

Novel device by NUS aids in muscle recovery

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A team of NUS researchers has developed a novel medical device capable of harnessing a magnetic field to make muscle rehabilitation quicker and more comfortable.

MRegen is a non-invasive painless device that makes use of magnetic stimulation to produce energy which tricks muscle cells into thinking that they are exercising, amplifying the biological effect to promote muscle regeneration.

“The device provides a uniform electromagnetic field to a muscle area at a magnitude and pulse duration that reproduces the same regenerative, energetic and metabolic responses as physical activity. The duration of use for the device has been optimised to provide the largest therapeutic effect in terms of muscle equality, function and metabolic stability,” explained Associate Professor Alfredo Franco-Obregón from the NUS Yong Loo Lin School of Medicine (NUS Medicine) and the Biomedical Institute for Global Health Research and Technology (BIGHEART) at NUS who led the study.

The technology holds great promise for slowing muscle loss and maintaining healthy muscle metabolism in the frail and elderly, professional athletes during detraining, as well as those with other health conditions such as obesity and diabetes. The researchers have filed a patent for the technology and plan to commercialise it through a spin-off company QuantumTX.