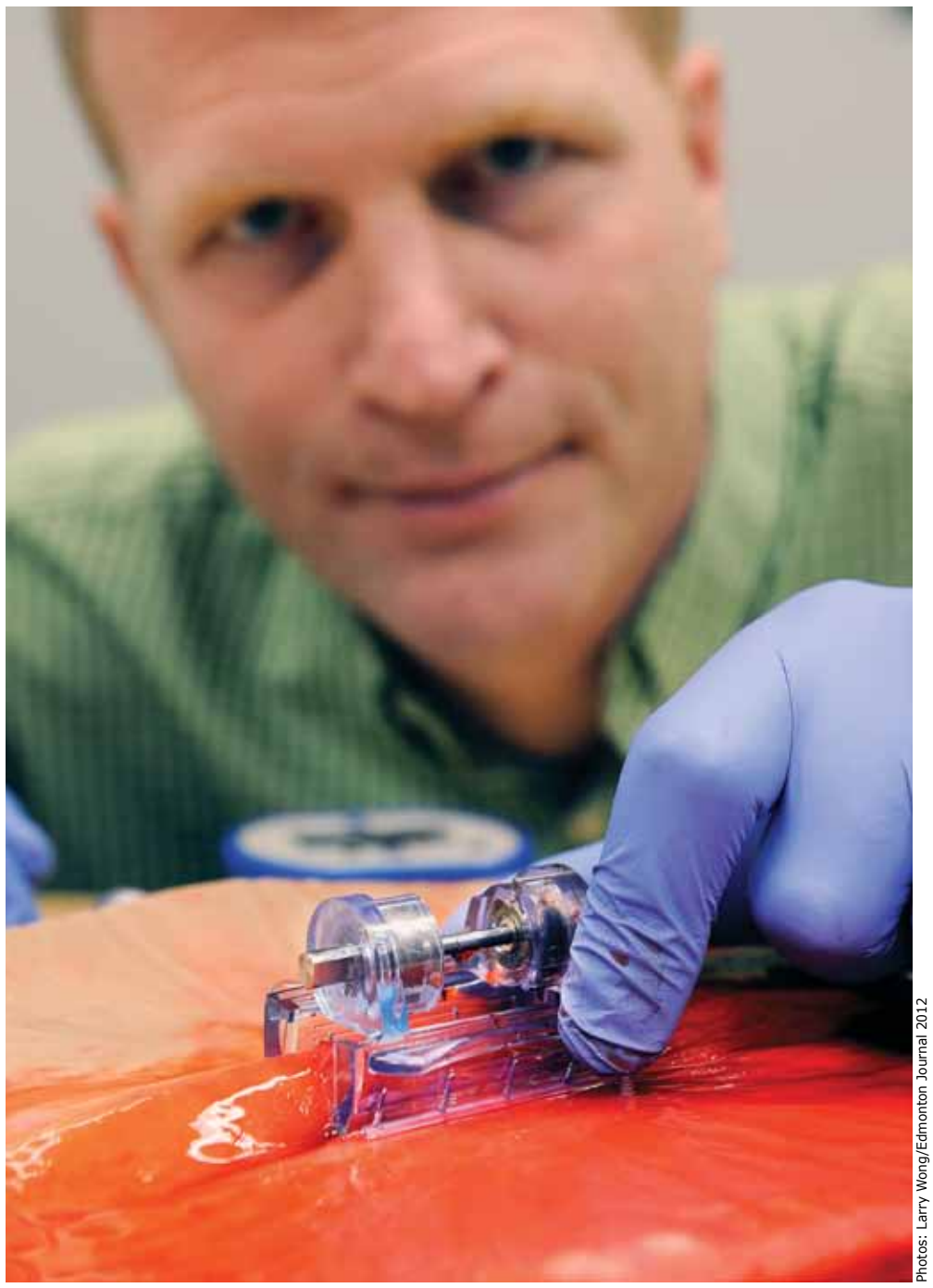
Doctor, soldier, *tinkerer*



Photos: Larry Wong/Edmonton Journal 2012

Military surgeon Dr. Dennis Filips had a simple idea for closing life-threatening wounds. Now his clamp device is winning innovation awards and is almost ready for the marketplace

BY VANESSA SANTILLI

While training medics before they'd be sent overseas to Afghanistan, retired combat trauma surgeon Dr. Dennis Filips had a revelation. After watching his trainees struggle immensely to stop bleeding, he came up with the idea for a device that would close life-threatening wounds within seconds.

"Often, quite a few minutes would go by before they'd even have the opportunity to stop the bleeding," Dr. Filips told the *Medical Post* on the phone from Luxor, Egypt, where he was promoting the ITClamp (Innovative Trauma Care clamp).

The clamp is a small, handheld device resembling a hair clip that can be applied to an open injury. It stops bleeding within seconds, simply by applying it to the wound and squeezing it shut, explained Dr. Filips explained.

