

## TIMOTHY KANE, MD '92

## Setting New Standards of Care

**A**chalasia is a rare disorder that makes it difficult for food and liquid to pass through the esophagus, thought to happen when nerves in the esophagus stop working properly. In children and teens, the condition is a one-in-a-million diagnosis, and sometimes first misdiagnosed as an eating disorder.

"Most children's hospitals will see one of these cases every year or two," says Timothy Kane, MD '92, division director of the general and thoracic surgery program at Children's National Hospital in Washington, DC.

Traditionally, surgical correction has been performed laparoscopically, cutting the lower esophageal sphincter, which allows kids to eat again.

But Dr. Kane, along with colleague Mikael Petrosyan, MD, MBA, has adapted the peroral endoscopic myotomy (POEM) procedure used in adults to treat more than 60 young patients from Australia, Israel, Europe and across the United States. "There are no other pediatric surgeons that do this endoscopically in high volumes," he says. "By having this expertise here, we are able to attract patients globally and build on our experience."

A study of their outcomes, published in the February 24, 2022, issue of the *Journal of Pediatric Surgery* demonstrated POEM as safe and effective in children and adolescents with less pain and typically shorter hospital stays.

That's really the point, says Kane, who has built his pediatric surgery career by specializing in minimally invasive procedures. As a pediatric surgery fellow at the University of Alabama-Birmingham, Kane says he was fortunate to train under Keith Georgeson, MD, a pioneer in minimally invasive surgery in kids, who performed many "first" procedures. "I benefited from his experience," he says.

Due to his specialized training, Kane found himself highly marketable and took a position at the Children's Hospital of Pittsburgh, where he spent 10 years building a program and training pediatric surgery fellows in minimally invasive surgery.

In 2010, the United Arab Emirates donated \$150 million to Children's National Hospital to develop a minimally invasive surgery program and fund research. Kane was recruited to build that program and to serve as program director for the pediatric surgery fellowship, which he did up until 2015. "One of the things that appealed to me was the diversity of the patient population," he says. "We have a global service and there's lot of challenging cases we see that are probably not seen at a lot of other places."

Kane's surgical load ranges from performing mini-

mally invasive surgery on newborns—such as fixing esophageal atresia thoracoscopically—to more common procedures such as anti-reflux surgery, hernia repair and repairing chest wall defects. He explains that the reason these techniques are not commonplace is the skill and expertise required. "The procedures are hard to train people to do and it takes time to gain skill. At many institutions, there isn't enough volume of cases for that to happen," says Kane,

who also holds an appointment as professor of surgery and pediatrics at George Washington School of Medicine.

Kane came to Upstate Medical University intending to pursue oncology, having completed a master's in cancer science at Roswell Park Cancer Institute in Buffalo, New York. As a medical student, he spent two summers conducting oncology research with Bernie Poesz, MD, but when he started his clinical rotations, found himself drawn to surgery. "I just loved doing operations and actually fixing things," he says.

He also loved kids, so focused his residency search on general surgery programs with a successful track record of getting residents into pediatric surgery. "At the time, there were only 24 fellowship programs with an average of 80 people applying for those 24 spots," he says.

Kane spent seven years at the University of Cincinnati, including residency, a research fellowship, and a clinical fellowship in extracorporeal membrane oxygenation (ECMO), leading to his pediatric surgery fellowship.

A decathlete as an undergraduate at Colgate University, Kane owes his approach to his profession to his background as a competitive athlete. "There's always something you can do a little more efficiently, a little better," he says. "Some surgeons will say, 'Oh, I've done it this way for 30 years and haven't changed anything,' but there's always innovation. That's something I try to instill in residents and fellows. That challenge toward continuous improvement also helps keep things exciting and fresh."

—Renée Gearhart Levy



**Timothy Kane, MD '92, is a leader in pediatric minimally invasive surgery**