SOLVING THE PUZZLE:
6-MONTH-OLD SEEMS HEALTHY ONE DAY, CRITICAL THE NEXT

“NO WAY I’M HAVING A HEART ATTACK”

SPINAL CORD STIMULATION PUTS UK GEOLOGIST BACK ON HIS FEET
ANYONE. ANYTIME. ANYWHERE.

At work in the anesthesia pre-op clinic at Chandler Hospital, 53-year-old Dr. Tom McLarney felt a pop in his chest. “There’s no way I am having a heart attack,” he thought. He was wrong.

SOLVING THE PUZZLE

Within a day, 6-month-old Jade Watts went from healthy, normal baby to limp, weak, lethargic and unable to nurse or swallow. Her diagnosis was a rare one. Getting to a diagnosis required teamwork and the expertise found in a place that sees the commonwealth’s toughest, rarest cases.

NOVEL USE OF SPINAL CORD STIMULATION IS LIFE CHANGING

UK geologist Patrick Gooding had tried several approaches to treating a boiling feeling in his feet and legs caused by peripheral neuropathy. When pain was so severe he could no longer stand and walk, Patrick’s doctors collaborated to find a never-before-tried approach.

UPDATE FROM OUR 2017 ISSUE

We check in with David Lee, Annette Osborne, and Jason Conn to see how they’ve been doing since being featured in our last issue.

THE LATEST AT UK HEALTHCARE

- 10 primary care clinics achieve Patient-Centered Medical Home status
- UK is home to 130 of the ‘Best Doctors in America’
- New primary care clinic for UK health plan members
- Clinic moves and renovations
- Plus more

On the cover:
A happy, healthy two-year-old Jade Watts with her mother Courtney. The two were photographed at Shaker Village of Pleasant Hill, Harrodsburg, Kentucky.

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It felt like a “pop.”

Not pain. Not tightness. No, it was a distinct pop in his chest that made Tom McLarney, MD, pause in the middle of his rounds in the Anesthesia Preoperative/Preprocedural Assessment Clinic at UK Albert B. Chandler Hospital.

The events that unfolded in the minutes and hours that followed the “pop” rallied the UK HealthCare family of skilled caregivers together around one of their own. Their expert teamwork demonstrates how high-quality, advanced medical care, administered quickly, can mean the difference between life or death during a heart attack.

“There’s No Way”

August 19, 2016, started like any other work day for McLarney. He woke up and showered. He kissed his wife, Tracey, said goodbye and that he would call her later. He drove to work at Chandler Hospital, where he has spent his entire 28-year medical career.

“I can’t imagine working anywhere else,” he said. “I am so proud of UK as an institution and of the people who take care of our patients.”

He faced a typical workload that Friday. As medical director of the clinic, he meets with patients preparing for surgery and consults with the doctors who order and perform those procedures. “One part I really enjoy about my job is that I get to interact with physicians from a lot of different medical specialties,” he said.

Sometime around midday, as he was talking with the clinic’s three nurse practitioners, it happened: the pop. “It didn’t really hurt,” he said. “I was aware of it. I remember thinking, ‘There’s no way I am having a heart attack.’” After all, at age 53, he was an active guy, a lifelong runner who had run a marathon on his elliptical machine within the past year. He had repeatedly shoveled that previous winter’s heavy snow for hours at a time without problems.

Still, McLarney made a deal with himself: If that sensation was still there in 30 minutes, he would get an electrocardiogram (EKG), a test that records the electrical activity of the heart. Only 15 minutes later, his jaw started to hurt—a major red flag. “That’s when I knew: This is a heart attack,” he said.

“Maybe a Little One”

Cardiology technician Kimberly Sturgeon was on duty in the clinic’s EKG room when McLarney came in to request an EKG. “I’m not used to the anesthesiologist I work for being in need,” Sturgeon said. “He is always concerned about how the other person is feeling. That’s who he is, and I think that’s the reason he downplayed how he was feeling that day.”

McLarney nonchalantly took his EKG, walked down the hall and called UK•MDs, the medical contact center that connects physicians to expertise within UK HealthCare. “I am on the phone with them so much all day, every day,” he said. “They know me so well that they answer with, ‘Hello, Dr. McLarney.’”

This time, he asked UK•MDs to connect him with John Gurley, MD, a cardiologist and director of UK’s Structural Heart Program. McLarney has known Gurley for more than 20 years and frequently consults with him on cases.

“I have always thought the world of John,” McLarney said. Gurley called him back less than a minute later. “I have an EKG I need you to look at right now,” McLarney told him. “Where are you? I am coming your way.”

McLarney was halfway across the bridge between buildings, on his way to the Cardiac Catheterization Lab (known as the cath lab) in the Gill Heart and Vascular Institute, when he stopped in his tracks. "I realized I hadn’t said anything to anybody back in my department,” he remembers the day he crossed this pedestrian bridge with his own EKG in hand and a heart attack in progress.
“I immediately knew this was an acute heart attack. I knew we had to initiate the ‘go’ response right away. I asked him, ‘Whose EKG is this?’ He responded, ‘John, it’s mine.’”

JOHN GURLEY, MD

The ‘Go’ Response
Dr. Gurley had no reason to be alarmed by McLarenrey’s request. “Tom is an ambassador for his patients,” Gurley said. “If he’s concerned about a patient, he’ll ask me to take a look at things and tell him if he’s on the right track. So for him to call and ask me to look at an EKG, I was happy to do so. It was just a friend calling and asking for a minor favor.”

