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Sound Healing In Sports-related Injury Recovery And Performance

Sports have been an integral part of human civilization since ancient times. Athletic activities hold major importance in many people's lives because they offer a multitude of benefits including physical fitness, mental wellbeing, personal development and social bonds. However, participating in sports comes with the risk of injury. In the medical field, the use of sound therapy directly on the body is becoming more common but auditory sound therapy has not been as embraced. Incorporating both vibrations on the body in combination with auditory vibration can help heal the body, heal the mind and optimize athletic performance.

In the medical field, the use of vibration on the body is used as a non-invasive alternative to treating injuries. One tried and true form of sound therapy is shock wave therapy (ESWT), which has been around since the 1980's. A newer technology is a shock wave therapy called StemWave. Both machines use high energy sound waves placed on an affected area to stimulate blood flow boosting cell repair, reducing inflammation and accelerating the natural healing process. StemWave, however, uses slightly different technology focusing on regenerative healing, suggesting that it encourages your body to repair damaged tissues in a way that mimics stem cell therapy.

Sound therapy is greatly beneficial for recovering the body from an injury but healing the psychological symptoms from a major injury is a crucial, and often overlooked, component in recovery. Research shows that when an athlete experiences an injury, it is processed first within the part of the brain called the thalamus, which processes and filters information, then, the amygdala, which is responsible for processing emotions and interpreting information as potentially dangerous. When it perceives a threat, the amygdala sends information to the hippocampus, triggering the release of energy to prepare for a fight-or-flight response. This process silences the prefrontal cortex (the logic part of the brain) and wakes up the subcortical brain (the lizard brain), which leaves the internal alarm system activated. Remaining in a hypervigilant state even after the physical injury

has been treated can train the autonomic nervous system to remain in fight-or-flight, affecting future performance if unaddressed.

Integrating sound and vibration, both physically on the body as well as auditorily, would enhance the mind-body connection and promote a more holistic approach to healing an injury. Research shows that the use of psychosomatic-based interventions, including sound, often in the form of music or other auditory stimuli, can lower injury-related anxiety and trauma symptoms. The goal with sound, after an injury, is to keep the autonomic nervous system at a healthy baseline, decrease symptoms of anxiety and depression and promote emotional regulation and resiliency.

Auditory stimulation is gaining traction within the sports psychology community but is still not commonly used in conjunction with other healing modalities. It is routine for athletes to undergo systematic physical training but there is a lack of programs for mental health support and nervous system regulation. Incorporating a regimen of auditory exposure to sound for the athletes while undergoing physical rehabilitation could help them to regulate their parasympathetic nervous system, returning to a calmer state more frequently, and increase their focus, decision making and performance after an injury.