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Virtual reality fully immersive interactive technology: Can this improve medical students' preparedness for resuscitation?

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Over 60% of 4th year medical students lack confidence in dealing with cardiac arrest situations. Recent technology advancements allow smartphones to be converted into virtual reality headsets. We have developed a method of Virtual Reality Fully Immersive Interactive Technology Teaching (VR FIITT) where a student may be fully immersed in a virtual reality teaching scenario. A pilot research study took 75 preclinical medical students and used five different training methods to teach them Cardiopulmonary Resuscitation (CPR). Each group was provided 20 minutes of training via their designated training method. After which they were asked to rank their confidence to perform the technical steps of CPR on a real patient, their enjoyment of the teaching method and their confidence to perform this skill in a real environment under pressure. VR FIITT scored highest in all three areas of assessment compared to the other teaching methods. Students enjoyed the VR FIITT ($P=0.028$) and had more confidence to use their skills in clinical practice ($P=0.045$) compared to all other teaching methods. However it was only shown to be superior to video and textbook teaching methods ($P=0.036$) when assessing how confident students felt with the steps of CPR. The nature of resuscitation events is a main factor in why medical students feel underprepared to attend resuscitation calls as a newly qualified junior doctor. This project highlights this technology can be used to address this issue by helping to reduce anxiety and potentially improve performance, when faced with these events in real life.

Biography

Alexander Young holds a Master's degree in Surgical Science, a Postgraduate Certificate of Medical Education and Membership of the Royal College of Surgeons. He has been on the Editorial Board of several surgical journals and has published over 20 journal articles and edited 7 books. He was the youngest Committee Member of the British Orthopaedic Trainees Association after founding the International Future Orthopaedic Surgeons Society as a Medical Student and has also held committee positions at the Royal Society of Medicine.

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