Gurley happened to be on a brief break between cases, standing in the hallway outside of the cath lab with nurse Paul Morrison, RN, when McLarenrey arrived and handed him the EKG. “I immediately knew this was an acute heart attack,” Gurley said. “I knew we had to initiate the ‘go’ response right away. I asked him, ‘Whose EKG is this?’ He responded, ‘John, it’s mine.’”

Go. In that instant, McLarenrey transformed from friend to patient. “Within a split second, you comprehend all the things that can go wrong,” Gurley said. “I was most concerned that his heart would stop there in the hallway, before we could get him in a cath room where we have our tools and can take care of things in a controlled manner.”

Gurley quickly scanned the clinic. There were no open beds in the prep area, but cath lab 3, one of the procedure rooms, coincidentally happened to be clean and open for its next patient. Regardless of what the schedule said, that next patient was now McLarenrey. Morrison and Gurley took McLarenrey by the arms and hustled him into the cath lab in seconds.

“Tom was caught up in the automatic response that takes place so fast, it was like a cyclone,” Gurley said. “My team hit him, ‘VF.’ I might respond, ‘I am aware of that,’ and ask someone to charge the defibrillator. I then use the defibrillator to shock the heart back into a regular rhythm. Then we’d continue with our work.”

After stabilizing McLarenrey, the team continued with the procedure. "a peace that surpasses all understanding" – a Bible verse he had long known but had not experienced before. "I didn't want to die, because of Tracey and our two children and the work I had left to do here. But for the first time in my life, I felt I was ok to go, because of that peace," McLarenrey said. "I looked up at John and told him, 'If I don't make it, tell Tracey I love her.' John looked down at me with that smile of his and said, 'You will be fine. You tell her yourself.'"

Around 90 seconds later, McLarenrey's heart stopped.

In Expert Hands
When a patient goes into ventricular fibrillation, the lower chambers of the heart quiver erratically and the heart stops pumping blood. There is no circulation, so blood flow to the brain stops. It can cause permanent brain damage within a matter of minutes – and kill just as quickly. McLarenrey's heart fibrillated twice within a matter of minutes.

"If this happens in a public place, it doesn't work out well," Gurley said. "But in our procedure room, that same scenario looks very different. An observer might not even be able to tell there's anything wrong. The person monitoring the hemodynamic monitor will say, in a calm voice, 'VF.' I might respond, 'I am aware of that,' and ask someone to charge the defibrillator. I then use the defibrillator to shock the heart back into a regular rhythm. Then we'd continue with our work."

After stabilizing McLarenrey, the team continued with the procedure.
The angiogram revealed that McLarney had a complete blockage of one of his major coronary arteries. “That happens when a small area of cholesterol plaque becomes unstable and leads to the formation of a blood clot forming in an artery,” Gurley explained. “That cholesterol deposit causes a narrowing of the artery, then completely obstructs it. That obstruction is what leads to the heart attack.”

Now that he knew where the blockage was, Gurley needed to clear it. Through McLarney’s wrist, he pushed a needle into the distal radial artery and inserted a plastic tube up through the artery to the blockage. Using the tube as a channel, he passed a small guidewire up into the blockage and expanded the wire with a balloon. He then inserted a stent, a mesh wire tube, to keep that section of the artery open.

“This kind of procedure can take just a few minutes or several hours, depending on how complex it is,” Gurley said. “Tom’s procedure went very fast. We reopened his artery quickly enough to prevent any damage to the heart. Usually, we consider 90 minutes to be the critical window for a patient with a heart attack, from when that person first contacts medical services to when we open the artery. For Tom, though, you don’t get any luckier. The fact I was right there, that a room was open, that staff was available is amazing. The goal is 90 minutes, not 90 seconds.”

Circle of Support

“I am so happy to be here.” That was the first thought that entered McLarney’s mind as he regained consciousness in the cath lab recovery room. When he opened his eyes, he was surrounded by company. Tracey was at his side, along with their son, Brannon, 22, and daughter, Keegan, 17. Two of his pre-op clinic nurses – Hillary Glenn and Lora Morrison, RN, Paul’s wife – were there, too.

“When we heard he was in surgery, we were all worried,” Lora Morrison said. “I have known Dr. McLarney since he was a medical resident. But those of us on his staff knew that he was in good hands; our cath lab is tremendous. When Paul told us he was in recovery, we rushed over to check on him – and give him some grief. We were mad at him for not saying anything to us, for not asking someone to get him a wheelchair rather than walking himself over to the cath lab.”

Indeed, word of McLarney’s solo march across the bridge, EKG in hand, had already spread far and wide across campus. “We usually try to restrict visitors to one at a time,” said Kelly Kampmann, RN, the recovery room nurse responsible for McLarney’s care. “But there were around 30 people lined up to see Dr. McLarney – physicians, VIPs. I joked with Dr. McLarney that I could have made a small fortune selling tickets.”

McLarney was overwhelmed by the outpouring of concern from colleagues from every stage of his medical career at UK. “It showed the closeness of the UK family,” he said. “I was so struck by that: We are a family.”

Among his visitors – and closest UK family members – was Dr. Gurley. “It can be very emotional for the patient and family to think about a life-threatening heart condition,” Gurley said. “I try to be a calming factor. I tell the patient, ‘You had a problem, but we fixed it today. You will be fine. There are things we need to do to make sure it doesn’t happen again, but do not worry. Everything will be ok.’”

Walking and hiking are part of McLarney’s exercise regimen.
 Anyone, Anytime, Anywhere.

After a few hours, McLarney was moved into the Cardiovascular Intensive Care Unit (CVICU) for an overnight stay. Monica Hardy, RN, was among the nurses who looked after him during his ICU stay.

