3-D Virtual Reality Imaging Review in Cancer Patients' Understanding and Education of Their Disease and Treatment

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Disclosure

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Background

- A cancer diagnosis is a traumatic event that impacts patients along with information processing and retention.
- One of the big struggles for people diagnosed with cancer is just trying to understand what is happening to them (i.e. information is complex/abstract).
  - Up to 80% of the information presented to patients is forgotten nearly immediately
  - Up to 50% of the information retained is inaccurate
- Poor understanding is associated with worse clinical outcomes and patient experiences.
- How can clinics/providers help patients understand their disease and treatment more fully?

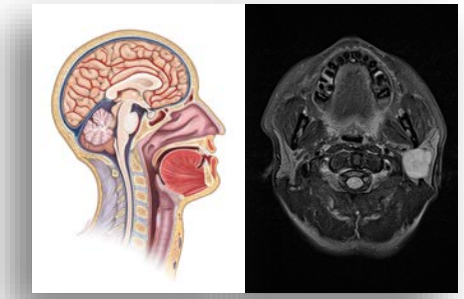
Evolution of Patient Education

Nothing

Verbal Description

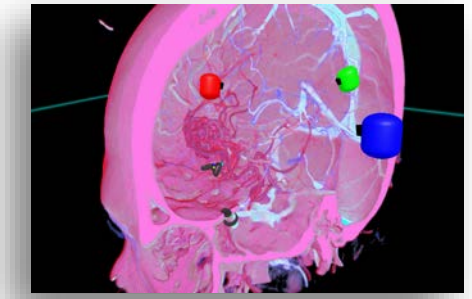
*Least effective method when used alone

Illustrations, Videos, Medical Imaging



3D Printed Models

Augmented/ Virtual Reality



Virtual Reality for Patient Education

- Information is personalized to the patient
- Presenting anatomical information in 3D vs. 2D reduces cognitive load and enables learning
- Supported by several learning theories
- Existing studies show high satisfaction, increased engagement and strong preference for VR

