



Peter M. Abadir, M.D.
Assistant Professor of Medicine
Johns Hopkins University

Project Title: Novel Reformulation of Angiotensin Receptor Blockers for treatment of Diabetic Wounds.
Year Awarded: 2014

What did you hope to learn through this research? We have identified a mitochondrial protein (Abadir et al. PNAS 2011) that we were able to manipulate with common blood pressure medications. The purpose of this project is to determine if the reformulation of these medications into a topical agent would improve wound healing in diabetes.

How did you get interested in wound healing and this area in particular? I am a geriatrician and part of my clinical duties is to attend on a unit where we have patients admitted with complicated and non-healing wounds. I am also a basic scientist and part of the Johns Hopkins Biology of healthy aging research group. Our focus in this research group is on identifying pathways that are altered with aging and that may contribute to the development of age-related diseases including impairment in wound healing. Our path has led us to identifying a novel protein that affects mitochondrial bioenergetics. To translate our basic findings into a clinically relevant project we have been testing the effects of this system on wound healing.

Who do you consider your mentors and your close associates in this project? How did you start working with them?

Dr. Jeremy Walston, the deputy director of the Johns Hopkins Geriatric division and the director of the biology of healthy aging research group is my clinical and research mentor. I have been working with Dr. Walston since I started my Geriatrics Research fellowship (2007). Our interest in wound care started with the observation of the extent of pain and suffering that our older patients with complicated wound experience. We wanted to translate our lab findings into something that can help our patients. We therefore teamed with Dr. John Harmon, professor of surgery at Johns Hopkins who has expertise in animal models of impaired wound healing. We have a group of fellows (Dr. Mohammad Hosseini and Dr. Mahya Fagih), students (Diep Vuong and Joy Salib), and research associates (Dr. Guy Marti, Dr. Ruth Marx and Laura Powell) that have been working with us on this project.