



VR TierOne virtual reality used in the treatment of depression

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The Polish startup VR TierOne uses virtual reality to help in the treatment of depression and rehabilitation of people after stroke, as well as oncological and cardiological treatment. It is effective in treating convalescents after coronavirus infection.

Fighting depression

The World Health Organization (WHO) has announced that in 2021 depression will be the second most serious disease in the world. One-third of those who develop severe COVID-19 complain of mental and neurological disorders.

Scientific reports show as many as 98 symptoms of long-term COVID-19 disease. They include chronic fatigue, difficulty concentrating, headaches, sleep problems, anxiety, depression, memory disorders.

One of the newest methods supporting the therapy of people struggling with this type of problems is the use of virtual reality.

VR TierOne virtual reality system



The device and technology was developed by a group of experienced scientists and technology experts. One of the main authors is dr hab. Joanna Szczepańska-Gieracha, associate professor, certified psychotherapist of the European Association of Psychotherapy and teacher of psychotherapy at the Polish Ericksonian Institute with over 20 years of experience in helping patients with various diseases.

Another important person is Dr. Jarosław Szczygieł, specialist in neurology and medical rehabilitation, head of the 1st Department of Neurological Rehabilitation SP ZOZ "REPTY" of the Upper Silesian Rehabilitation Center in Tarnowskie Góry.

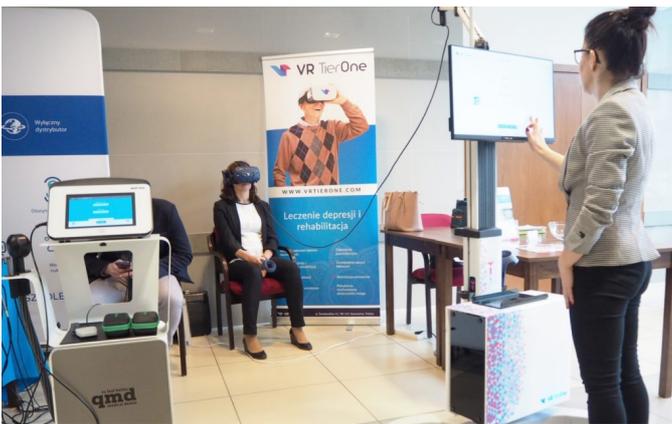
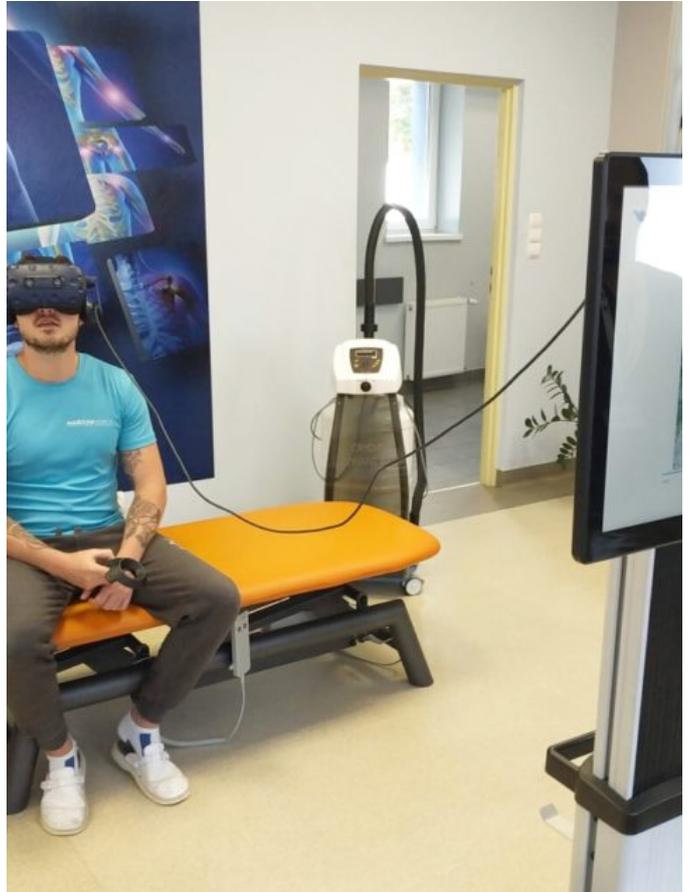