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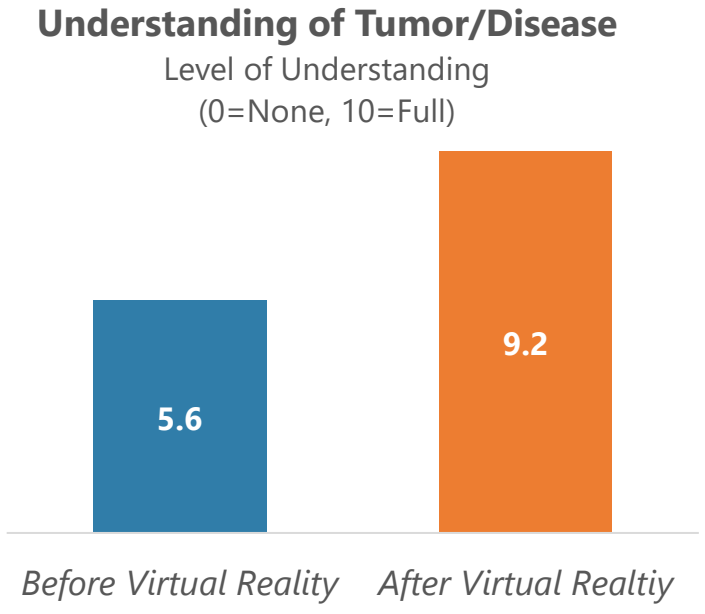
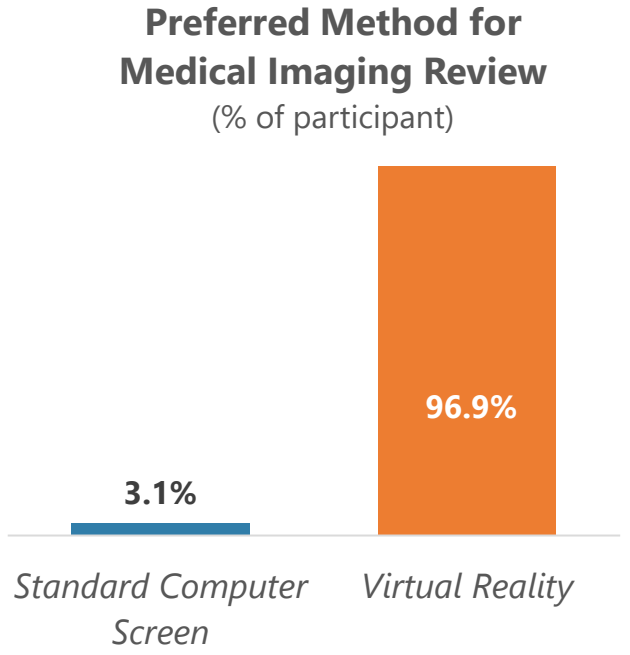
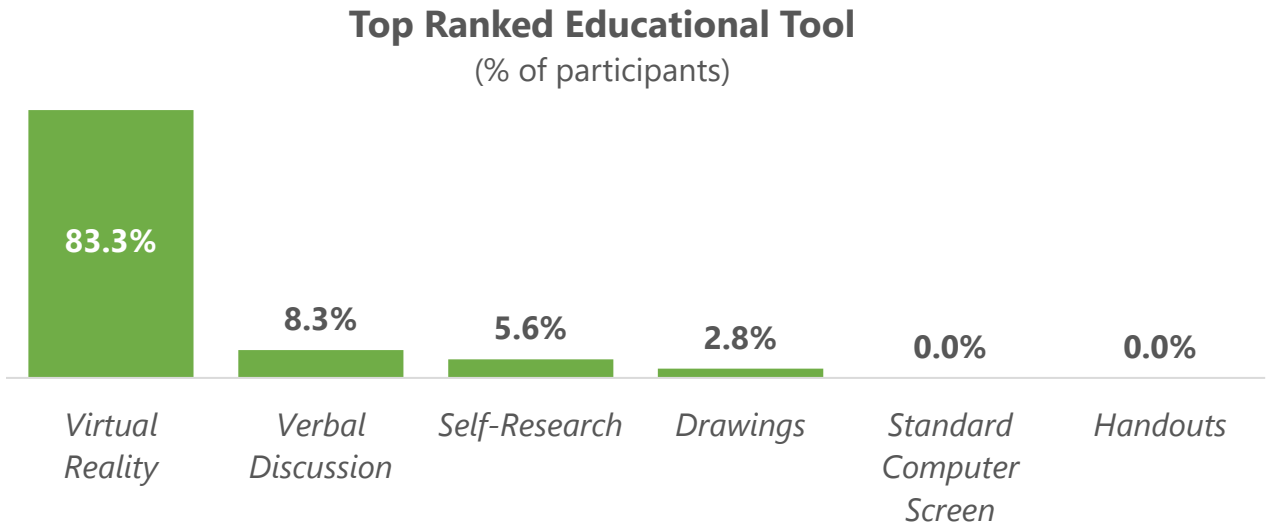
Patient Impact

- Improve understanding of disease (despite multiple prior consultations)
- Strongly preferred in imaging review
- Top ranked tool over other methods
- High majority (97%) of patients agreed VR should be standard of care