“Since he was a doctor, he understood everything about his care. He was walking around soon after he arrived and was very motivated to get well.” Hardy said. “I told him I was interested in going to nurse anesthesia school, and he was really encouraging and supportive of my hopes and dreams.”

Sleep was hard to come by that night. The EKG leads on his chest pulled uncomfortably every time he moved. “I remember thinking, ‘Wow, it’s just me and the beep of the EKG,’” he said. Yet, he was not alone. He heard a voice – a voice he believed was the Holy Spirit. “It said, ‘Tomorrow is not promised,’” McLarney recalled. “I exploded into tears and laughter simultaneously. I felt such raw emotion – joy and thanksgiving and relief for the whole thing. I raised my hands in thanksgiving and relief for the whole thing. I raised my hands in thanksgiving and relief for the whole thing.”

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McLarney had no intention of returning to UK as a patient. However, he was already eager to return to work. After settling in at home, he talked to Dr. Bowe.

“Fifty-eight hours after the intervention, he told me, ‘I am ready to come back to work on Monday.’” Bowe recalled. “Tom was trying to be a good company man. He knew we’d be short staffed and didn’t want to have others carry his weight. I told him, ‘You may think you are ready, but you are not. You need time to recover, not just physically but emotionally.’ He needed time to come to grips with what happened, to make adjustments in his lifestyle and to spend some time with his family.”

McLarney agreed reluctantly to a two-week respite. “Dr. Bowe knows me well,” he said. “He knew I needed to hear those orders from him.”

McLarney’s only forays onto the UK HealthCare campus during those two weeks were for his pre-scribed sessions at the cardiovascular rehabilitation clinic. Nurse Nancy Kessler, RN, was surprised to see his name on the patient roster. “I’ve known him for 15 years,” she said. “It’s always an eye opener to see his name on the patient roster.”

“In addition to the friends and family who called on him, McLarney said he was paid another visit by the Holy Spirit. ‘Right out of the blue came the message, ‘What are you waiting for?’’” McLarney said. “I froze for a second, confused. Then knew I what it meant: I had to share the story of my experience.”

He uses his experience to guide his students. As planned, just two weeks after his heart attack.

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He hopes his story also can help others to recognize, and respond quickly to, the warning signs of a heart attack. For the American Heart Association’s annual Heart Ball in Lexington, McLarney spoke in a video about his experience. Along with Dr. Galey, he recounted the events that unfolded and emphasized the lesson learned on that fateful August day: a heart attack can happen to anyone, anytime, anywhere.

“Thank God I was at UK when it happened,” McLarney said. “The UK staff is so good at taking care of all of their patients. UK’s facilities are certainly impressive and cutting-edge. But the strength of UK is its people.”

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Tom McLarney, MD
When a mysterious illness sapped their infant daughter of her strength and ability to eat, the Watts family found the expertise and care they needed at Kentucky Children’s Hospital.

A hospital cafeteria would seem to be the last place where a family would willingly choose to spend time on Thanksgiving. But for the Watts family of Harrodsburg, Kentucky, the cafeteria that serves families, visitors and employees of Kentucky Children’s Hospital was the ideal place for them to celebrate the true spirit of the holiday.

For just a year before – in November 2016 – their 6-month-old daughter Jade had fallen severely ill and had been hospitalized upstairs, in the Pediatric Intensive Care Unit (PICU), with infant botulism, a rare condition that afflicts approximately 100 children each year. The expert knowledge, and tender care, shown by emergency and PICU staff at Kentucky Children’s Hospital restored Jade to health and represented, for the Watts family, the perfect reason to return and give thanks.

Warning signs
As the mother of three older girls, Courtney Watts knew something was not right with Jade as the hours passed on Nov. 17, 2016. Up to that point, Jade had been a healthy baby who had hit all of her developmental milestones. But on this day, Jade had no appetite and struggled to nurse. “There was no fever, no rash. She wasn’t acting different in any other way,” Courtney said. “But by bedtime, she was gagging and coughing during nursing. I was worried she would become dehydrated. I decided that if she didn’t wake up ravenous the next morning, we would go straight to the pediatrician’s office.”

The next morning it was clear Jade was worse. “She was alert and happy to see me, but she was oddly weak,” Courtney recalled. “She could neither latch on nor swallow during nursing, but she was too weak to push me away.”

Courtney and her husband, Casey, were at the pediatrician’s doorstep with Jade when the nurse unlocked the door at 8 a.m. and informed them there would be at least an hour wait. Upon hearing Jade’s raspy, faint cry and seeing her full-body weakness, the nurse instructed them to go to the UK Makenna David Pediatric Emergency Center at Kentucky Children’s Hospital immediately. “I felt like there was a hand wrapped firmly around my throat,” Courtney said. “There was something wrong with my baby.”

The Watts family gathers around a Thanksgiving meal at the hospital to keep a promise and count their blessings.
and that is what Renee did.”

“Usually, if we need to place IVs for children, you get a cry or scream,” Spradlin said. “But Jade didn’t react. No crying, no tears. She just laid there. It’s scary when a baby does not react at all.”

That IV needle prick was just the first in a succession as the emergency staff tried to pinpoint the cause of Jade’s increasing weakness and continuing decline. They inserted a catheter to test for the usual suspect of a urinary tract infection: negative. They drew blood to screen for an elevated white blood cell count: negative. They performed a lumbar puncture to test for meningitis: negative. They tested for bleeding in her brain: negative. They performed a CT scan to check for bleeding in her brain: normal.

“My baby had just been pricked and poked and prodded from every angle,” Courtney said. “Nothing showed up. Nobody could tell us what was wrong. It was an absolutely gut-wrenching feeling.”

