

Introduction

- Pre-induction intravenous (IV) access is safer in morbidly obese children¹ but is often difficult and can be stressful for a child.¹

Aim

- To observe if augmented reality (AR) reduces anxiety while obtaining IV access in an 11 yr old morbidly obese autistic child presenting for an EGD.

Methods

- Parental consent and patient assent was obtained.
- Discussed virtual reality (VR) and AR glasses with the family
- The child opted for AR glasses as they allowed for partial immersion and he feared being unable to see his surroundings with VR.
- Upon wearing the glasses, interactive cartoon holograms, Ben and Jenny, projected in front of the patient through a Microsoft Hololens (Figure 2).
- Once the patient said, "IV Prep", Ben and Jenny began discussing the cannulation process in an interactive and playful fashion.

Figures



Figure 1. The patient immersed in the AR glasses experience.

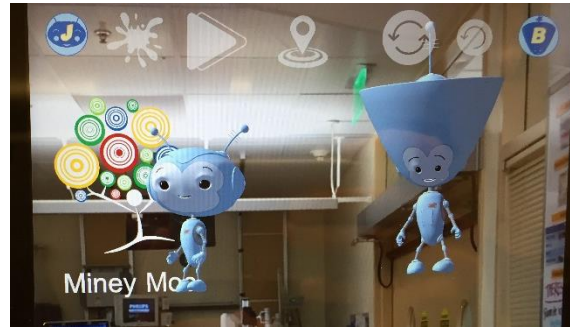


Figure 2. The holograms Ben and Jenny mirrored onto a tablet.

Results

- Throughout the process, the patient remained engaged with the glasses (Figure 1) while periodically looking at the needle. At no point, did the child appear anxious.
- Patient described the experience as "the best IV I've ever gotten".

Discussion

- Unlike VR which completely isolates users from their surroundings, AR allows incorporation of elements into the viewers surroundings with interactive holograms. For a child wanting to see their environment yet still have three dimensional interactions, AR is ideal.
- AR glasses are unique in their ability to blend the frightening unfamiliar surroundings of the hospital with playful and educational holograms.

Reference

1. El-Metainy S, Ghoneim T, Aridae E, et al. Incidence of perioperative adverse events in obese children undergoing elective general surgery. Br J Anaesth [Internet] 2011 [cited 2017 Sept 3]; 106(3): 359-63. Available from: <https://doi.org/10.1093/bja/aeq368>.

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