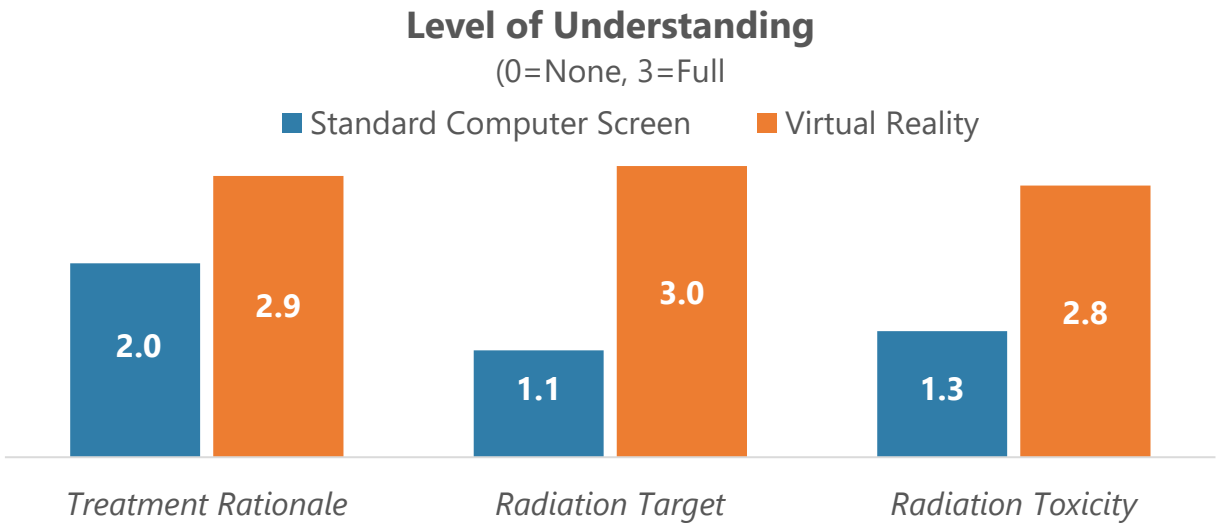


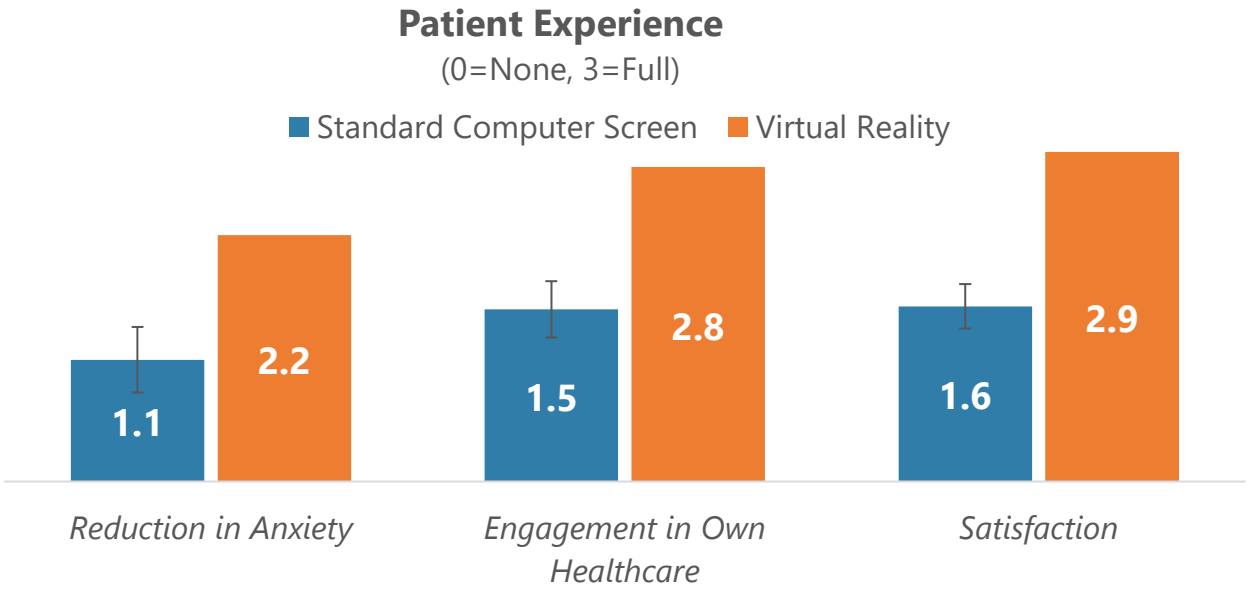




Patient Impact

- Improved understanding in treatment rationale, radiation treatment, and related toxicity
- Less anxiety, greater engagement, and higher satisfaction
- Routinely positive experience "amazing", "phenomenal", "fantastic" "awesome", "too short"





Patient Impact

- *"It [VR] seems like one of the things you have as soon as you get diagnosed with cancer."*
- *"[VR] was more helpful than my doctors just trying to explain it, or not even explaining it to me…[VR] was really helpful."*
- *"This visual moment leveled the playing field…for me. It just let me in on my own healthcare."*
- *"I had a certain amount of fear what was going on to my body. But now it feels like it's less."*
- *"This helped me make sense of why the radiation could be really helpful."*
- *"[VR] changed everything…I would prefer seeing the VR and everything. Like every single piece of the puzzle- it just fills in the blanks."*
- *"I think people should understand because they need to be their own best advocate for what's going on with their body, and the only way you can do that is if you have knowledge of all that."*

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