

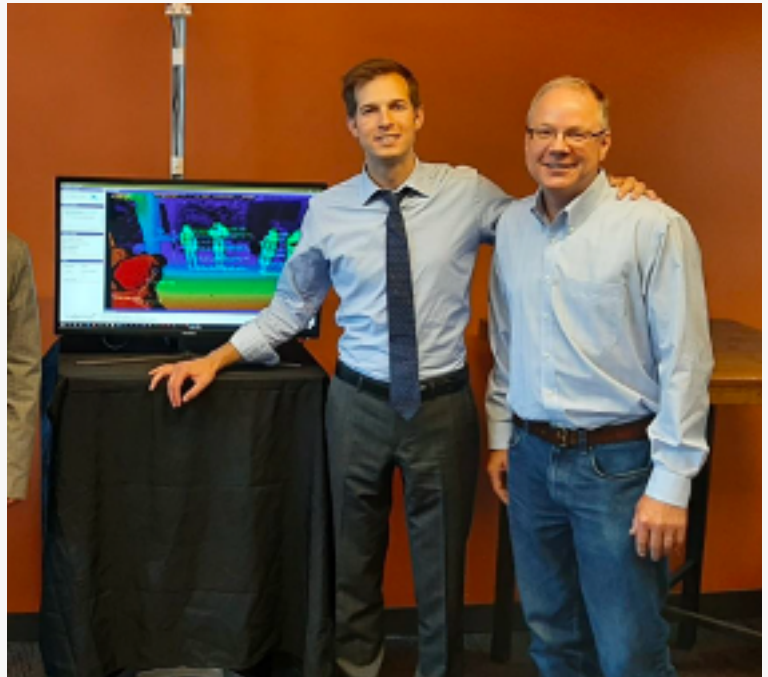
Barrett Wins \$2.0-Million NIH Grant to Add SmartAssist™ to its Burt® Rehabilitation Robot

New Technology to Aid Therapists in Patient Recovery from Neurological Injury

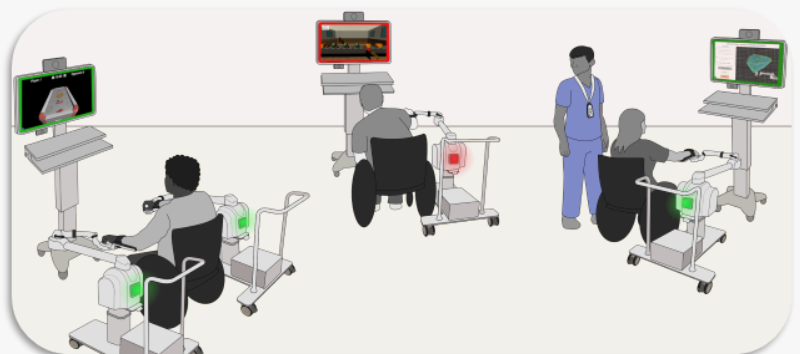
NEWTON, MA, USA, June 12, 2023 /EINPresswire.com/ -- Barrett Medical has been awarded a 2-year, \$2,000,000 grant from the National Institutes of Health (NIH) to develop SmartAssist™ for the [Burt®](#) robotic trainer for recovery from stroke and other neurological injuries and diseases. Aspects of SmartAssist™ will be rolled out over the next few years to customers enrolled in Barrett's BurtCare™ program.

Barrett designs and assembles some of the world's most advanced robots and ships them across the globe. This NIH award will be shared with Spaulding Rehabilitation Hospital, an affiliate of Mass General Brigham, to explore and develop a new technology-based solution to benefit people with stroke and other neurological deficits such as traumatic brain injury and spinal-cord injury.

According to US Congressman, Rep. [Jake Auchincloss](#), who first relayed the good news to Barrett, "Barrett represents the best in innovation. Through their partnership with Spaulding Rehabilitation Hospital, they are showing the world how our community can lead the way in advances to science, technology, and medicine. I'm proud to announce that the NIH is



Rep. Jake Auchincloss (left) with Barrett CEO Bill Townsend (right) at Barrett's Office in Newton, MA.