For these efforts, in April his firm Innovative Trauma Care Inc. was the grand prize winner of the TEC Edmonton VenturePrize, a business competition where new companies submit their business models and talk to a panel of experts about their plans' viability. The company, founded in 2010, took home $90,000 that will go toward the launch of the ITClamp, which should take place later this year. This is the company's first product.

Also in April, Dr. Filips won the top innovator award at the Life Science and Healthcare Ventures Summit in New York, which venture capital funds host.

Born in Edmonton, Dr. Filips served in the military for 20 years before retiring. "I was overseas for five operational tours: three in Afghanistan, one in Bosnia and one in the Golan Heights."

Military service is something that has always been honoured in his family, he says.

"My wife is still active in the Canadian Forces and is serving as the commanding officer of 1 Service Battalion, with more than 1,100 troops under her command." His father-in-law was a career infantry officer.

Skills gained during his time abroad have been transferable into his new venture, he says. "Serving in the military has given me a sense of commitment and discipline and helped me to develop leadership skills that are directly relevant to team-building in the corporate environment."

Dr. Filips says he's always been a tinkerer, creating or modifying tools to fit a particular need.

"I was moved to start the company because I could not easily convince anyone to take hold of the idea and run with it," he says, adding that he felt the only way to do this properly would be to surround himself with people who had the necessary business skills to develop and commercialize the idea.

Dr. Dennis Filips (left) and his longtime friend Ian Atkinson developed the ITClamp (above) to close life-threatening, open wounds quickly in the field.

Co-founder and chief operating officer Ian Atkinson has known Dr. Filips for more than 30 years. He calls his friend "a natural" when it comes to the more technical aspects of the product.

"But he's also extremely confident when it comes to the leading of the company and the leading of the business side of this. As a teammate, he's phenomenal."

Atkinson says he thinks their new product is going to have an impact on how traumas are handled. "I honestly believe this is going to be a bit of a game-changer," he said.

Dr. Filips kept up his surgical skills until last January, but has now taken a temporary leave from clinical practice to focus entirely on the company.

Until this year, "my partner and I had funded the company ourselves to the tune of $400,000 in cash, plus we have gone without salaries to keep the costs down. Funding to date has been from friends and family and 'angel investors,' " with almost $1 million raised since January.

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they were doing, had arranged an appointment with an oncologist in Toronto so they could get a second opinion on Mary's chemo. The second opinion concurred with the first; they were disappointed there was no cure, but comforted to know they could stay at home and get top-of-the-line care. "I don't know how you did it, Agnes," the husband said, "but thank you. Thank you."

And there it was: Agnes is always there. She's there when a dog bites someone's kid, she's there when someone's steeling herself to hear about a worrisome test result, she's there when the love of someone's life is dying. She's a bit like family.

We often talk about the health-care team in terms of doctors and nurses plus allied health-care folks. But if I didn't understand it before, I do now: Agnes is the first person our patients look for when they come needing care. And in that, she gives more than she'll ever receive.

Monica Kidd is a family doctor and assistant professor of medicine at Memorial University of Newfoundland in St. John's, N.L.

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—Dr. Dennis Filips

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In total, the team is looking to raise another $9 million to $10 million in the next year, he says.

And although the idea for the device sprang from the high-stress combat zone, it can also be used to help patients in everyday situations.

In terms of practicality, the ITClamp doesn't require a lot of training, says Dr. Filips, and could be used in an ER setting

"By having a device like this, we can have a nurse or nursing student or a medical student go around and close off wounds while all of the other life-saving procedures are being done."

Hemorrhaging

One of the clamp's most impressive functions is that it will provide patients with temporary stabilization of external bleeding, addressing massive hemorrhaging—which is a leading cause of death in traumatic injury.

"In the trauma room . . . you wind up getting blood all over the place as patients bleed externally while life-saving operations are going on, just because there hasn't been time to close off all these wounds," said Filips. "And they wind up losing . . . a few litres of blood over a few hours before there's time" to close them.

The clamp is easy to carry due to its small size, says Atkinson. "It weighs an ounce so it can be carried in a pocket, it can be carried in a med bag. It's not something that requires a huge amount of space for a soldier to carry or police officers to put in their first-aid kits."

The cost estimate of the ITClamp is $65, which should be within a few dollars of the final price, says Dr. Filips.

"I'm hoping that by being able to incorporate the skill of surgeons into this device, we can decrease blood loss and increase survival by putting it into the hands of people with minimal training—whether it be a paramedic, soldier or even your average person."

Some of the markets Dr. Filips and Atkinson hope to tap into include EMS providers, emergency room physicians and military units in North America, Europe, Australia and New Zealand.

This is the first device the company has developed, but stay tuned as there's more on the way, notes Dr. Filips.

"We have ideas to expand the functioning of this device, so this will be a technology platform," he says. "We also have plans to come out with other life-saving devices that address airway and breathing issues." **MP**