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Medical Care for Humans in Space (3)

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PERSONALIZED TREATMENT IN ZERO GRAVITY: THE ADVANTAGES OF WEARABLE
NEUROMODULATION**Abstract**

Neuromodulation, a cutting-edge non-invasive brain stimulation technique, is the future of healthcare in the challenging environment of space. Traditional treatments such as pharmaceuticals and psychotherapy fall short in addressing the unique stressors of microgravity and isolation. But neuromodulation, with its ability to personalize treatment and tackle these challenges, is a game-changer. Additionally, wearable neural imaging techniques and machine learning/AI systems can be integrated to provide real-time monitoring and personalized treatment adjustments.

Transcranial direct current stimulation (tDCS) is one such neuromodulation technique that is lightweight, compact, and easy to use. It can be administered by untrained personnel and tailored to the individual patient, making it the perfect solution for space travel. And the benefits of this technology don't stop there. It can also be used as an adjunct to current treatments and for monitoring purposes, providing a more comprehensive approach to healthcare in space.

But that's not all! Neuromodulation is not just for space travel, it also has the potential to revolutionize healthcare on Earth. In remote or underserved areas, where access to traditional healthcare can be limited, neuromodulation can provide effective and personalized treatment options to patients who would otherwise have limited access to care.

So, whether you're an astronaut orbiting the earth or a patient in a remote area, neuromodulation is the future of healthcare. With its ability to personalize treatment and tackle the unique challenges of living and working in a microgravity environment, it has the power to revolutionize the way we diagnose and treat neurological and psychiatric disorders, in space and beyond.