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Not a Game: Simulation to Lessen War Trauma



Hiroko Masuike for The New York Times

Dr. Michael Kramer, left, and a colleague in Manhattan demonstrating Virtual Iraq.

By AMANDA SCHAFFER
Published: August 28, 2007

The sun shines on an empty Iraqi street. A Blackhawk helicopter circles overhead. The aromas of spices from a market fill the air.



University of Southern California

Suddenly, insurgents hiding on a roof launch a rocket-propelled grenade. The ground shakes violently and plumes of black smoke cloud your vision.

Those images, produced when a person puts on a headset, are at the heart of Virtual Iraq, a simulation created to treat Iraq war veterans suffering from [post-traumatic stress](#) disorder.

By repeatedly encountering sights, sounds, smells and rumblings that evoke painful memories, experts say, veterans with the disorder can begin to reprocess traumatic events and become desensitized to them, perhaps suffering fewer side effects like [insomnia](#), nightmares and flashbacks.

The simulation is available to a small number of patients at sites including the Veterans Administration Medical Center in Manhattan, the Naval Medical Center in San Diego, the [Emory University](#) School of Medicine in

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Atlanta and [Walter Reed Army Medical Center](#) in Washington.

So-called exposure therapy, in which patients are asked to confront memories of a trauma by imagining and recounting it in painstaking detail, has long been a first-line psychological treatment for post-traumatic stress disorder. But the bells and whistles of virtual reality may make exposure therapy more effective, said Michael Kramer, a clinical psychologist at the Veterans Administration hospital in Manhattan who is overseeing the introduction of Virtual Iraq there.

“One of the hallmarks of P.T.S.D. is avoidance,” Dr. Kramer said. “Patients spend an awful lot of time and energy trying not to think about it or talk about it. But behaviorally, avoidance is what keeps the trauma alive.”

“With virtual reality, we can put them back in the moment. And we can do it in a gradual, controlled way.”

Virtual Iraq features two scenarios. In one, patients navigate the streets of a generic Iraqi city, walking past buildings, cars, civilians and markets. With the touch of a therapist’s keypad, a little boy might appear on a street corner and wave, apparently in friendship, or a man might stumble down the middle of the street calling for help, a sight that provokes anxiety in some veterans who have come to fear ruses.

In the other scene, veterans ride in a Humvee. Other vehicles might slow down in front of them, and strangers might open fire. Enemy combatants might appear under bridges. Objects dotting the roadside might explode as the Humvee passes.

The patient cannot shoot back at the insurgents and also cannot die or be wounded in the simulation.

In choosing which stimuli to introduce, the therapist’s goal is to evoke the conditions present when specific traumatic events occurred, as accurately as the simulation will allow. Smells like spices, burning garbage or body odor can be emitted in four-second puffs. And the scene can be set to day or night, sun or fog or even a sandstorm.

Given the power of traumatic memories, Dr. Kramer said, it is important “to go at a pace that the veteran can tolerate, so that he isn’t overwhelmed,” and he starts to realize that the memories cannot harm him.

One risk of introducing potent material too fast is that a veteran could become retraumatized and perhaps unwilling to continue other kinds of therapy, as well.

Not all patients with the stress disorder are likely to benefit from this therapy. Veterans who lack basic coping mechanisms, are actively having flashbacks or who have unaddressed problems with substance abuse should probably not enter the simulator, Dr. Kramer said.

Dr. Albert Rizzo, the director of the Virtual Environments Lab at the [University of Southern California](#) who helped develop the simulator, said, “It’s a hard treatment for a very hard problem.”

Dr. Rizzo first created a simulation for Iraq veterans with the disorder in 2003, by modifying the Xbox game Full Spectrum Warrior. In 2004, he and Ken Graap, president and chief executive of Virtually Better in Decatur, Ga., received financing from the Office of Naval Research to develop the current simulation, with extensive feedback from veterans and active-duty members of the military.

Virtually Better also offers a Virtual Vietnam, as well as programs to address fear of heights and flying, social [phobias](#) and addictive behaviors.

Exposure therapy may not be enough for veterans with complicated symptoms resulting from chronic stress and multiple traumatic episodes, said Dr. Rachel Yehuda, director of

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the post-traumatic stress disorder program at the James J. Peters [Department of Veterans Affairs Medical Center](#) in the Bronx.

“I don’t believe,” she said, “that any study of exposure therapy for combat-related P.T.S.D. has shown a clinically significant improvement” in more than half the patients.

“While I would offer it to a veteran in a heartbeat, I would be prepared for the fact that it might have to be supplemented with other forms of assistance” like medication and social services, she said.

“If we’re too enthusiastic,” Dr. Yehuda added, “then people may expect veterans to be cured after 12 weeks, and it just doesn’t work that way.”

Hunter Hoffman, a cognitive psychologist at the [University of Washington](#) in Seattle, said: “With the growing ranks of Iraq war veterans who have developed P.T.S.D., now is the time for them to receive effective treatment, not 20 years from now.

“We know from Vietnam that for most patients diagnosed with P.T.S.D., these problems don’t just go away over time.”

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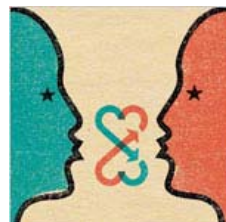
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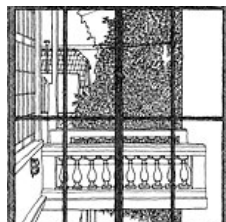


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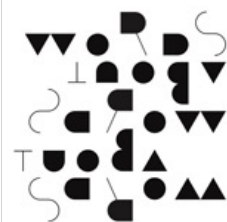
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