COMPARATIVE ASSESSMENT OF THE USER EXPERIENCE WITH A PORTABLE , VIRTUAL REALITY SIMULATOR FOR ENDOSCOPIC SKILL ACQUSITION

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Introduction

Training on simulators has been shown to improve critical psychomotor and technical skills. Virtual reality simulators (VRS) are specifically effective for transferring skills from the virtual environment to actual procedures. Issues with users' access, cost, investment of time and deliberate practice limit their use. To overcome these limitations we tested an innovative, portable, gamified VRS was developed-Rescue in the Deep (RID)

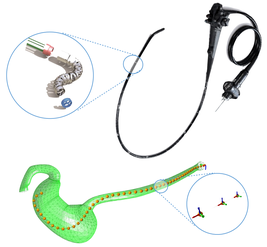
Aim

To compare RID training and user experience against standard VRS 20 novices evaluated before and after 2 weeks training using either RID or VRS using the FES exam

Methods

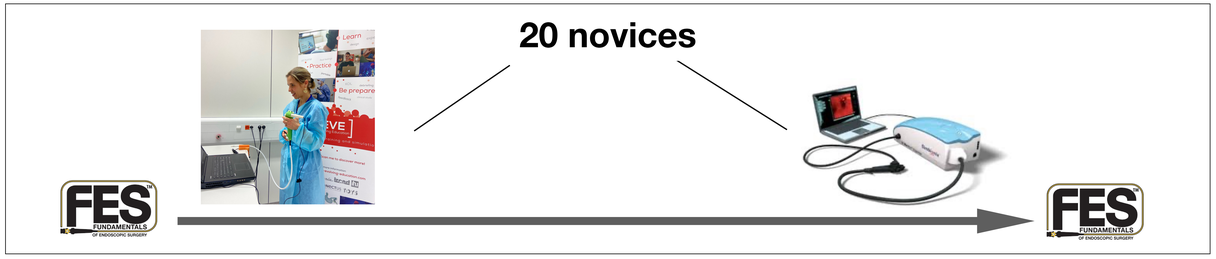
Rescue in the Deep (RID) portable, gamified VRS for endoscopy training







- Virtual reproduction of a flexible endoscope as well as its physics
- Gamified environment (Unity)
- Dedicated plug and play controller and 3D replica of a standard gastroscope



Results

Comparable improvements



- Comparable FES manual skills scores
  -VR 26.72 and RID 25.32 points; p=0.7685
- Comparable FES manual skills pass rates
  -VR 90% vs RID 90%; p=1.0
- 80% of RID-group found the training engaging vs. 70% of the VRS-group

Conclusions

- RID is as effective as existing systems in preparing for the FES exam
- Both RID and VRS groups had comparable improvements and final FES exam scores
- RID has an engaging and superior user experience with better subjective ratings for skill improvement

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