As one test followed another, Courtney was grateful for Spradlin’s support. “She connected with me on a mom level,” she said. “I needed a mom to understand what was wrong. It was an absolutely gut-wrenching feeling.”

“Now that I have a child of my own, I can tell they were on the other side,” Broughton said. “I could tell they were on the other side.”

“My heart and soul being pierced with every needle she took, I realized it that made it easy to recognize.”

There is no other condition in the United States – Broughton explained – that has already attached; that has germinated into bacteria that multply in the intestine and release a toxin. This toxin circulates in the blood and binds to the neuro-muscular junction, disrupting the transmission of electrical signals from the nerves to the muscles. “That’s why patients develop weakness and can’t move well,” Broughton explained. “It also interferes with the smooth muscle in the gastrointestinal tract, which causes the hallmark constipation.”

Even though there are only around 100 cases of infant botulism each year – the majority of them in the United States – Brough-ton was no newcomer to the condi-tion. He had encountered it first-hand multiple times throughout his 35 years of practicing medicine at UK:

“I was the chief resident in 1979 or 1980 when we had the first case here – the first case ever reported in Kentucky,” he recalled. “Since then, I have probably seen 20 cases. Even though it is a rare disease, you are more likely to encounter it at a tertiary medical center like Kentucky Children’s Hospital because we have patients referred to us from all over central and eastern Kentucky.”

Thanks to his expertise, Broughton knew the proper regi-men to follow. To confirm his diag-nosis, he took a stool sample that was shipped to the state diagnostic lab in Frankfort to be tested for the presence of the toxin. However, it can take 24 to 72 hours for those results.

Because of his high degree of certainty in his diagnosis, Brough-ton contacted the California De-partment of Health, which controls the distribution of the antitoxin used to treat infant botulism. He requested a dose of Baby BIG-IV (botulism immune globulin) be sent immediately. The nearest supply of the antitoxin was in North Caroli-na; it would be shipped overnight.

The goal of the medicine is to prevent any further deterioration of the baby’s condition by absorbing the toxin in the bloodstream and neutralizing it before it can attach to the neuromotor junction,” Broughton said. “It shortens the course of the illness. However, it is still a race.”

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Holding their breath

When Courtney went home on Friday night, she felt hopeful. She had a name for her daughter’s illness. The antitoxin was on its way and would be administered the next day. On Saturday morning, she returned to the hospital in an upbeat mood. It did not last long.

When she entered Jade’s room, she found her husband in a somber mood. It did not last long.

“I appreciated the ability of Dr. Bacon – and all the caregivers – to maintain their professionalism without losing their ability to connect with us as parents.”

COURTNEY WATTS

SOLVING THE PUZZLE

to degrade over time. So, while the baby will not get any weaker after the medication, it may be a few days before parents see an improvement in their child’s condition.”

Comforting company and care

After Jade received her antitoxin, the Watts family shifted from crisis mode to wait-and-watch mode for the next several days. As the long hours passed, they appreciated the care from the nursing staff. Trinaye Pierson, RN, who was training on the floor, entered Jade’s room with a song every time. “She brought light and sunshine into the room with her,” Courtney said. “She was so personal, so vibrant. She made you feel happy being around her.”

Pierson proudly admits that singing is big part of her approach to caregiving. “The hospital can be a scary place for kids,” Pierson said. “I know that my singing resonates with them. It calms them. Sometimes the parents enjoy it and

gagging or aspirating. Before her condition reached a crisis point, it seemed appropriate for us to intubate Jade proactively so that a ventilator could assist with her breathing,” Bacon explained.

Jade’s parents were shaken by the news. “It hadn’t sunk in how fast and how much she was going to continue to decline,” Courtney said. They agreed to the intubation – with one request: that Jade’s father be allowed to remain in the room during the procedure.

“In pediatrics, we try to let the family in for all procedures,” Bacon said. “I gauge the family’s stress level and comfort level. I always tell them there is only one patient in the room at a time. So I was happy to let Casey stay and watch as much as he was comfortable. Jade did well, the procedure went smoothly, and it helped for Jade’s dad to see that.”

It was tremendously helpful for Jade’s mom, too. “I appreciated the ability of Dr. Bacon – and all the caregivers – to maintain their professionalism without losing their ability to connect with us as parents,” she said. “Dr. Bacon was in control, but he still gave us the room to be parents in a very powerless situation.”

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join in, too.”

Courtney also formed a close bond with Jade’s oral care as well as with baths, changing diapers, applying lotion, anything that enabled the mother to touch her daughter and assure her child of her presence.

As a parent, I can understand the loss of control of caring for your child,” Kenley said. “It’s important to talk with parents about how they’re feeling about the situation, go through the plan of the day and answer any questions they have. We need to take care of the families, too.”

“We were all Team Jade”

At last, Jade turned a corner. The first signs of recovery were small: a flick of a hand, a slight movement of her foot. “The family was very understanding of the need to be patient with Jade’s body and to give her time,” said Asha Shenoi, MD, a pediatric critical care doctor in the PICU. “They were willing to work with us; we were all Team Jade.”

By Tuesday, November 22, Jade’s eyes were open and tracking her parents’ voices. She was moving her limbs. She was able to cough on her own – the key requirement in order to remove the ventilator. She was ready to be extubated. Kenley had traded shifts so she could be on duty for this major milestone in Jade’s recovery. She even gave the family a new outfit for Jade to wear on this special day.