The device and VR TierOne therapy program can be used by doctors, psychologists, physiotherapists and patients of rehabilitation departments, as well as nursing homes. The technology is used by such facilities as the Cardiac Center in Wrocław, the Specialist Hospital of the Ministry of Interior and Administration in Głuchołazy, the Siwy Dym Foundation for Activating Seniors and the Analgomed Pain Treatment Center in Wrocław.

“ Polish medical facilities can often boast of top equipment for the treatment and rehabilitation of patients, but not in the area of taking care of the mental health of the patient. We fill this niche by providing technology and a therapy program to support the recovery of stroke and other severe diseases including COVID-19. They

are all very often associated with depression. " - explains Paweł Pasternak, director of VR TierOne.

The company is at the stage of attracting investors for further development. He hopes to obtain funding and interest in his technology facilities abroad, as the therapeutic program is available in several languages.





How does therapy using VR TierOne technology work?

The virtual reality (VR) and augmented reality (AR) industries are on the rise right now. The development of these technologies changes many market segments, including the medical one.

In Poland, at the end of 2020, a pilot therapy program for convalescents after infection with the COVID-19 virus took place at the Ministry of Interior and Administration in Głuchołazy. It uses the original VR TierOne program. It brought visible positive effects, therefore it can be implemented in other institutions.

" Symptoms in patients undergoing postovid rehabilitation go beyond those relating only to respiratory system disorders , i.e. those related to dyspnea and ventilation disorders. Very often, these symptoms relate to anxiety and depression symptoms, therefore the rehabilitation program includes, in addition to psychological care, relaxation training using VR and VR TierOne therapy. The needs associated with this therapy are huge and go beyond the inpatient rehabilitation program. " - said prof. Jan Angielniak, Head of the Therapeutic Rehabilitation Department at SP ZOZ, Specialist Hospital of the Ministry of Interior and Administration in Głuchołazy.

" Welcome to the virtual world." - the therapist's voice turns to the patient, who looks from the side as if he is having a good time. In fact, it is in the process of therapeutic and rehabilitation work. The patient goes to the " garden of rebirth", where he listens to the therapist telling a story and performs the tasks he recommends, such as painting a mandala.

The use of virtual reality uses the phenomenon of total immersion in order to isolate the patient from hospital conditions. This evokes good previous associations and fully engages in the therapeutic process.

Therapy using the VR TierOne program uses three components. These are a set of medical procedures supporting the treatment and rehabilitation process, a medical device using virtual reality and a two-week therapeutic cycle.

Therapy engages all senses. It helps to detach the patient from stressful conditions and guarantees full concentration on the therapy. VR glasses cut the patient off from the world around him. He is completely focused on the therapeutic tasks that initiate the healing process.

"The innovation of VR TierOne is based on deliberate therapy in two spheres - physical and mental. My experience shows that such a method as added to conventional rehabilitation is extremely useful and attractive for the patient. " - said Dr. Jarosław Szczygieł, specialist in neurology and medical rehabilitation.

Results of the therapies carried out

The results of research carried out by the company show that their solution reduces the level of depression by 37 percent. (according to the GDS scale), anxiety by 36%. (according to the HADS scale), and the stress decreased by 27%. (according to the PSQ scale).

Measurable effects of therapy:

- improving the mood and motivation for rehabilitation,
- psychophysical relaxation,
- increasing the patient's faith in the success of the physiotherapy process,
- improvement of concentration and attention,
- improvement of visual-spatial functions,
- reduction of pain sensations,
- stimulation of brain plasticity mechanisms,
- reducing the sense of burden among the staff of rehabilitation departments.

In addition to the VR therapy itself, TierOne uses virtual reality to activate the movement of the upper limbs and the shoulder girdle.

VR technology is used in many ways. One of the more interesting is [supporting the construction of better and safer cars](#) , which is used, among others, by Volvo.