

Virtual game helps children escape realities of burn unit

October 9 2007



Patient Jarod Hoopes plays a video game while a nurse cares for his burn wound.
Credit: MediaSource

Nurses and physicians at Nationwide Children's Hospital are using the latest technology to help young burn victims endure the extreme pain of dressing changes and wound care. Instead of traditional distraction devices, such as books and music, Nationwide Children's Hospital Burn Center is now using virtual reality games to distract patients while nurses attend to the patients' burn wounds.

"It's long been known that the actual treatment for a burn is far worse than the actual injury. Initially, the wound has to be cleaned and the dressing applied, and that can be a very painful and lengthy procedure,"

said Dr. Catherine Butz, PhD, a psychologist at Nationwide Children's Hospital and an Assistant Professor at The Ohio State University College of Medicine.

Following this initial treatment, patients must endure subsequent wound care procedures, some of which can be both extensive and painful, depending on the extent of the burn. During these procedures, anxiety often plays a major role in the patient's pain level.

"Research shows a very strong connection between anxiety and pain," said Dr. Butz. "Distraction does a great job in decreasing any kind of anxiety that might be associated with the anticipated procedures, so by distracting patients and keeping anxiety at a minimum, procedures tend to go much more smoothly and be much less painful for the child."

The device, made possible by a donation from the Aladdin Shriner's Hospital Association for Children, allows patients to escape into a computer-generated world complete with its own environment, creatures and sounds. Patients wear a virtual reality helmet, and once in this new world, they interact in the virtual environment with the help of child life specialists, trained to assist kids through stressful medical treatments.

Since Nationwide Children's Hospital began using the device in May 2007, it has already resulted in positive feedback from burn patients. Burn nurses report several patients have noticeably improved in terms of their ability to tolerate dressing changes.

In order to better understand the effect on pain, doctors at Nationwide Children's have launched a study to compare the results of virtual reality pain distraction with traditional distraction techniques, such as watching television, listening to music, counting and deep breathing. Patients will be randomly assigned to receive virtual reality or another pain distraction technique. Following the procedure, they will be asked to gauge their

level of pain on a scale of zero to 10. The study will also assess the perspectives of parents and nurses in terms of the child's pain and level of distress.

The burn program's goal is to be able to better engage the child in a distraction activity which will hopefully have a beneficial affect on the procedure. An added benefit for patients may be a decrease in the amount of pain and anxiety medications needed. However doctors point out that pain is a very individual experience, and the benefits of virtual reality distraction as well as the level of medication must be determined on a case by case basis.

Source: Columbus Children's Hospital

Citation: Virtual game helps children escape realities of burn unit (2007, October 9) retrieved 6 May 2024 from <https://medicalxpress.com/news/2007-10-virtual-game-children-realities.html>

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