

Virtual Reality

As the importance of mental wellness becomes increasingly de-stigmatized in the status quo, VR's popularity as a method to help those with mental illnesses is also becoming an increasingly popular tactic. In certain facilities, such as hospitals and clinics, patients can now visit a virtual world to get a medical diagnosis or treatment. When a user puts on a motion-sensing VR headset, the outer world is instantly replaced by a 360-degree virtual one. In this way, VR has the potential to help patients alleviate and cope with their stress and anxieties. For example, a user can float on the water as the warm sun shines through the clouds, sounds of the calming ocean echoing below them—all with a simple touch of a button. VR can stimulate the brain's natural processes, especially memory and creativity, while also providing therapeutic benefits for people with conditions like PTSD and depression. According to Brennen Spiegel, Professor of Medicine and Public Health and the Director of Health Services Research at Cedars-Sinai Medical Center in Los Angeles, the brain can only live in two realities: the brain accepting the inputs given to it and processing them to develop a neurological response. Simply put, feeling the presence of other people—even in a virtual world—can cause the brain to neglect harmful stimuli such as anxiety and pain.

Not only does virtual reality have applications in treating medical patients, but it is also effective in helping medical students learn and hone their skills in a low-stakes environment. Typically, students use cadavers to practice, but there is a noticeable difference in operating on a live body instead of a dead one. Virtual reality can show you the insides of the human body to view and access areas that would be impossible to reach when a person is alive¹. A recent study

¹ *Virtual Reality in Healthcare*. (n.d.). Visualise. <https://visualise.com/virtual-reality/virtual-reality-healthcare>

from Harvard revealed that surgeons who trained with VR had a 230 percent boost in their performance compared to those who used cadavers; the VR-trained surgeons were faster and more accurate during their surgical procedures. When learning, students observe the operations of experienced surgeons, but it is difficult to truly be immersed in the process. With VR technology, surgeons can stream operations so that students can watch the processes from a more detailed viewing angle². Virtual Reality is aiding our future in medicine by helping train students to understand the material more quickly, which often produces better results. Thus, Virtual Reality will upgrade medicine to produce more effective long-term results.

Virtual Reality is not only useful for medical students but also for patients as well. Virtual Reality for pain control and relaxation has been one of the most studied way to use VR in medicine. Virtual reality can be used as Distraction Therapy³. Immersive Virtual Reality has been found efficiently distract patients and manage pain, especially in situations that sedation or anesthesia is not advised⁴. A recent study showed that the use of a Virtual Reality headset to see relaxing landscapes before and during the patients operation provided with them a relaxing environment and 80% of the participants said they felt less pain afterwards and more than 70% of them said they felt less anxious⁵. Another study in 2020, proved that women in labor that used Virtual Reality had less pain and a lower heart rate than women who did not use the

² 5 Ways Medical Virtual Reality Is Already Changing Healthcare. (2020, January 29). The Medical Futurist.
<https://medicalfuturist.com/5-ways-medical-vr-is-changing-healthcare/>

³ Denzel, E. (2021, May 31). *Virtual Reality in Medicine*. WebMD.
<https://www.webmd.com/a-to-z-guides/features/virtual-reality-medicine>

⁴Thomas, L. (2021, January 11). *Applications of Virtual Reality in Medicine*.
News Medical Life Sciences. <https://www.news-medical.net/health/Applications-of-Virtual-Reality-in-Medicine.aspx>

⁵5 Ways Medical Virtual Reality Is Already Changing Healthcare. (2020, January 29). The Medical Futurist.
<https://medicalfuturist.com/5-ways-medical-vr-is-changing-healthcare/>

headset⁶. Virtual Reality has many uses, the more we can experiment with it and use it, the better healthcare will be.

Virtual Reality has one other well known use in medicine: recovery in physical therapy patients. Virtual Reality helps distract patients from injury and pain by providing another world that the patients engages in and encourages them to execute activities that will help them towards recovery⁷. In Virtual Reality PT, therapists can choose a program that will be personalized to the patients injuries to help them refine skills needed in a specific area in order to target weaknesses and problems. The extremely immersive VR provides motivation for the patients and feedback for them and the therapists as well⁸. A study proved that children with cerebral palsy, with the aid of Virtual Reality rehabilitation, gained a significant improvement in their mobility⁹. Virtual reality is aiding more than we think in medicine.

VR is changing the future of medicine. Soon, it will be cheaper and more accessible worldwide. The impact of Virtual reality will change the world, helping medical students to be better, relax and calm patients under duress, and rehabilitate those who might believe to have an impossible time doing so. The more Virtual reality is well known in the medical area the better it is for the population worldwide. More studies on Virtual Reality also find that it can reduce symptoms of anxiety, depression and fatigue¹⁰. Virtual Reality will find other ways to integrate into our world for the better.

⁶ <https://www.webmd.com/a-to-z-guides/features/virtual-reality-medicine>

⁷ <https://www.news-medical.net/health/Applications-of-Virtual-Reality-in-Medicine.aspx>

⁸ <https://www.webmd.com/a-to-z-guides/features/virtual-reality-medicine>

⁹ <https://medicalfuturist.com/5-ways-medical-vr-is-changing-healthcare/>

¹⁰ <https://www.webmd.com/a-to-z-guides/features/virtual-reality-medicine>

References -

Source 1: <https://www.webmd.com/a-to-z-guides/features/virtual-reality-medicine>

Source 2: <https://medicalfuturist.com/5-ways-medical-vr-is-changing-healthcare/>

Source 3: <https://www.news-medical.net/health/Applications-of-Virtual-Reality-in-Medicine.aspx>

Source 4: <https://visualise.com/virtual-reality/virtual-reality-healthcare>