“This was one of those times Ashely was so much more than a nurse to our family,” Courtney said. “To think that, after working a 12-hour day, she sacrificed her free time and went to the mall to shop for our daughter, that was above and beyond. It shows that she’s caring for her patients whether she was on the clock or not.”

After Shenoi removed the breathing tube, Courtney was finally able to fully embrace her daughter again. “I felt like all was right in the world,” she said.

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Shenoi, MD

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Not quite all was right with the world. During her first 24 hours off the ventilator, Jade struggled to breathe deeply. “When we’re dealing with patients who are brittle, it is important for us to not just take intermittent snapshots but to get a continuous feel for the trend of the patient,” said Michael Witskamp, MD, PICU medical director and chief of pediatric critical care. “Since we are a smaller PICU, we are able to invest that time in our patients.”

That is exactly what respiratory therapist Richard Broaddus, RRT, did for Jade. For 30 years, he has worked strictly with pediatric patients; he knew exactly what Jade needed. “There is no magic pill for this,” he said. “It takes a lot of therapy and a lot of time in these situations.”

After monitoring her closely throughout the day, he propped her upright, then on her belly over a pillow, and gently patted her back and chest for over an hour to stimulate her lungs and loosen up the mucus in her airways. It worked; Jade was able to stay off the ventilator.

“People give you such a generous gift of their time like that, you sense their sacrifice and truly feel blessed,” Courtney said. That Thursday was Thanksgiving. While Jade rested in the PICU, her parents went down to the cafeteria to eat dinner.

“That ended up being a life-defining moment for us,” Courtney recalled. “When you’re at home for Thanksgiving, it’s easy to get overwhelmed by the small stuff – the casserole and green beans and rushing off to this or that place. But sitting in that cafeteria, I have never been more thankful in my entire life. You feel humbled and become aware of what matters so clearly. We decided right then that we would come back to the cafeteria every Thanksgiving with our family.”

Once home, it took about three months to fully recover from her bout with infant botulism. “Today, she is as normal and healthy as any child could be,” Courtney said. “The botulism is just a piece of her medical history – not the end of her story.”

When the Watts family has since returned to Kentucky Children’s Hospital, it has been by choice rather than in an emergency. For National Nurses Week, Courtney brought Jade with her to drop off care packages for the PICU nurses.

She also took the occasion to write up a letter praising Kenley that she posted on Facebook. When the staff at Kentucky Children’s Hospital caught wind of the letter, they included it in their nomination of Kenley for the Daisy Award for Extraordinary Nurses. She won.

“It’s so humbling for someone to be that grateful for your care,” Kenley said.

On Thanksgiving night, the Watts family returned again, as they pledged on that life-altering night one year before. They ate in the cafeteria and they dropped off another round of appreciation gifts for the PICU staff. This time, there was a special note attached from Jade, saying, “Happy Thanksgiving, PICU Friends!”
I gave him a ‘man hug,’” said Gooding. He was thrilled to see the doctor who had implanted a spinal cord stimulator in Gooding’s spine in September 2017. The stimulator gives Gooding relief from peripheral neuropathy, a disease caused by nerve damage, in his hips and legs.

That surgery was followed in January by the implant of a dorsal root ganglion (DRG) stimulator to quell neuropathic pain in Gooding’s feet. Jay Grider, DO, PhD, medical director for UK HealthCare Pain Services, performed that procedure.

“Grupke, too, was happy to see his patient enjoying a family outing, free of the boiling feeling in his feet and legs that peripheral neuropathy can bring. ‘I just got a kick out of seeing Patrick walking around,’” he said.

Show-and-tell at the science fair

Gooding is not a professor, but throughout his life, he has taught others – whether it is explaining geological formations to graduate students and his grandchildren or expounding the importance of preserving geoscience data to members of Congress.

A jovial, gentle giant of a man with a bushy white beard and a warm, lilting accent that speaks to his days growing up on the Caribbean island of Trinidad, Gooding could not pass up the chance to show Grupke’s children their father’s surgical handiwork. So he held an impromptu show-and-tell as they all sat on tables in the school’s hallway.

After asking their permission, Gooding pulled up the back of his shirt so Grupke could explain his work to his family. Grupke’s 12-year-old son took in the stimulators’ generators – billfold-size squares beneath the skin on each side of Gooding’s spine, just above his hips – and posed a question to Gooding.

“Are you a cyborg?” he asked.

His father answered. “Not quite.”

Pain treated with two stimulators

While Gooding is not exactly a cyborg – a fictional person whose physical abilities are extended beyond the norm by mechanical parts – he is one of the few patients in the United States – and the first treated at UK HealthCare – with two implanted nerve stimulators.

Spinal cord stimulation is not a new treatment, but recent advances have made it more effective. (See sidebar, p. 20)

Depending on the location of a patient’s pain, doctors select an area over the spinal cord to implant an electrode that is connected to a generator or battery under the skin. The electrode delivers a pulse to the spinal cord that disrupts the pain signal and prevents it from going to the brain. Patients can turn their stimulator up or down, depending on their pain level.

Gooding uses an iPod to control his.

The second stimulator, the dorsal root ganglion stimulator or DRG, is a new twist on spinal cord stimulation. It operates like the traditional type, but it delivers electrical impulses to the DRG, a bundle of neurons at the base of the spine, outside the spinal cord. DRG stimulation has proven effective in treating neuropathic pain in the feet in situations where traditional stimulation did not work as well. DRG stimulation is relatively new; UK performed its first DRG stimulation in 2016, becoming the first academic medical center in the Southeast to do so, according to Grider.

Such advances are impressive, especially considering how they are changing the lives of patients like Gooding.

