

KindVR: *Virtual Reality Therapy* during Patient Procedures

Virtual Reality during patient procedures, to distract during procedures, reduce patient / clinician procedure anxiety, perceived pain, and to optimize satisfaction. Long-term potential to reduce life-long anxiety stemming from childhood procedure experiences.

Procedure reviewed: Mediport access



KindVR Headset and controls

PEDS SCORE 8.8 / 10



HIGHLIGHTS

- Several procedures supported such as Mediport Access, IV Insertion, ED laceration, PreOp Anxiety, MRI Preparation, SCD Crisis
- Successfully promotes distraction and coping during port access procedure

“Wow! That was one of the best port access they [patient] have done!”
– Happy parent
- Compared to other VR solutions, extremely easy to use, even for those “bad with tech”!

CLINICIAN PERSPECTIVE

Applications: 9 / 10

Designed specifically for port access procedure by maintaining the patient's head looking upwards as part of the VR interaction. The available apps are great but there are limited options.

Ease of Use: 9 / 10

Seamless integration into workflow and extremely easy to handle and set up. The technology is comprehensive, and clinicians have no problem guiding patients through playing the app and using the headset. However, there is no ability to mirror to external display to see progress.

Training Support: 10 / 10

Training provided for staff comes in three different mediums and are very easy to follow and comprehend. Manuals are also laminated to maintain durability. The video trainings are thorough, can be seen in one sitting, and provide enough guidance that staff are fully equipped after reviewing.



CONSUMER PERSPECTIVE

Safety: 10 / 10

The KindVR experience is safe and intentional for users and their needs. Users can interact with the app by simply sitting in one spot to avoid any potential issues that may arise with mobility.

No adverse events nor any nausea have been reported during research studies.

Accessibility: 9 / 10

This experience is accessible to almost all users, with opportunity to customize for < 1st grade. Users must be able to tilt their head and move their necks to engage with the app.

Ease of Use: 9 / 10

The headset is very easy to adjust on the user's head (if first grade and above) and the instructions for the app are simple and easily understood. The user can simply look up and around to interact with app.

Satisfaction: 10 / 10

Return users are always extremely happy and eager to use KindVR. The experience provides a sense of distraction during the procedure and something to look forward to.

Parent Acceptability: 10 / 10

Parents enjoy watching their children use KindVR, and even participate! They usually tend to request that their children be able to use it again for future procedures.



COST

Compared to alternative options

Initial and Ongoing Cost: 7 / 10

KindVR offers a subscription model with annual fees that are pricier than its competitors



PEDS APPROVED

*Features specifically designed
with pediatrics in mind*

- ✓ Games are customized for specific procedures
- ✓ Apps are very simple for users to play, specifically for younger children
- ✓ Does not require reading knowledge and prior technology experience for children to interact



OPPORTUNITIES FOR IMPROVEMENT

- Expanding game/app options to include teen/young adult audience
- Adding more features to games such as reward systems
- Using an anti-microbial surface that would not need to be wiped and disinfected after every use
- Adding the ability to stream the game so that parents and clinicians can see what the user sees
- Adding a headset that would easily fit onto patients below the first grade

TECH CHECKLIST

Durability: 10 / 10

System is very durable and kid-friendly. No breakage has occurred thus far.

Network Uplink: 10 / 10

No internet is required to use the system which alleviates the burden of varying Wi-Fi issues. Usage data is optional.

Security: 10 / 10

The system's data is stored on Google Cloud's secure infrastructure and is encrypted in transit. KindVR does not rely on internet to operate (besides updates), does not collect PHI, and is HIPAA compliant.

Support Model: 9 / 10

KindVR offers both e-mail and phone support with an average of 2–3-hour response time.

Infection Control: 8 / 10

The headset is made of a wipeable surface that is easily disinfected. The company provides disposable face pads for one-time use but should be optional to lessen waste.