD, the NFL and private investors funded development of the device, which received FDA approval in 2016.

The goal is to push assessment down to the aid station level, Tracie Lattimore, director of the Army's Traumatic Brain Injury program, said in a phone interview.

"We have to find ways to ID that injury and get those resources earlier," Lattimore said. "If we can do that, we can decrease the number of prolonged sufferers."

Pvt. Jason Kasper, a medic with the 2nd Squadron (Armored), 1st Cavalry, 4th Infantry Division, volunteered to be the first subject at training Saturday.

First, a short quiz about the details of his injury -- a minor fall, for the purposes of the training. Then, another medic pressed a crown of electrodes onto Kasper's face to measure his brain waves. Kasper laid back and closed his eyes. Five minutes later, a reading of his brain appeared on the device.

Lt. Col. Tony Serrano, the 2-1 Cav doctor in charge of the aid station, said he watched the training as the medics followed the step-by-step instructions on the screen. He said he wanted to see if the device was easy to handle.

"This new technology, it's good to have it here to do faster and accurate screening," Serrano said.

Kasper did not have a TBI. When scanned by a trained medic, the whole process takes about 20 minutes, Koreerat said.

Before, a soldier who might have a TBI might have to be taken for a CT scan, which may require a trip far away to a place such as Landstuhl Regional Medical Center in Germany, Koreerat said.

So that soldier and an escort could have to leave their unit for a long time for an injury that may or may not exist.

The vast majority of patients who receive CT scans, 90 percent, do not have structural brain injuries, according to literature provided by the makers of BrainScope. The company has not disclosed the cost of the device, but has stated it's cheaper than a CT scan.

Lattimore said researchers are watching whether medics in austere environments actually use the device. "It's a question of whether people are going to use them in the field and if it can actually make an impact on concussions," Lattimore said.

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