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### Helping Service Members Using Virtual Reality

Posted by: Dr. James Bender, Psychologist

Monday, June 28, 2010

This post is republished from the DCoE blog. Dr. James Bender recently returned from Iraq after spending 12 months as the brigade psychologist for the 4-1 CAV out of Ft Hood. He served for four and a half years in the Army. During his deployment, he traveled through Southern Iraq, from Basra to Baghdad and many spots in between. He writes a monthly post for the DCoE Blog on mental health issues related to deployment and being in the military.

In a **post** for DoD Live last month, I covered resilience and actions you can take to enhance your psychological fitness. This month I'm covering how technology is being used to help treat service members who have a psychological health issue.

If you've spent a bit of time reading the DCoE Blog or our website, you've heard of post traumatic stress disorder (PTSD). This anxiety disorder occurs in some people who have experienced an intense trauma, like combat. PTSD can be very debilitating and can last many years.

**Prolonged Exposure therapy** is a treatment for PTSD that has proved very successful in the past few years. The idea is to expose the patient to what originally caused the trauma in a controlled way where the patient is in charge of the situation. For example, say a soldier becomes very nervous when he hears gunfire because it reminds him of a sniper attack he experienced in Iraq. Part of treating him with Prolonged Exposure therapy would be exposing him to gunfire in a safe, controlled way, such as going to the rifle range and listening to the "pop" sound the rounds make.

When conducting Prolonged Exposure therapy, it is important that the exposure is both realistic and controlled. It can be difficult to accomplish this when the original trauma happened in Iraq or Afghanistan — are you going to send the soldier back to Iraq, into an ambush, just to treat his PTSD? This isn't very practical, not to mention the complete lack of control in that situation.

Technological advances may offer a solution to the above challenge. DCoE's **National Center for Telehealth and Technology** is conducting a study about Virtual Reality Exposure Therapy, VRET. In it, the warrior wears a virtual reality mask and looks into a computer-generated scene that appears very similar to an actual combat event. The scene can be controlled to match the terrain and situation that is causing the trauma. Even details like weather, time of day, and number of bystanders can be controlled.

By making the simulation more real and controllable, the service member is in a much better position to process and understand the traumatic experience. Heart rate, respiration, and other physiological functions associated with stress can also be monitored. This is a great way to measure the patient's progress; as he becomes less stressed by the scenario, heart rate, breathing and sweating will decrease.

If you're interested in the latest treatments for our warriors, definitely check out DCoE's upcoming June newsletter. (You'll be able to find the newsletter **here**.) The issue will highlight some cutting-edge medical technology that will be used to treat service members at the National Intrepid Center of Excellence. Check out our recent post on the **Computer Assisted Rehabilitation Environment (CAREN)**, which will be used at the center.