A love of action and competition

Being hobbled by neuropathic nerve pain is hard on anyone, but especially someone as active as Gooding.
He grew up in a household of sports-minded, highly competitive siblings. At 16, he was six foot, three inches tall, 260 pounds and strong. He played water polo, cricket, tennis and soccer and could hurl a discus, javelin, hammer and shot such distances that he became the national record holder in those events. Gooding made the Trinidad and Tobago Olympic Team in 1968 and won a track and field scholarship to the University of Wisconsin.

Later, he transferred to Eastern Kentucky University, where he earned his degrees before coming to UK. He married his wife, Betty, in 1973, and in 1987, he became a U.S. citizen.

Sports helped fund his education, but also wore down his joints, already inclined to arthritis, a trait handed down from his mother’s side of the family. “I tell him his scholarships didn’t come cheap,” said Kevin Curtsinger, DPT, an outpatient clinic coordinator for the UK Outpatient Physical and Occupational Therapy Clinic. Curtsinger has worked with Gooding through multiple rehabilitation after joint problems and surgeries.

Gooding’s professional life has also brought physical wear and tear. Now 66, he celebrated 40 years at the Kentucky Geological Survey in 2017. He manages the survey’s Well Sample and Core Library, where 22 million vertical feet of core samples and well drillings are stored and used for research. His work has required him to oversee the collection of core samples across the state.

With age, joints degenerate

In his 40s, Gooding began to realize that the joint problems that plagued his mother and aunts would be an issue for him too. “I always felt I would not let the arthritis get to me,” he said. But it did.

After every surgery, he devoted himself to regaining his strength. In addition to therapy with Curtsinger after knee replacements, he devised his own rehab, a water exercise class at the Y’s warm-water pool. “I was 55, in class with 80 and 90-year-olds.”

But eight years ago, in his late 50s, he began to experience a pain he could not power through. It hit him hard at a national geologists conference, after many hours of walking around a convention center and attending receptions. His hips and thighs began to burn intensely, a signal of the nerve damage that’s indicative of peripheral neuropathy.

**Spinal injections for pain begin**

Back home, Gooding was referred to Grider, who gave him steroid injections in his spine, a conservative measure that’s often the first course of treatment for such cases.

“He really did well with epidurals for years,” said Grider. “But about two years ago, they just started to last shorter and shorter intervals until he just wasn’t getting the benefit out of it.”

It is not unusual for injections to become less effective. “For one,” said Grider, “people respond to steroids variably. But also, in Patrick’s case, he has a slowly progressive disease so what got you through in your late 50s might not work in your mid-60s.”

Presented with two options – possible back surgery or spinal cord stimulation – Gooding chose stimulation. Grider explained its advantages to Gooding, as he does with all patients who might benefit from it. “The great thing about stimulation is that unlike hip, back or knee surgery, you get to try this on during a trial period,” said Grider. “You have it implanted temporarily – it takes about 15 to 20 minutes to do in the office – and you get to see

**MORE PATIENTS OPT FOR SPINAL CORD STIMULATION TO TREAT PAIN**

Since 2016, spinal cord stimulation has become part of the first conversation Jay Grider, DO, PA, and Michael Harned, MD, physicians at UK Interventional Pain Associates, have with many patients, evidence that use of the therapy is growing. Spinal cord stimulation has been used to treat pain, among other issues, since the 1960s, and recent advances have made it more effective.

“Whenever I see patients now who have the kinds of things that we would initially offer steroidal injections for, I’m also talking to them about spinal cord stimulation because there have been such dramatic breakthroughs in the technology in the last 18 months,” said Grider, medical director of UK HealthCare Pain Services.

Recent advances have “changed the way electrical impulses are delivered and so stimulation is much more effective,” he said. Generators embedded beneath the skin to power the stimulator’s electrodes have also gotten smaller over time.

The shift toward stimulation is significant because these implants typically have been considered only after conservative treatment options fail. From 2016 to early 2018, spinal cord stimulation implants increased 200 percent at UK Interventional Pain Associates. In addition, because it so effectively treats pain, stimulation allows patients to bypass powerful pain medications, an important consideration in states like Kentucky, where opioid addiction has created a health care crisis.

“The devices also allow patients who have diabetes to forgo drugs used to treat peripheral neuropathy, nerve damage that can be caused by diabetes. Some drugs used to treat neuropathy cause people to crave carbohydrates, a problem for those with diabetes because carbs increase blood sugar.”

Spinal cord stimulation remains an expensive therapy, but many of Gooding’s patients are opting for it. He implants the devices on a trial basis, and patients try them out for about a week to see how they work. About 98 percent of his patients who try a spinal cord stimulator choose to go forward with a permanent implant.

“Only one case in my hands has not gone to implant this year,” evidence, Grider said, “that we probably need to be offering it to more people.”

With age, joints degenerate

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how it does so you have some idea of what you are buying before you have it.”

Another beauty of these systems is that even if you have it implanted and four to five years out, things continue to evolve and it stops working for you, taking it out is easy and your spine is left exactly as you found it.”

Trials are done with patients mildly sedated so they can respond to the physician’s questions about where the electrical impulses are most effective along the spine. Sometimes, patients are a little uncomfortable during the procedure, although few remember it later. Gooding, for example, felt extremely hot. He appreciated a kind nurse, Jenni-fer Fahrson, RT(R), who schedules several weeks later, Gooding received a permanent implant, which worked well until he took a fall about a year later. His pain returned with a vengeance, so intense that he showed up at Grid-ke’s office first thing on a Monday morning to see if he could get in to see the doctor. Staff squeezed him in that afternoon. It was determined that the stimulator was no longer working, but at the same time, Gooding had developed new issues. He weaved when he walked and his legs were weak. After tests showed no problems with the structure of his spine, he was referred to Grupke, who does permanent spinal cord stimulator implants. Grider refers about 30 percent of his patients who have done well in trial to Grupke.

