



Space exploration or catching a wave: Kids take charge of virtual reality in hospitals

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Children who are anxious about having an operation are about to play a key role in a ground breaking virtual reality hospital project led by Australian anaesthetists. Specialist anaesthetists Dr Andrew Weatherall and Dr Gail Wong from The Children's Hospital at Westmead in Sydney are spearheading a range of research projects that will examine whether virtual reality (VR) can help calm four to 17 year old patients before operations and reduce the trauma of hospital procedures.

"Until now, it's usually the adults who make most of the choices for VR experiences and designs – will we go to space today, or underwater? Will we float away with the bubbles? Perhaps it's time we asked kids to show us which worlds they'd like to see," Dr Weatherall explained.

"Paediatric anaesthetists are in the business of creating different worlds for their patients so we want to put kids right at the centre of creating their own VR and augmented reality (AR) worlds," Dr Weatherall explained.

Dr Weatherall, who will present details of the projects at the annual scientific meeting of the Australian and New Zealand College of Anaesthetists in Sydney which starts on Monday May 7, believes the study has the potential to revolutionise the way hospitals and medical specialists such as anaesthetists prepare children for what can often be traumatic experiences.

"Once these designs are finished we'll be researching whether the availability of virtual reality operating theatre experiences or children-designed VR and AR makes the process of having an operation something that is a lot more enjoyable."

Dr Weatherall said the department of anaesthesia at The Children's Hospital at Westmead cares for more than 14,000 children a year.

The first of the research projects will start recruiting 170 children before the end of the year and will test whether being immersed in the operating theatre environment before their operation makes the process of having an anaesthetic and the recovery afterwards better for children.

The aim of the study is to find out from children what they already know about their operation, ask them what makes them feel good about it and what they don't like about it. A VR operating room tour will then be developed for the young patients to experience before their operation.

The patients will be assessed both at the start of the anaesthetic and a week after their operation to see how their VR experience has affected their recovery.

That project is just the first in a string of projects to try to make the most of these new technologies. The team is also working with Sydney University's School of Design and the National Centre for Immunisation Research and Surveillance on a project where children will help design the sort of VR and AR experiences that will make procedures in hospital better for other kids.

"Virtual and augmented reality offer us the chance to see how we can reduce trauma and anxiety in children," Dr Weatherall said.

"Anaesthetists can also use these tools to help them prepare for operations too. What better way to rehearse a variety of clinical situations than walk into a different operating theatre and be right in them?"

Canadian virtual reality expert Dr Clyde Matava, Director of Innovation, Informatics and technology at the Hospital for Sick Children in Toronto, will also share his experiences at the meeting.

The Toronto team has already developed its own VR operating room experience for children at the hospital as well as a range of VR programs for their anaesthetists to use when training for challenging clinical situations or practise techniques.

More than 2500 local and international anaesthetists, pain specialists and other medical practitioners have gathered for the scientific meeting at the International Convention Centre in Sydney from May 7-11.