

PROTXX Launches Remote Neurophysiological Patient Management Platform

MENLO PARK, CA, UNITED STATES, April 13, 2021 /EINPresswire.com/ -- Silicon Valley, California and Calgary, Alberta based precision healthcare technology pioneer PROTXX today announced the launch of the company's Clinic RPM platform-as-a-service (PaaS) solution for remote management and care of patients with complex neurological conditions that can result from injuries, disease, aging, or genetic disorders. The new product is the result of a successful R&D collaboration between PROTXX and the University of Alberta Neuromuscular Control and

Biomechanics Laboratory (NCBL), including key contributions from a team of clinical medicine and engineering post-doctoral fellows funded by a Mitacs Accelerate grant.



PROTXX RPM (Remote Patient Management) platform integrates wearable neurophysiological sensor, mobile app, and cloud based data analysis/reporting.

The original PROTXX Clinic PaaS solution, which integrates the company's "phybrata" wearable neurophysiological impairment sensor, Clinic mobile app, and cloud-based data analytics and reporting services, was commercially launched in 2019 to improve the diagnosis and rehabilitation of concussions. The complex neurological injuries caused by concussions lead to disruptions that are widespread throughout the brain and cause patients to suffer from impairments to multiple physiological systems in their bodies, with highly individual impairment profiles and symptoms that fluctuate significantly. Standard clinical approaches to diagnosing these multiple impairments and monitoring the effectiveness of treatments and rehabilitation either (i) require multiple time-consuming tests carried out by multiple clinical specialists using expensive lab equipment, or (ii) are limited to subjective observations and reliance on patient self-reporting. These limitations lead to sub-optimal patient quality of care and outcomes, along with large healthcare cost inefficiencies. The PROTXX phybrata sensor delivers an innovative solution to the above problem by enabling much easier to use, lower cost, in-clinic and remote precision patient assessments.

In collaboration with the NCBL team, PROTXX developed new phybrata gait analysis functionality

and algorithms to monitor and analyze daily activities over extended periods. These new capabilities allow the Clinic RPM platform to provide a comprehensive suite of neuromotor assessments that, in addition to improving diagnoses and treatments, are important tools used in clinical trials of both pharmaceutical and alternative digital therapies for many different neurological conditions. PROTX and the NCBL team also collaborated closely with clinical neurologists at the University of Alberta Faculty of Medicine to refine the Clinic RPM mobile app user interface to maximize ease-of-use for patient self-testing at home. Initial deployments of the new PROTX platform will target remote monitoring and rehabilitation for patients with concussions, multiple sclerosis, stroke, and Parkinson's disease.

The University of Alberta team was led by Hossein Rouhani, Ph.D., Principal Investigator in the Neuromuscular Control & Biomechanics Laboratory and Assistant Professor in the Department of Mechanical Engineering. Professor Rouhani commented: "PROTX innovations in phybrata neurophysiological sensing have already shown clinical evidence to improve the diagnosis of concussions and have great potential for the management of other complex neuro-disruptive conditions such as stroke, spinal injuries, and invasive neurosurgeries, as well as neuro-degenerative conditions such as multiple sclerosis and Parkinson's disease. We are excited to be teaming with PROTX to develop a user-friendly, low cost, and medical-grade wearable sensor system that allows clinical neurologists and rehabilitation providers to expand personalized remote health monitoring of patients with these conditions, improve patient quality of care and outcomes, and reduce the frequency and costs of hospital visits."

Vahid Abdollah, Postdoctoral Fellow in the Division of Physical Medicine & Rehabilitation at the University of Alberta, added: "The sensitivity of the PROTX phybrata sensor for the detection and quantification of multiple neurophysiological impairments, coupled with the ease-of-use and modular architecture of the Clinic RPM app, allow us to quickly customize the combination and sequence of tests to support remote care of patients with many different neurological conditions. These new capabilities enable significant advances and flexibility in our ability to provide remote precision healthcare that is tailored to the unique needs of each individual patient."

PROTX CEO and Founder, John Ralston, stated: "We are excited to announce that this innovative new product has emerged from our Mitacs-enabled collaboration with Professor Rouhani and his team. The University of Alberta's world-class combination of clinical neurology research and neuromuscular biomechanical engineering have significantly accelerated and de-risked our ability to develop, validate, and commercialize solutions such as Clinic RPM that enable more frequent, individualized, quantitative, and remote assessments of neurophysiological impairment severity and response to treatment and rehabilitation."

About PROTX, Inc. (<https://protxx.com/>)

PROTX innovations in wearable sensors, machine learning, and remote patient care transform

the lives of tens of millions of people with complex neurophysiological medical conditions that can result from injuries, disease, aging, or genetic disorders. Headquartered in Silicon Valley, with Canadian operations based in Calgary, PROTXX is led by an accomplished team of IoT device and data platform engineers, clinical neurology researchers and practitioners, and digital healthcare business professionals. Supported by a well-established network of R&D, manufacturing, clinical pilot, and distributor partners in Canada and the U.S., PROTXX has been recognized with numerous industrial, academic, and government awards.

About University of Alberta Neuromuscular Control & Biomechanics Laboratory (NCBL)
(<https://www.ncbl.ualberta.ca/>)

Research at the NCBL is centered on human mobility and performance, with the overall goal of enhancing the quality of life of individuals affected by movement impairments and age-related decline. With a strong focus on biomechanical engineering and interdisciplinary collaborations, NCBL teams aim to positively impact prevention and rehabilitation by gaining a better understanding of the neuromusculoskeletal mechanisms of human movement, developing novel systems and outcome measures for movement and performance assessment, and designing and evaluating advanced assistive technologies. NCBL also fosters strong collaborations with companies, rehabilitation centres, athletic teams and other research teams across Canada.

About Mitacs (<https://www.mitacs.ca/en>)

Mitacs is a key link between industry and post-secondary institutions, driving collaborations at home and abroad to develop projects which solve business challenges and develop Canada's innovation capacity. Mitacs is passionate about developing the next generation of researchers helping to fuel Canada's knowledge-based economy.

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