

ONWARD Medical's Technology Enables Walking and Standing After Severe Spinal Cord Injuries

STIMO-BRIDGE Study Results Published in Nature Medicine

EINDHOVEN, the Netherlands & LAUSANNE, Switzerland—February 7, 2022--ONWARD Medical N.V. (Euronext: ONWD), the medical technology company creating innovative therapies to restore movement, independence, and health in people with spinal cord injury, today announces the publication of STIMO-BRIDGE Study results in [Nature Medicine](#). The study highlights the use of ONWARD's technology to enable people with even the most severe forms of spinal cord injury to walk, stand, cycle, and swim again.

The STIMO-BRIDGE study was conducted by NeuroRestore, a collaboration between the Swiss Federal Institute of Technology (EPFL) and the Centre Hospitalier Universitaire Vaudois (CHUV, which is co-led by Professor Grégoire Courtine, PhD and Neurosurgeon Jocelyne Bloch, MD. It was published today in *NATURE Medicine*, entitled, "Activity-dependent spinal cord neuromodulation rapidly restores trunk and leg motor functions after complete paralysis."

The study leveraged an innovative lead developed by ONWARD to specifically target the areas of the spinal cord involved in leg and lower trunk movement with the intent to facilitate faster and more effective recovery of motor function. To design this lead, ONWARD and NeuroRestore used advanced computational models and spinal cord atlas to determine optimal electrode placement and guide optimal position during surgery. The models for pre-operative planning and for intra-operative neuromonitoring were developed within the framework of [RESTORE](#) and CONFIRM Eurostar projects, in collaboration with [Utrecht University Medical Imaging Center](#), [the IT'IS Foundation](#), [ZMT Zurich MedTech AG](#), and [Medical Faculty of Heidelberg University](#).

Three participants with complete sensorimotor spinal cord injury (AIS-A) were implanted with this new lead. Prior to implantation, these subjects could neither contract their leg muscles nor take a single step. On the first day following implant, all participants were able to take steps independently on a treadmill with body weight support.

After 5 months of rehabilitation, participants were able to use their legs to stand, walk, swim, and/or cycle. They also regained control of their trunk muscles. This recovery of leg and trunk motor function also enabled participants to stand independently in community settings. This [video](#) from EPFL describes the study and the gains enjoyed by participants.

"Enabled by ONWARD technology, Professor Courtine and colleagues have demonstrated a remarkable breakthrough in restoring the ability to stand and walk even in people with the most severe spinal cord injuries," said Dave Marver, CEO of ONWARD. "We are working hard to bring these therapies to the SCI community as soon as possible and our first introduction, for restoration of hand and arm function, is expected in early 2023."

To learn more about ONWARD's ARC Therapy and the company's vision to restore movement, independence and health in people with spinal cord injury, please visit [ONWD.com](#).

About ONWARD

ONWARD is a medical technology company creating innovative therapies to restore movement, independence, and health in people with spinal cord injury. ONWARD's work builds on more than a decade of basic science and preclinical research conducted at the world's leading neuroscience laboratories. ONWARD's ARC Therapy, which can be delivered by implantable (ARC^{IM}) or external (ARC^{EX}) systems, is designed to deliver targeted, programmed stimulation of the spinal cord to restore movement and other functions in people with spinal cord injury, ultimately improving their quality of life. ONWARD has received three Breakthrough Device Designations from the FDA encompassing both ARC^{IM} and ARC^{EX}. The company's first FDA pivotal trial, called Up-LIFT, completed enrollment in December 2021 with 65 subjects worldwide. ONWARD's technology is protected by over 310 issued or pending patents globally.

ONWARD is headquartered at the High Tech Campus in Eindhoven, the Netherlands. It maintains a significant team in Lausanne, Switzerland and has a growing U.S. presence in Boston, Massachusetts, USA. For additional information about the company, please visit ONWD.com. To access our 2022 Financial Calendar, please visit IR.ONWD.com.

For Company Enquiries:

ONWARD

info@onwd.com

For Media Enquiries:

Simon Gentry

+44 (0)20 3757 6772

media@onwd.com

For Investor Enquiries:

Backstage Communication

Gunther De Backer

Tel: +32 (0)475 903 909

gunther@backstagecom.be

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