MEDICAL MARVELS

COASTAL VIRGINIA DOCTORS ARE LEADING THE WAY TO HELP PATIENTS MAKE HEALING BREAKTHROUGHS AND CONTINUE TO LEAD HAPPY AND HEALTHY LIVES

BY KRISTEN DE DEYN KIRK

Once upon a time, Coastal Virginia residents might have wanted to travel far to receive the newest and best medical treatments. Now, our community is attracting top doctors and top-of-the-line resources so that we provide both comfort and cures right in our own backyard, often before even some of the country's biggest cities do so. Here are just a few of our local physicians committed to exploring promising therapies, treatments and technology:

Reshaping A Baby's Future

Looking back, David Myers knows the signs were there: His son Dawson's head showed hints of a concern during an ultrasound.

"We didn't notice it at the time, and no one said anything to us about it," says David, a business development manager from Phoebus.

Dawson was born by caesarean section to David and Amber Woods Feb. 14, 2017. The couple heard someone say his eyes were close together, the first clue that the newborn had trigonocephaly, also known as metopic synostosis, a type of craniosynostosis.

Craniosynostosis conditions occur when sutures, joints between bones in the skull, fuse together too early in development. The result is a skull that is not normally shaped. Many types of craniosynostosis form for unknown reasons. Sometimes, a genetic syndrome is the cause. The condition happens in 1 of every 2,000 births in the United States, and the type Dawson has, which involves a single suture closing too early, is one of the more common forms.

David noticed a ridge in Dawson's forehead shortly after his Valentine's Day birth and later saw it faintly when he looked back at a routine ultrasound Amber had during her pregnancy.

Craniofacial disorders, most recently

Dawson Meyers before surgery.

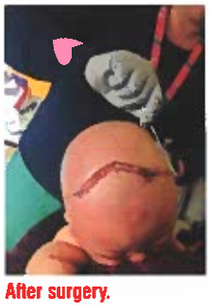
brought to the public's attention through the book and movie *Wonder*, in which the main character has Treachers Collins Syndrome, only affect about 600,000 Americans. Because of the relatively small number, not every hospital routinely treats patients with the disorders.

"The medical center we delivered at told us about their team," says Amber, "but they only had worked on a few cases."

Amber, an analyst with the United States Marine Corps and a reserves member after serving 17 years, researched possibilities online. She zeroed in on Children's Hospital of the King's Daughters (CHKD).

"We had the means to go elsewhere—Richmond, Dallas, Michigan—and family near those locations that could have helped," says David, "but we liked that CHKD has six specialists on their team."

In April 2017, they met with Dr. Jesus Gil Inciong, a CHKD craniofacial fellowship-trained plastic and reconstructive surgeon and director of the CHKD Craniofacial Center. Each year he helps about 40 patients with single-suture craniosynostosis. He explained to the couple that Dawson was not in any danger: The suture fusing early didn't affect his brain growth; other skull bones adjust to allow room for the expanding brain. That is often the case with craniosynostosis, but not always, especially if two sutures fused early.



After surgery.

Inciong's main concern: psychological issues.

"The children otherwise develop normally, physically and mentally," he says, "but the deformity can get worse without surgery. Having the operation early makes it possible for the pieces of the puzzle to fit together well. Children are then spared any bullying from other children based on their appearance."

In September, when Dawson was 7 months old, Inciong completed the plastic surgery along with a neurosurgeon.

Dawson Meyers today.

"We are performing cranial remodeling," he explains. "We take out the bones, reshape them and reinsert them."

The length of the surgery?

"Forever!" says Amber.

The seven-and-a-half hours certainly felt like that to her and David, who kept their eyes on a hospital phone reserved for hourly updates from the surgical team.

"The neurosurgeon, Dr. Joseph Dilustro, even came out and talked to us at one point," Amber remembers.

The couple's worry eased when they saw Dawson after the surgery.

"He was swollen," says Amber, "but I couldn't see the incision, and I didn't see any blood. He looked amazing for what he had been through."

At Dawson's two-month post-op checkup, Inciong was pleased. "He had no pain and was eating well," he says. "He was acting like a normal 9-month-old."

"It's amazing," says Amber. "We went into the hospital on Wednesday and came home on Sunday. For Dawson, it's like nothing happened."

When Open-Heart Surgery Can Be Avoided

"My primary care physician tells me she doesn't know how I'm alive," says Vickie Cherry, a 43-year-old part-time teacher from Virginia Beach.

Up until three years ago, Cherry hadn't faced health problems. Her luck changed when she became pregnant with her fourth child, and her obstetrician detected placenta accreta, a condition in which the placenta abnormally attaches to the uterine wall. Logan Reed, now 2-and-a-half, was born three months early, and Cherry lost blood during her son's delivery.

"It was so much that I had to have blood transfusions," Cherry says.

Other complications led to open-womb surgery and Cherry being heavily medicated a

she struggled with pain.

Three days later, her legs were swollen and felt warm when touched. A scan detected a blood clot that traveled from her right leg to her left and up to her heart. Doctors speculated that the clot might have developed because of the blood transfusion.