Two stimulators tackle neuropathic pain

Grupke determined that Good- ing needed a new spinal cord stim- ulator to ease the pain in his hips and thighs. Gooding was sedated while Grupke performed surgery, implanting a generator and drill- ing off a sliver of bone to reach the back of the spine, where he implanted a paddle lead contain- ing 16 electrodes. Those electrodes short-circuited the pain pathway. When stimulators are implant- ed and when patients return for fol- low ups, representatives from the companies that make the devices are on hand to help patients learn how to use the controls and adjust them. Gooding has gotten to know his rep well, and has his phone number handy when questions or problems arise.

The new device worked well for Gooding’s hip and leg pain, but did not help his feet, where the neuropathic pain had become nearly un-bearable. “He would say, ‘My feet. They are burning!’” said Grider. Grider performed a trial for a DRG stimulator, and Gooding responded well. It worked so well in fact, that Gooding asked Jenni- fer Fahrson, RT(R), who schedules procedures for Grider, if she could get him in as soon as possible for a permanent DRG implant. It is a request Fahrson hears a lot.

“The biggest thing is to try to get them in as soon as possible,” she said. “I understand they are in pain, and then they have that brief little timeframe of being pain-free when we have the trial. Then, we take the leads away and tell them it is going to be another month or six weeks before we can give that back to them and I hate to do that to them.”

Fahrson was able to schedule Gooding’s surgery several weeks earlier than expected. This is not always easy or possible given the many issues that must be resolved before a procedure: finding a slot in a tight surgery schedule; getting approval from insurers; reviewing results from presurgical tests; and getting OKs from a patient’s other physicians to temporarily take them off medications such as blood thinners.

The test measures the level of he-moglobin A1c in the blood to deter- mine average blood sugar levels for the preceding two to three months. Gooding has lost 85 pounds over the past year.

Type 2 diabetes, which runs in his family, often contributes to the nerve damage that results in the peripheral neuropathy. Fawns is pleased he will no longer need some of the medications used to treat his overall health to also improve. Fawns treats not only Gooding, but also his wife, Betty, and sister, Pa- tricia, who lives with the Goodings and has Down syndrome. The three come to each other’s appointments to listen and to chime in with thoughts and information.

One of Fawns’ goals for Patrick Gooding is to improve his A1c test results through diet and exercise. The test measures the level of he- moglobin A1c in the blood to deter- mine average blood sugar levels for the preceding two to three months. Gooding has lost 85 pounds over the past year. Type 2 diabetes, which runs in his family, often contributes to the nerve damage that results in the peripheral neuropathy. Fawns is pleased he will no longer need some of the medications used to treat
neuropathic pain. She has closely monitored Gooding’s surgical incisions and other injuries, including a serious wound he suffered when he impaled himself with a stick while doing yard work. Fawns removed stitches when that serious wound healed and referred him to Wound Care for treatment.

She describes Gooding as a model patient, hampered in his efforts to stay healthy by extreme pain. “By far, he is his best advocate,” she said. “He has a very positive attitude and is compliant with treatment and going to physical therapy. But he was really discouraged because until he got the stimulator he wasn’t able to exercise like he wanted to.”

“After he got his stimulators, he could start doing more physical therapy and walking, and he got more motivated with his diet. So I think it all played a role – when he was not able to participate in his care, it affected everything.”

Strengthened through physical therapy

His successful treatment is also allowing Gooding to rebuild his strength through physical therapy, and by early 2018, he was again having regular sessions with Curtsinger. Curtsinger’s role has always been important – his physical evaluations have helped doctors determine when Gooding needed different and sometimes more aggressive treatment for his pain.

Like Fawns, Curtsinger has come to know not only Gooding but his family. “We are good friends – him, his wife and his sister. It is more than just patient-provider relationship with us,” Curtsinger said. “I have a relationship with my patients as they go through different stages in life. They are in and out of here for different conditions over the years. I sometimes say they are never gone from therapy, they are just taking a small vacation.”

Speaking of vacations, Gooding now looks forward even more to family trips to the beach, his favorite destination. Growing up on an island, “our whole life revolved around the beach,” he said. Able to walk and stand for long periods without pain, he will also be more of force at conferences of the American Association of Petroleum Geologists; he’s a leader of the organization now, president of its Eastern Section.

Freed of neuropathic pain, the simplest of things bring sustenance. A couple of months after his last surgery, he told Betty, “I am going to do some major cooking on Saturday.” He spent the day, standing on feet and legs that no longer cause him pain, happily churning out pots of chili and chicken curry for his family.

Gooding would like to thank the many individuals including clinic and hospital staff, nurses, anesthesiologist, surgeons, physical therapist, doctors and technicians he saw during this process.

“My successful recovery and outcome would not have been possible without these many individuals working together as a team.”

PATRICK GOODING

NOVEL USE OF SPINAL CORD STIMULATION IS LIFE CHANGING

FOR MORE PATIENT STORIES, VISIT: UKHEALTHCARE.ORG/DIFFERENCE

For more information about spinal cord stimulation, contact UK HealthCare at 859-257-1000, toll free at 800-333-8874, or visit ukhealthcare.uky.edu.
Dave Lee
Richmond, Kentucky

After having his back rebuilt in 2016, Dave Lee finds himself working long hours as a supervisor for a government contractor at Blue Grass Army Depot. He writes, “I’ve been doing good health wise. My back is getting better. I have good days and bad days, but I’m not letting it slow me down, I take it one day at a time. I knew the process would take time, I’m glad I did it. I have a better quality of life. I’ve been able to help Julie (his wife) a lot more in the yard and garden. Audi (their dog) has enjoyed it as well: a lot more playtime. Looking forward to the next few months, work will start slowing down and we can get back into road trips.”

