

Is Xbox Kinect™ based rehabilitation a feasible adjunct for burns rehabilitation: a pilot RCT

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Introduction

Following burn injuries, activity with pain management is integral to improving outcomes. Interactive video games, due to their accessibility and interactive gameplay are emerging as rehabilitation adjuncts.

The aim of this study was to assess the efficacy of the Xbox Kinect™ to increase activity and influence functionality post-burn.

Method

Patients were randomised into intervention and control groups with 15 patients in each group. In addition to hands on therapy, the control group were asked to complete twice daily self-directed sessions of 30 minutes of physiotherapy exercises, standardised for location of burn. Similarly, the intervention group was asked to complete twice daily 15 minute sessions of the same physiotherapy regime followed by 15 minutes of Xbox Kinect™ activities, prescription based on location of burn. Outcomes assessed included: activity time, treatment satisfaction, upper limb disability (QuickDASH), range of movement (ROM), grip strength, pain and fear of movement (TAMPA).

Results

Thirty burn patients were recruited at Royal Perth Hospital. The intervention group demonstrated significantly greater total activity time compared to control group (median 60 and 25 minutes respectively, $p=0.0001$). All other differences in post-study outcomes were not statistically significant. Initial analysis demonstrated a positive influence on pain in the intervention group compared to the control group. Multivariate regression analyses are planned to deny or confirm these results.

Conclusion

The Xbox Kinect™ is a useful motivational tool in promoting rehabilitation activity without negatively impacting patient recovery. Future research with larger sample sizes and the next generation of consoles is needed to determine the possible benefit of extra exercise time in improving functionality.

Key Words

Xbox Kinect™; Video games; Acute Burn; Rehabilitation; Physiotherapy

Nominated Stream for Oral Presentations

- Medical
- Nursing
- Allied Health
- Scientific

Nominated Stream for Poster Presentations

- Care
- Prevention
- Research