That's when Cherry met Dr. David Dexter, a surgeon with Sentara Vascular Specialists.

"He told me to talk with my family and friends," Cherry remembers. "I was facing a life-threatening condition."

Dexter suggested vacuum clot removal. He is one of four surgeons in Virginia and the only in Southeast Virginia who uses specialized technology instead of open heart surgery to remove clots. In 2016, he was the first in the country to use vacuum clot removal technology to remove a clot in a pediatric patient's right atrium.

"The device we use is a game changer," says Dexter.

That device is catheter-based and works with X-ray and ultrasound. A cardiothoracic surgeon and a cardiologist team work together with a vascular surgeon, who inserts thin tubes into two major veins through the neck or groin. Watching an X-ray and an ultrasound, the surgeon advances the tube toward the clot. The tubes are equipped with an expandable, balloon-shaped funnel tip attached to the circuit portion of the clot vacuum, creating a bypass that filters blood outside of the body as the clot is vacuumed out. The reinfusion tube sends filtered blood back into the body.

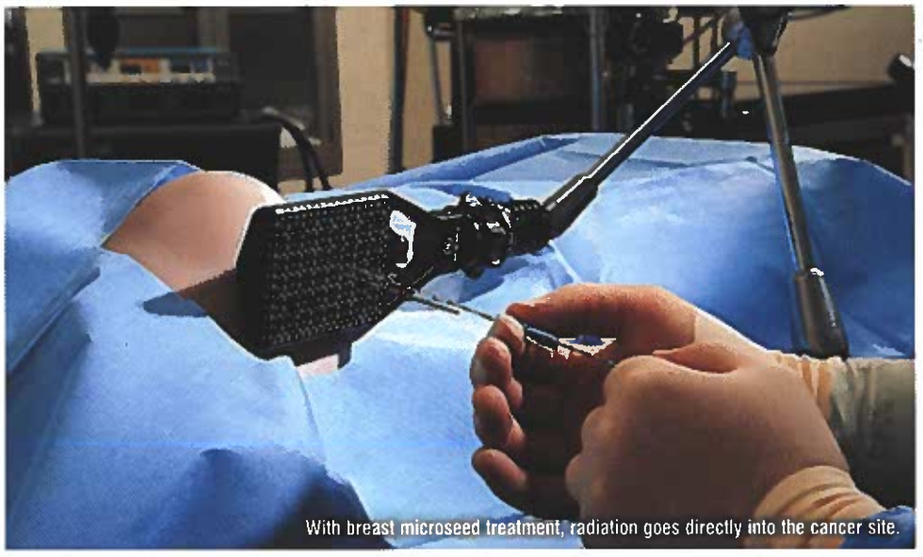
"The device was originally used to help with traditional heart surgery," Dexter explains, "and was modified to open up like a funnel and suck everything in."

He performs the procedure once or twice a month and submits results to a national database, making Sentara Vascular Specialists the second largest contributor nationwide to ongoing research on the surgery's efficacy.

For Cherry, the surgery was an immediate success. With all she had been through, she still had to remain in the hospital for about a month, though. (Typical recovery from the vacuum clot removal is only a few days.) Dexter later found other clots in Cherry's right leg and used stints, which keep the veins open, to treat them. Cherry knows the seriousness of her situation: Blood clots that originate in a vein, venous thromboembolism (VTE), are the third leading cause of cardiovascular death. VTEs affect up to 1 million Americans a year.

"I go to Dr. Dexter every three months now," she says. "I tell everyone how much I trust him."

Radiation: An Inside Job



With breast microseed treatment, radiation goes directly into the cancer site.

Fran Crank, an 82-year-old who is retired from her City of Norfolk job, immediately liked what she heard from Dr. Michele Nedelka, a Bon Secours Oncology Specialists radiation oncologist.

The doctor, who joined Bon Secours in 2017, was explaining breast microseed treatment.

"First, it's a one-hour radiation procedure. Second, it's a one-time procedure," Crank explains. "Third, radiation goes directly to the cancer site."

Crank needed radiation after a lumpectomy in August 2017 to remove Stage 1 cancer in her left breast. Radiation can stop cancerous cells not originally detected near the site during surgery; however, the traditional delivery method through an external beam can require a comparatively larger dose of radiation, up to 30 treatments and the possibility of unnecessary sites receiving radiation.

Cancer patients don't often feel lucky, but Crank had reason to: Bon Secours Cancer Institute had just recently announced that it was the newest of only three sites in the United States to offer breast microseed treatment for early-stage breast cancer. It is the only location in the Southeast. Breast microseed, similar to seed radiation therapy used to treat prostate cancer for decades, has been delivered in Canada and Europe since 2004 and uses a device proven safe and effective in 13 years of academic and clinical testing. Independent, peer-reviewed evaluations show the treatment is equivalent to other forms of radiation therapy. With the breast microseed treatment, radiation oncologists place tiny titanium seeds (also called pellets) filled with radioactive palladium in the breast near the site where the cancer was surgically removed. The seeds deliver a low dose of radiation over 60 to 90 days. The seed casings are harmless and can remain in the breast after the radiation is delivered.

