Is virtual reality the future in burn management

Tasciana Gordon – The Cairns Hospital, Queensland

Introduction:

Burn wound management often involves multiple procedures, physiotherapy and dressing changes which may cause significant pain leading to delayed wound healing and poorer psychological outcomes for the patient. Virtual reality (VR) creates an immersive distraction therapy to allow for ease of wound management and physiotherapy with a reduced requirement of pharmacological interventions.

Method:

A literature search was conducted using Medline and Pubmed databases. Articles were exclude because of publication prior to 2010, inability to access full text, single case studies and non-English languages.

Results:

Ten journal articles included seven randomised control trials, two systematic reviews with meta-analysis and one crossover study. All demonstrated promising results with a reduction in adjunct pharmacotherapy during the immersive VR experience. In paediatric patients there was greater immersion correlating with a greater response. One hundred point pain scales and heterogenous scales showed reduced pain perception during dressing changes, procedures and physiotherapy. Pain score reduction was noted in paediatric, adolescent and adult populations. Bias was not appropriately assessed because of the non-blind nature of a VR study. Limitations in comparisons were noted throughout the articles because of the nondescribed system of VR used.

Conclusion:

A positive response occurred with the use o VR for pain management for burn patients dressing changes and physiotherapy. Further research needs to be conducted with higher power studies and formalised pain scores with a single VR device. However, the use of VR may provide new treatment options for patients who experience pain beyond burn wound management.