Annette Osborne
Winchester, Kentucky

Annette was diagnosed once again with vaginal cancer in October 2017. The tumor implanted with radioactive seeds – and written about in last year’s issue – has not returned. She has completed chemotherapy and is ready for a Markey surgeon to remove the site where cancer has reappeared. Annette writes, “I honestly feel good though. Got back in the gym and I’m going strong. (Through genealogy) I found my biological father and siblings. The good news is the doctors feel there is a good chance of finally getting rid of the cancer with the surgery.”

Jason Conn
Lexington, Kentucky

In 2016 Jason suffered a consequence of congenital heart disease: endocarditis, which is an infection of the heart lining that could have taken his life. Now he writes, “Everything is going very good. My health is great. I follow up with Dr. (Andrew) Leventhal and Leesa Schwarz (cardiology nurse practitioner) every 12 months. This year they did an echo and overall checkup and said things look very good. I’m still working on car and bike projects in my spare time and taking care of my dogs.”

UPDATE FROM OUR 2017 ISSUE

The Markey Cancer Center has a new inpatient floor in UK Albert B. Chandler Hospital for medical and surgical oncology patients, bone marrow transplants and patients with blood cancers. Features include large, private rooms, a concierge kitchen offering healthy snacks and chef-prepared meals, a business center, laundry facilities and a living room-style Family Comfort Center that provides an area for families to take a break away from the patient’s room.

Patients also have access to both oncology rehabilitation and integrative medicine services, including pet therapy, art therapy, music therapy, narrative medicine and more. The new unit is located in Pavilion A of Chandler Hospital, Floor 11. Call 800-333-8874 for more information.
THE LATEST AT UK HEALTHCARE

Barnstable Brown Diabetes Center moves to Turfland

The expanded Barnstable Brown Diabetes Center, now located in UK HealthCare’s Turfland facility at 2195 Harrodsburg Road, can accommodate more patients of all ages with diabetes and related disorders. The new facility has on-site access to pharmacy and supplies, ophthalmology and optometry services, laboratory testing, ultrasound and radiology. Services offered include consultation with expert diabetes specialists, coordination of care for diabetes complications, screening and management, and comprehensive patient education plans. Call 859-323-2232 for more information.

INTEGRATIVE MEDICINE & HEALTH OFFERS MASSAGE, ACUPUNCTURE, YOGA AND MORE

UK HealthCare’s Integrative Medicine & Health offers appointments and group classes in massage therapy, Reiki, Jin Shin Jyutsu, narrative medicine, tai chi, meditation, acupuncture and yoga. No registration is required for group classes. The Integrative Medicine Clinic is located in the Whitney-Hendrickson building, 740 Rose St., Floor 3. To schedule an appointment, call 859-323-4225 or write ukinTEGRATivemedicine@uky.edu for more information.

10-bed hospice unit features home-like amenities for patient, family comfort

A new 10-bed inpatient hospice unit is the result of collaboration between UK HealthCare and Bluegrass Care Navigators, which brings 40 years of experience in providing symptom management to UK HealthCare hospice patients — including medical, nursing, emotional and spiritual support for patients and their families. Located on Floor 3 of the Ben F. Roach Cancer Care Facility, 750 Rose St., the unit’s home-like setting features expanded visiting hours, private rooms, a family room and a kitchen. Call 859-562-1135 for more information.

TEAM BLUE PRIMARY CARE CLINIC DEDICATED TO UK HEALTH PLAN MEMBERS

UK HealthCare’s new Team Blue Primary Care Clinic provides primary care, wellness and prevention services exclusively for members of UK health plans: employees as well as their spouses, dependents and sponsored dependents. It also offers care for chronic medical conditions, and providers will coordinate treatment across specialties and subspecialties when necessary. Same-day appointments for employees and dependents are available by calling 859-218-5999. The Team Blue Clinic is located at Kentucky Clinic South, 2400 Greatstone Point. For more information, call 800-333-8874.

Courtney Wilson wanted to say thank you.

When Courtney had a blood clot in her brain four years ago, it was UK HealthCare and UK neurologist Dr. Jessica Lee who saved her life. Courtney was only 30 at the time. Today, she’s alive and well – and mom to a new daughter. To show just how grateful she was, Courtney named her little girl Carlee in honor of Dr. Lee.

Not every grateful patient will be able to name a child after their doctor, but there are other meaningful ways to say thank you, such as by volunteering or making a charitable gift. Those gifts “pay it forward” and spread the spirit of gratitude, helping future patients in their time of need.

Read Courtney’s extraordinary story and find out how you can give back, too.

UKHEALTHCARE.ORG/GRATEFUL
BRIGHT, NEW SPACES AT KENTUCKY CHILDREN’S HOSPITAL

Kentucky Children’s Hospital has a new entrance, complete with its own gift shop, pediatric health education center, Simpson Family Theater, express elevator to the UK Birthing Center, and elevators direct to inpatient units. Nearby on Floor 1, is the new Betti Ruth Robinson Taylor Neonatal Intensive Care Unit (NICU). And at our Ground Floor entrance, is the new Circle of Blue Pediatric Sedation and Procedure Unit, recently recognized as a Center of Excellence in Pediatric Sedation.