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SAVING LIVES THROUGH BIOMEDICAL ENGINEERING

Medical technology innovator **Jenifer Kennedy** helps doctors perform pediatric surgery more safely and efficiently.

When Jenifer Kennedy (MS '89, PhD '91) decided to pursue her doctorate degree in biomedical engineering, Northwestern was only one of a handful of select schools with an entire biomedical engineering department.

"Biomedical engineering didn't exist when I was an undergrad," Kennedy says. "It sounded like something really new and interesting that would allow me to have a more positive impact with my career." Eventually, her post-graduate studies at the McCormick School of Engineering led to just that—the opportunity to develop technology that saves lives.

In her doctoral work, Kennedy studied the use of lasers for vision correction, specifically how energy reacts with tissue. "Studying at Northwestern is one of the smartest decisions I ever made," she says. "There was a lot of hands-on work. It was very application oriented."

After some post-doctoral study at Yale University, she launched her career in medical device product development, eventually landing at Valleylab, then a world leader in electrosurgery technology. There, her team created LigaSure, a technology that uses radio frequency energy to seal blood vessels.

"It ended up being a wildly successful technology," she says. Kennedy spent a year educating surgeons, presenting research to make them comfortable with using LigaSure in the operating room. It worked. LigaSure has become an industry standard.

Consistent with her desire to make a positive impact, Kennedy recognized a need for similar technology for the tiniest of patients. At that time, the only available options for surgery on children were high-powered, adult-sized instruments.

In 2010, Kennedy co-founded JustRight Surgical, focusing on vessel sealing in pediatric patients. "Honestly, doing that for the pediatric surgical community and their patients was probably one of the most rewarding things I've ever done as a biomedical engineer," Kennedy says. "We were getting phone calls, and people were saying, 'I could not have done this procedure without your device. You literally saved this baby's life today.'"

JustRight Surgical has grown to 35 employees, and its technology is used in more than 150 children's hospitals. The company has expanded its scope beyond pediatric care, including the development of a new product for use in robotically-assisted surgery.

Now living in Boulder, Colorado, Kennedy shows her gratitude to McCormick through her involvement in the Biomedical Engineering Advisory Board. "It's fun to interact with the faculty. They've been so receptive to suggestions and are constantly working to improve the department and its program offerings," she says. "It's a great group."

ALEXANDRIA JACOBSON