Abstract

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The Effectiveness of Virtual Reality Pain Control With Multiple Treatments of Longer Durations: A Case Study

Hunter G. Hoffman

Human Interface Technology Laboratory and Department of Psychology, University of Washington

David R. Patterson

Department of Rehabilitation Medicine, University of Washington School of Medicine

Gretchen J. Carrougher

Department of Rehabilitation Medicine, University of Washington School of Medicine

Dana Nakamura

Department of Rehabilitation Medicine, University of Washington School of Medicine

Merilyn Moore

Department of Rehabilitation Medicine, University of Washington School of Medicine

Azucena Garcia-Palacios

Universidad Jaume I, Castellan, Spain

Thomas A. Furness III

Human Interface Technology Laboratory, University of Washington

Immersive virtual reality (VR) has proved to be potentially valuable as a pain control technique for patients with severe burns undergoing wound care and physical therapy. Recent studies have shown that single, 3-min visits to a virtual world can dramatically reduce the amount of pain experienced during wound care, and the illusion of going inside the computer-generated world helps make VR analgesia unusually effective. This case study explored whether VR continues to reduce pain when the duration and frequency of VR treatments are increased to more practical levels. A patient with deep flash burns covering 42% of his body spent varying amounts of time performing physical therapy with and without virtual reality. Five subjective pain ratings for each treatment condition served as the dependent measures. The magnitude of pain reduction with VR, and the patient's illusion of "going into" the virtual world did not diminish with repeated administration and longer treatment durations. Practical implications are discussed. The results of this study may be examined in more detail at www.hitl.washington.edu/projects/burn/.