

ALUMNI PROFILE



Eric Edwards, Ph.D. (left), and Evan Edwards

SCHOOL OF PHARMACY

Brothers of invention inspired by a personal need

About the age of 3, **Eric Edwards, Ph.D.** (B.S. '02/H&S; Ph.D. '11/P), and his identical twin brother, Evan, were labeled two of the most severely allergic children their physician had ever seen. The two never went anywhere without an EpiPen, which was, at the time, the only device standing between them and a potentially fatal reaction. In the summer of 1998, while on their way to the airport for a family vacation, they realized they had left home without one.

"Here we were, about to eat our way through all of these foreign countries, as severely allergic individuals," Eric says. Thankfully their mother had packed an extra, as she so often did.

That panicked moment was a turning point in the twins' lives. They thought that EpiPen, which was developed by and for the military, wasn't particularly well-suited as a portable device for everyday people. A discussion ensued that day, launching the two on a mission to create an alternative. More than 10 years and 10 prototypes later, in 2012 they received Food and Drug Administration approval for Auvi-Q, a credit card-sized device that's equipped with a patented, voice-guided system, designed to steer everyday users through the process of administering an epinephrine injection.

"In many cases, patients may be trained on how to use an EpiPen when they're very young, or someone may be trained on how to administer one to their child; but then you may not have an anaphylactic episode for years," Eric says, pointing out that epinephrine devices are less like daily insulin injections for diabetics and more like automatic defibrillators.

Auvi-Q might be pocket-sized, but it represents a mountain of research and development, comprising what Eric believes to be the largest "human comparative study into epinephrine auto injectors" ever conducted. In 2001,

the two formed Intelliject Inc. as a family-run business and, with funding from the National Collegiate Investors and Investors Alliance, initial concepts were developed. Then, in 2002, with the help of funding from angel investors, the first working version of Auvi-Q took form. In the years that followed, the product's details were carefully honed to a design that proved most effective for the broadest range of individuals.

Over the course of Auvi-Q's development, the twins tailored their educations to match their goal. While Evan focused on engineering at the University of Virginia, Eric studied at VCU, earning a bachelor's in biology. He later completed a Ph.D. in Pharmaceutical Sciences in the School of Pharmacy and is currently pursuing his M.D. in the VCU School of Medicine.

"Here I was, taking courses on clinical trial design, while we were conducting the first clinical trial for our initial product," Eric says. "I don't know how much more interdisciplinary and hands-on you can get than that. VCU allowed — and even encouraged — me to do this. And I think that's what education is all about."

Over time, Intelliject transformed from a family-run operation into a full-fledged employer and world-renowned business. And Auvi-Q is now available through thousands of pharmacies.

"It was a dream realized when I had a prescription filled for the first time," says Eric, who now has three children, two of whom have severe allergies.

With more than \$15 million in new funding, the company, which holds more than 100 patents worldwide, is moving forward with other applications for its technology. ■

— Drew Vass is a contributing writer for Scarab.