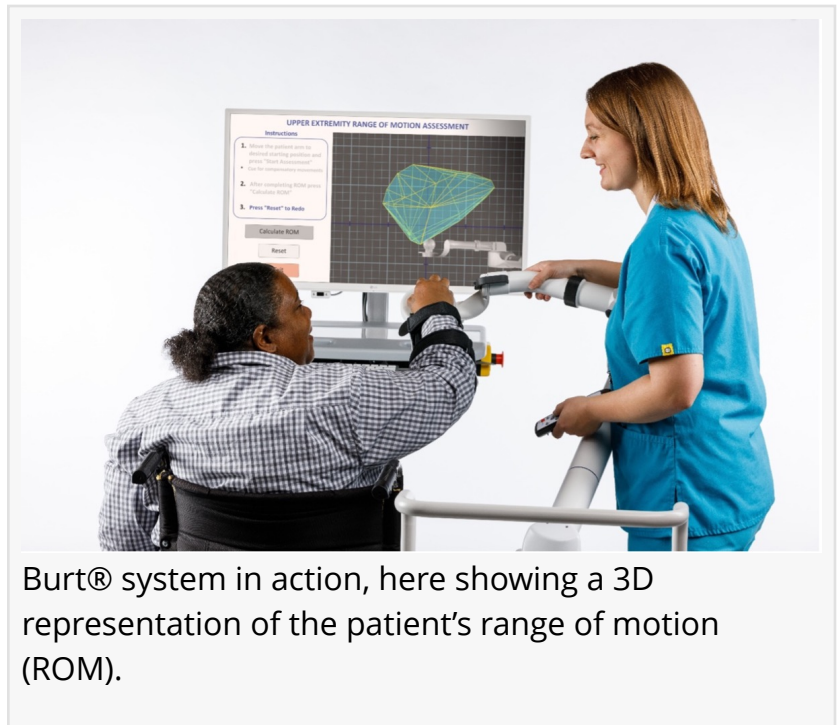


Artist concept of a system of three Burt® robots. Patient in middle is beginning to lean to the left.

recognizing and investing in their groundbreaking work that will change lives for decades to come.”

According to [Dr. Randie Black-Schaffer](#), Director of the Stroke Program and site Principal Investigator at Spaulding, “In stroke rehabilitation, patient engagement in therapy is critical for improving functional outcomes. Robot-assisted rehabilitation can provide repeatable, high-intensity therapy tailored to the needs of the patient while also decreasing the load on the therapist.”

The Barrett Upper-Extremity Robotic Trainer (Burt®), an FDA Class-II medical device, is designed and assembled in Newton, MA, by Barrett Medical. It is a robotic system that provides active assistance in three dimensions in a large human-scale workspace and an engaging patient interface to enhance therapy.



Burt® system in action, here showing a 3D representation of the patient’s range of motion (ROM).

“

In stroke rehabilitation, patient engagement in therapy is critical for improving functional outcomes. Robot rehab can provide repeatable, high-intensity therapy tailored to the needs of the patient.”

*Dr. Randie Black-Schaffer, Dir.
Stroke Prgm and site PI at
Spaulding*

To enable more individualized treatment and maximize patient engagement while also reducing the burden on the therapist, this NIH Grant will support the development of SmartAssist™, a real-time adaptive robotic assistance mode for Burt® that encourages the patient to use their own volitional movement as much as possible.

Barrett will leverage deep-learning techniques of artificial intelligence (AI) equipped with the unique innate capabilities of the Burt® robotic system to both apply and measure forces to quantify the effort being applied. Barrett CEO Bill Townsend, who earned his PhD at MIT’s AI Lab (now CSAIL), adds, “We aimed our robotics and AI expertise at solving a real-world problem that touches so

many tens of millions of lives each year, most going untreated or undertreated for lack of resources.”

Barrett was founded 35 years ago by Bill Townsend, a robotics pioneer with a PhD in engineering from MIT’s Artificial Intelligence Laboratory (now CSAIL). Bill was awarded the prestigious Joseph Engelberger Award in 2003 by the Robotic Industries Association for his 1987 invention of the WAM® arm, the world’s first robotic arm designed to interact physically with people. The WAM’s

key to success is its innate haptic (control of interactive forces) perception. This technology has been progressively refined over the course of three decades by Barrett and remains a step up from even the best conventional robotic arms in precision responsiveness and force control.

About United States Congressman Jake Auchincloss: Rep. Auchincloss is serving his second term representing the Massachusetts Fourth. In addition to his work on the committees for Transportation & Infrastructure and the Select Committee on Strategic Competition Between the United States and China, his areas of focus include healthcare, clean energy, and gun violence.

Jake was born and raised in Newton, Massachusetts, the son of a surgeon and a scientist. They showed him the value of curiosity and hard work. From the moment he could read, Jake loved American history.

After graduating from Harvard College, Jake joined the United States Marines. He commanded infantry in Afghanistan and special operations in Panama.

Upon returning home, Jake continued his service as a three-term city councilor in Newton. While working at City Hall on nights and weekends, Jake built a career in business, running product development at both a Fortune 100 insurance company and a cybersecurity startup. He has degrees in Economics and Finance from Harvard University and MIT Sloan.

Today, Jake lives in Newton with his wife, Michelle, and their children, Teddy, Grace, and Audrey (along with their Labrador Retriever, Donut). For more information, visit <https://auchincloss.house.gov>.

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