Winter Innovations, a Tennessee Startup, Awarded Competitive SBIR Grant from the National Science Foundation to Develop Suturing Device

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For Immediate Release

Knoxville, Tenn. – Winter Innovations has been awarded a National Science Foundation (NSF) Small Business Innovation Research (SBIR) grant for $256,000 to conduct research and development (R&D) work on the company's novel two-part suturing needle technology.

More than 1 million surgeries to repair torn ligaments and tendons are performed in the United States annually. However, the failure rates are reported to be as high as 25% and most failures are attributed to a technical error (Erickson et al., 2017) which costs the US healthcare system $2.5 billion each year. Stitching has been identified as a critical, technically complex step in the surgery that, if improved, can be a way to reduce the incidence of failure. Current stitching needles have serious limitations that make stitching slow, tedious, and inaccurate.

The SBIR grant is for research and development on Winter Innovations' two-part needle technology, which fundamentally changes how stitching can be performed and is the basis of their EasyWhip™ product. The groundbreaking two-part needle design offers a value proposition of improved speed and quality of stitching, two essential elements for clinical success.

In this newly funded project, the Winter Innovations' team, led by co-founders Lia Winter and Preston Dishner, will create prototypes with varying characteristics, study the performance and usability of those prototypes in simulated use settings, and make comparisons to existing needle products currently used in orthopedic surgery. This project will allow Winter Innovations to advance the two-part needle technology toward commercialization in orthopedics and provide a basis for additional research of the needle design for other surgical applications that rely on stitching.

"The SBIR program is extremely competitive, and we are truly honored to have received our first grant," said Winter. "This is a significant accomplishment for Winter Innovations, and we are excited to not only advance EasyWhip™ toward commercialization, but also contribute knowledge about orthopedic suturing needles to the scientific community."

"We felt fortunate to have the support from members of our network who reviewed our proposal and provided advice to strengthen the submission, including Ballad Health, Launch Tennessee, Tampa Bay Wave, and ZeroTo510," added Dishner.

About Winter Innovations: *Winter Innovations is a medical device startup developing simple tools for overlooked areas in orthopedic surgery. Founded in 2018 by Lia Winter (University of Pittsburgh BS-BME, University of Tennessee MS-BME, MBA) and Preston Dishner (University of Tennessee BS, MSBA, MBA), Winter Innovations aims to create products that can improve outcomes for patients. The company's first product is EasyWhip™, a patented needle designed to simplify and standardize stitching in orthopedic ligament and tendon reconstruction surgeries. They are in the process of obtaining 510(k) clearance from the Food & Drug Administration.*

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About the National Science Foundation's Small Business Programs: *America's Seed Fund powered by NSF awards $200 million annually to startups and small businesses, transforming scientific discovery into products and services with commercial and societal impact. Startups working across almost all areas of science and technology can receive up to $2 million to support research and development (R&D), helping de-risk technology for commercial success. America's Seed Fund is congressionally mandated through the Small Business Innovation Research (SBIR) program. The NSF is an independent federal agency with a budget of about $8.5 billion that supports fundamental research and education across all fields of science and engineering. For more information, visit seedfund.nsf.gov.*