Press Release

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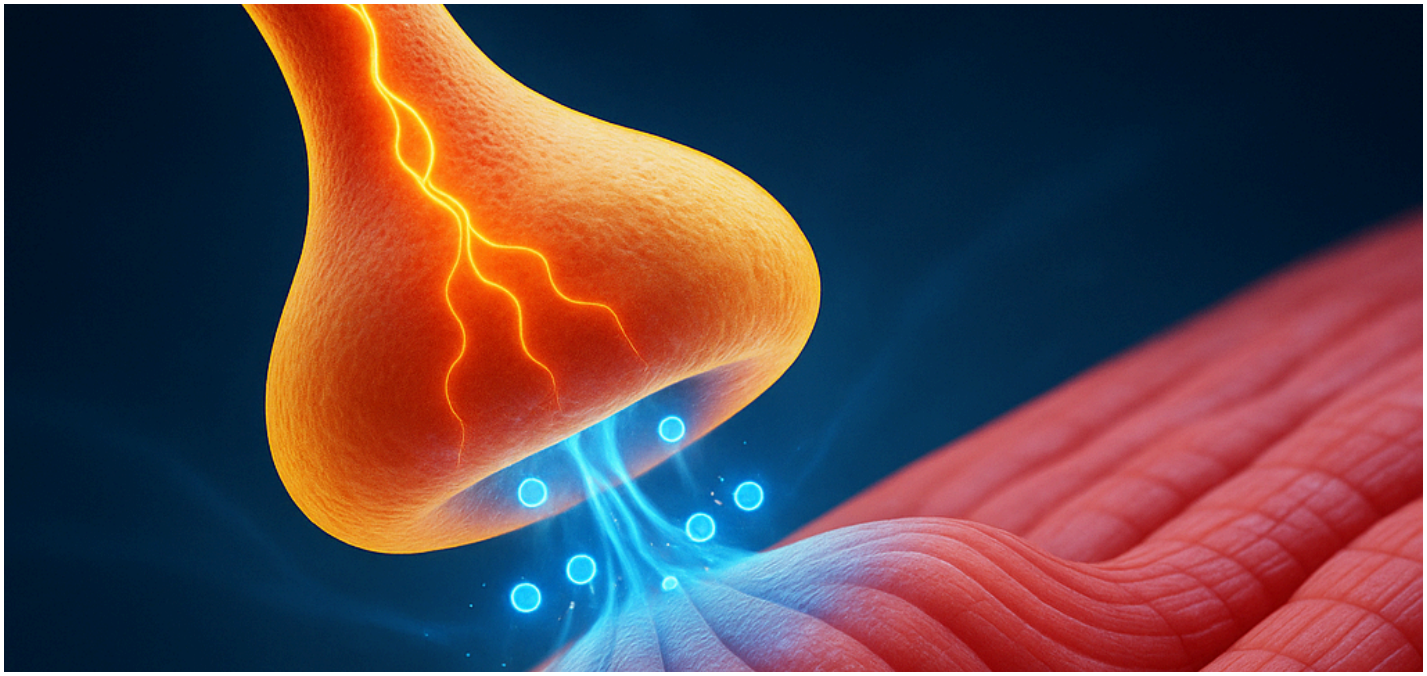

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At **Health Discovery Labs**, innovation is personal. The team has set out to solve one of the most stubborn and invisible problems in modern medicine: **muscle loss in the ICU**. For critically ill patients—especially those on ventilation or prolonged bed rest—**muscle degradation can begin within hours** of immobility. It's a quiet crisis that prolongs recovery, increases mortality, and leaves lasting disability.

HDL's answer? A breakthrough solution called **MyokinE™**—an intelligent Electrical Muscle Stimulation (EMS) system designed to deliver **non-volitional therapy** to even the most fragile patients.

MyokinE™: Muscle Preservation Without Movement

MyokinE™ works without patient effort, activating muscles through targeted electrical stimulation to simulate the effects of physical activity. This allows therapy to begin even when the patient is unconscious, helping preserve muscle tone and prevent ICU-acquired weakness (ICU-AW) before it begins.

Data shows that early interventions in ICUs to mitigate ICUAW could **reduce ICU stays by an average of 1.6 days for mechanically ventilated patients**. This could significantly lower healthcare costs and improve long-term outcomes—particularly in ICUs where early mobilization is limited by patient condition or staffing constraints.

A Scientific Partnership to Measure What Matters

To validate MyokinE™ and quantify its benefits, Health Discovery Labs is collaborating with **Dr. Sandra Zampieri**, an internationally recognized neuromuscular scientist at the University of Padova. Dr. Zampieri has led the way in investigating **C-terminal agrin fragment (CAF)**—a blood-based biomarker that reflects neuromuscular junction health and muscle wasting.

CAF levels rise with inactivity, aging, and disease—making it a compelling measure of ICU-related muscle loss. Dr. Zampieri's recent narrative review, published in The Journal of Cachexia, Sarcopenia and Muscle, provides a comprehensive look at CAF's role in assessing muscle health across multiple populations.

Now, **HDL and Dr. Zampieri have joined forces in an NIH-funded clinical study** to assess MyokinE™'s real-world impact on critically ill patients.

A NIH-Funded Multi-Site Study Begins

This landmark study—currently underway at **Dell Medical School at The University of Texas at Austin** and the **Mayo Clinic**—combines MyokinE™ therapy with regular blood analysis for CAF levels, alongside direct physiological tests of muscle activation. The goal: to build a robust evidence base showing that **MyokinE™ not only works, but changes the trajectory of ICU recovery**.

“We knew from the beginning that our technology needed more than anecdotal success—it needed measurable, biological validation,” says **Oussama Hassan**, founder of Health Discovery Labs. “This partnership with Dr. Zampieri allows us to connect the dots between therapy and outcome in a rigorous, clinically meaningful way.”

A Platform for Broader Impact

While ICU patients are the immediate focus, the implications of MyokinE™ reach far beyond intensive care. From stroke rehab to cancer cachexia to aging-related sarcopenia, **the ability to deliver passive, targeted muscle therapy combined with biomarker monitoring** could open new frontiers in personalized recovery.

“We’re building a platform, not just a product,” Hassan notes. “Our goal is to give clinicians the tools to preserve and restore function—starting when it matters most.”

Leading the Charge in Intelligent Muscle Recovery

As Health Discovery Labs continues its clinical work and regulatory pathway, the MyokinE™ system represents more than a device—it’s a vision for smarter, earlier, and more effective care. In a healthcare environment under increasing pressure to do more with less, **technologies like MyokinE™ could transform ICU care from reactive to proactive.**

Muscle loss may be silent—but Health Discovery Labs is making sure it doesn’t go unseen or unchallenged.

Disclaimer

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