With up to 12,000 patient visits annually, the UA’s Southern Arizona Limb Salvage Alliance [1] clinic at The University of Arizona Medical Center ? University Campus is one of the busiest in the world for diabetic limb salvage.

In the five years that Dr. David G. Armstrong has been director of SALSA, a collaborative clinical and research alliance dedicated to advancing care of the diabetic foot and preventing amputations in North America and worldwide, he has honed his keen propensity towards technology-based solutions in treating and connecting with patients.

As a podiatric surgeon, Armstrong works closely with SALSA co-director Dr. Joseph L. Mills, a vascular surgeon, to provide an integrated "toe and flow" evaluation of foot infections and blood flow to determine how best to heal wounds and prevent amputation.

“There is a massive trend of merging consumer electronics with cybernetic appliances,” says Armstrong. SALSA’s collaborative research team, the Interdisciplinary Consortium on Advanced Motion Performance [2], works on developing and tweaking gadgets that enhance quality of life. The team, known as iCAMP, is headed by biomedical engineer Bijan Najafi, with whom Armstrong works closely.

“Diabetic foot wounds tend to heat up before the skin breaks down. One of our ideas is to develop smart textiles, such as socks, that can detect heat and allow patients to identify ulcers on the bottom of their feet before the infection has a chance to spread too far,” Armstrong shares.

Armstrong also is a tenured professor of surgery at the UA College of Medicine [3] ? Tucson and a member of the BIO5 Institute [4].

With technology that allows patients to easily send information to their physicians through their gadgets, Armstrong aims to empower them to monitor and advocate for their own health, while at the same time protecting their right to privacy.

Armstrong also sees the value of technology and social media in educating and connecting with current or prospective patients. Many read the articles that Armstrong and his team post on their Diabetic Foot Blog [5] or a number of social media sites including Facebook [6], Twitter [7], LinkedIn [8] and Google+ [9].

Armstrong often can be found standing outside the BIO5 Institute tweeting about his latest project or sending a link with valuable information or resources, immediately connecting him to thousands of his followers.
"Our goal with social media is to lend a voice to people and to a widespread medical issue that doesn't get enough attention. Patients with diabetes often lose the gift of pain, develop further complications silently, get amputations silently and die silently," Armstrong says.

"We (Armstrong and his research team) are evangelical about technology, but we also are kind of agnostic about it in that we always are searching for something better. I've been known to change phones every couple of weeks just to test new apps and functions. When it comes to a favorite platform or device to use in the operating room, to have in my pocket, or to handle social media, I will try anything that works. We have really devoted folks who follow us, and different people will follow in different ways," Armstrong says. "If we find we can't fit a certain message in the 140 character constraints of Twitter, then we might aim it at something else."

A full-time clinician, researcher and administrator, Armstrong also enjoys time with his wife, Tania, co-founder of a very successful Web-based home decor company, and their three daughters.

"I'm at home with my three girls as much as I can be, but my definition of family is broad. We have one of the best families in the world within our SALSA and iCAMP teams here at the UA. I owe a lot of that to Joe Mills, who I like to call my insignificant other, or my 'flowmigo.'"

His family of SALSA staffers has a phrase to describe Armstrong: "happy-toe-lucky." Such colloquiums, or "SALSAisms," are common among the close-knit team.

Armstrong frequently mentors students in his research and clinical work through the Keep Engaging Youth in Science High School Internship, the NIH High School Student Research Program and the UA College of Medicine Medical Student Research Program. "I call the students on our SALSA and iCAMP teams our professional progeny," Armstrong says. "We take a lot of personal pride in their achievements. These students are engaged and are not intimidated by ? figuratively ? drinking from the fire hose. We don?t turn the tap down just because they're a junior in high school and not a post-doc. We throw them right into our mix and, more often than not, they flourish and make outstanding contributions."

Armstrong is the first to say that even in a world filled with technological advances in treating and educating, at the end of the day human connections are what matter most. "Grassroots, patient-centric focus is at the heart of everything we do," says Armstrong. "My father instilled in me that 'people don?t care how much you know until they know how much you care.' I think people respond to authenticity and passion, and that translates through all forms of communication."

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