



Piyush Koria Receives NIH Grant to Develop Therapies to Treat Chronic Wounds

A growing number of people, the elderly, diabetics and the obese, could benefit from this research which could reduce the need for drastic interventions such as amputations.

TAMPA, FL – The National Institute of Arthritis and Musculoskeletal and Skin Diseases of the National Institutes of Health has awarded a research grant to Piyush Koria, associate professor in the Chemical and Biomedical Engineering Department, to develop novel therapies for healing chronic wounds. The public health and economic impact of chronic wound care is staggering, with an estimated annual cost upwards of more than eight billion dollars.

The two-year award in the amount of \$343,575 could have significant impact on the approximately 15 million people in the United States, particularly the elderly and diabetics that suffer from venous leg ulcers, pressure sores and diabetic foot ulcers. These wounds are difficult to treat and often lead to amputation.

The Koria lab focuses on developing novel biomaterials and drug delivery systems for tissue engineering and regenerative medicine. The long term goals of this project are to develop novel therapies for healing of chronic wounds. Researchers have shown for years that proteins called growth factors improve the healing of chronic wounds in animal models, but their use in clinics is limited. The harsh protease rich environment present in human chronic wounds that leads to degradation of the growth factor before it can be effective; is the critical barrier for the clinical translation of growth factor therapies. This project will focus on developing protease resistant multifunctional nanoparticle formulations that will induce healing in a proteolytic environment similar to human chronic wounds. Successful completion of this project will result in a novel cost effective treatment of chronic wounds reducing hospital stays and costs.

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