

Dr. Anthony DiMarco Awarded \$9.5M NIH Grant to Develop a System to Restore Effective Cough in Spinal Cord Injury

10/14/2022



Anthony DiMarco, MD, Staff Scientist in the MetroHealth Center for Rehabilitation and the Department of Physical Medicine and Rehabilitation (PM&R), was awarded a \$9.5 million, Multi-Principal Investigator (MPI) National Institutes of Health grant entitled "Multi-Center Clinical Trial of Spinal Cord Stimulation to Restore Cough."

Dr. DiMarco is the contact Principal Investigator (PI). Dr. Steven Brose of the Syracuse VA Medical Center and Dr. Vernon Lin of the Hershel "Woody" Williams VA Medical Center are the other MPIs. Drs. Brose and Lin have close ties to Cleveland and the Department of PM&R. Dr. Brose was previously a faculty member of the Department of PM&R based at the Cleveland VA, and Dr. Lin is a graduate of the MetroHealth PM&R Residency Program and past Chair of PM&R at the Cleveland Clinic.

The five-year award will develop and test a spinal cord stimulation device to activate the abdominal muscles to restore an effective cough in people with high-level spinal cord injury (SCI). Dr. DiMarco's team will partner with Avery Biomedical Devices to construct a stimulator to be used for this project. After meeting technical development milestones during the a specific phase, a multi-center trial will be performed to determine the safety and efficacy of the system for production of cough, reduction of respiratory tract infections and improvement in quality of life for individuals with SCI.


Dr. DiMarco is a Professor of PM&R at the Case Western Reserve University (CWRU) School of Medicine. His co-investigators at the MetroHealth Center for Rehabilitation include Chong Kim, MD, Professor of PM&R; Krzysztof Kowalski, PhD, Clinical Professor of PM&R;

and Megan Moynahan, MS, Executive Director of the Institute for Functional Restoration at CWRU.

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