## **Defender: Modern Protective Devices that Patients Want to Use**

By John P. Martin

The statistics are shocking:

• Diabetic Foot Ulcers (DFU's) lead to 130,000 amputations in the United states annually.

• Wound healing rates are languishing between 23%-34% at the 20 weeks mark.

• The five-year mortality rate for an individual with diabetic foot complications is as high as someone with cancer.

Defender's mission is to reduce amputations and improve healing rates with products that work and that patients are proud to wear.

## Why Are DFU Healing Rates So Low?

What is the limiting factor causing amputation rates to stay high, even with advances in modern technology?

These are the questions for which the Defender team set out to find answers. After years of research and thousands of patient interviews, what they learned was surprising.

The majority of patients said they left the treatment facility in the shoes they presented in. Of those who were given off-loading devices, over 90% reported that they could not put the device on by themselves—and when

patients did wear them, they felt stigmatized by their illness.

Armed with this information, the Defender team sought the help of former Nike designer Michael DiTullo to create devices that are easy to use and highly functional, with a modern sportswear aesthetic.

## **Healing DFUs on Day 1**

The Defender team was determined to offer protection that would begin on the first day of treatment. They were also cognizant of the fact that protective devices need to be worn daily for extended periods of time.

Over the course of five years, Defender enlisted a "dream team" that included wound care specialists, foot and ankle surgeons, biomedical engineers, human locomotion experts, material scientists, industrial designers, and production experts. The goal was to create a device patients could easily use, that worked better than anything currently available, and that was aesthetically appealing.

The company's flagship product, Foot Defender\*, embodies this vision. Foot Defender alleviates average contact pressure across the bottom of the foot by up to 50% better than other protective boots on the market. Many of its components come directly from the performance footwear industry. These components marry well with various purpose-built unique materi-

als, including Absorbium, a patent pending visco-elastic polymer, that absorbs up to 94% of impact shock.

The Foot Defender has a custom engineered semi-rigid anterior AFO housed inside an adjustable padded spat that can be fully removed, making the boot easy to enter and exit. A rigid full length posterior AFO sits behind the padded upper that's made of high-performance athletic footwear materials. 30mm of engineered insole provided force reduction without the need for modification. The boot's custom pneumatic fit system inflates for added proprioceptive response.

Arguably, Foot Defender's aesthetic accomplishments rival the boot's performance. "Prior to designing the boot, we engaged a variety of health professionals and patients for feedback about their experiences with medical footwear," explains Defender founder Dr. Jason Hanft. "What we learned was that a patient's insecurity about wearing a medical device, difficulties putting it on and taking it off, and general discomfort, were the top reasons why

they often don't comply with doctor's orders when it comes to wearing a protective boot."

The Defender company believes that better design and superior function will lead to increased compliance and better outcomes.

Defender's mission is to reduce amputations and improve healing rates with products that work and that patients are proud to wear.

Foot Defender is available to professionals and patients though our website, www.footdefender. com or click here.

Regional sales professionals can be reached directly via telephone at 305-204-7203.