"The first time I heard of it was during the summer," says Nedelka. "In May, I had joined Dr. Bradley Prestidge, and I thought it sounded intriguing. The treatment is more convenient with just one course and can result in fewer side effects for patients."

Starting in May and through October, she and Prestidge learned about the treatment and how to deliver it to patients. Dr. Jean-Philippe Pignol, the innovator of breast microseed treatment and chairman of the radiation oncology department at Erasmus MC Cancer Institute in Rotterdam, Netherlands and Dr. Juanita Crook, a professor of radiation oncology at the University of British Columbia and a well-published physician and recognized expert in the internal delivery of radiation therapy, served as their teachers. The doctors sit on the physicians' advisory board for Concure Oncology, the company that supplies the breast microseed therapy radiation sources. A Bon Secours physicist traveled to British Columbia to learn about the treatment as well.

Crank, an octogenarian with an early-stage cancer, was an ideal patient. The treatment has only been studied in patients over 50 so far. On average, those younger tend to have

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microscopic cells that might not be contained in micro tumors near the original cancerous site and therefore may not be adequately treated with radiation as targeted as breast microseed.

Patients receiving the treatment are given anesthesia so that they are asleep during the procedure. Doctors use a CAT scan and ultrasound to map around the cavity where the cancerous tumor was once positioned and determine an appropriate dose of radiation. They create a template with coordinates to guide needles into the breast.

"Our template is marked like a Battleship grid," says Prestidge, "and we're inserting pellets with radiation one by one in a targeted area; the pellets are all attached by thread. The treatment caught my eye about five or six years ago, and I made some mental notes about it as more U.S. data was gathered. It made sense to me: If cancer re-appears in this type of patient, it's often in the same breast quadrant, so there's some questions about if we need to radiate the whole breast."

Crank, who conducted research in person and online about her options, was honored to also have Crook, one of the breast microseed experts, observing during her treatment. She experienced some radiation burn and used cream to ease it. Otherwise, she's been pleased.

"They used 19 needles with me and more than 100 radiation seeds (pellets)," she says, "and still, I didn't have to go for four or five treatments over the course of six weeks, as the alternative would have needed."

Feel The Burn No More

Karen Mikus, a 51-year-old operating room nurse formerly of Virginia Beach, experienced symptoms of GERD, gastroesophageal reflux disease, for several years. During the day, she knew better than to bend over. If she did, she felt a blowtorch rising from her chest and into her throat. When she slept, she avoided her right side so as to not feel the same burn. She'd ignore her thirst during the evening. Sipping water could spark the pain, unless she sat upright for hours afterward. No matter what, a bottle of Tums was within arm's reach in case Mikus' diligent efforts failed to prevent a GERD attack.

According to the American College of Gastroenterology, 60 million Americans, about 20 percent of the population, report GERD symptoms every month. Left untreated, the condition can lead to tooth decay, difficulty swallowing and esophageal ulcers. Research even shows a possible link to esophageal cancer. In the past, doctors routinely presented patients with two options: Take proton-pump inhibitors (PPIs), and if they failed, as they do about 40 percent of the time, undergo laparoscopic Nissen fundoplication, a surgery in which part of the stomach is wrapped around the lower esophagus to tighten the tube.

"That is tough to get through, and the results are too limiting," says Mikus. "You can't burp or vomit like a normal person afterward ever again."

Only about 1 percent of patients who don't find relief from PPIs opt for the surgery.

The nurse who wasn't faring well as a GERD patient found hope when Dr. Jared Brooks, a surgeon with Sentara Surgery Specialists, presented what's called an in-service, on-site learning session, to Mikus' work team.

"He spoke about LINX, a new magnetic device implanted around the lower esophagus," Mikus recalls. "It basically gives you a mechanical sphincter. It's like a little Pandora bracelet that can tighten to prevent acid from regurgitating."

Brooks first learned of the LINX device and the procedure the day he met a 19-year-old suffering from extreme reflux. By coincidence, a journal with a report about it was sitting on his desk as he contemplated the case. Dr. Luigi Bonavina, an Italian doctor, was one of the first to study LINX, placing the device in 100 patients. Later studies conducted under an investigational exemption from the U.S. Food and Drug Administration with additional patients found that 87.5 percent were satisfied with the procedure and 80 percent were free from daily dependence on PPIs.

Brooks was convinced of LINX's potential, but he had to get insurance companies on board before proceeding.

"The first few devices I received as donations," he says. "The insurance company, which was hesitant to grant me permission, was placated because it was free."

He performed his first LINX procedure in the fall of 2015. Mikus was his second patient. After receiving anesthesia, patients are in the operating room for only about 40 minutes and can return home the same day.

Educating Mikus and all of his LINX patients about what to expect afterward is key to recovery, Brooks notes. The LINX device needs to keep moving, and to do so, the patient must eat regularly.

"They might experience some swallowing difficulty, especially from the two- to six-week post-op period," says Brooks. "Eating small meals throughout the day helps because the LINX device gets a chance to activate and do its job."

"My recovery was rough," says Mikus, "but once I got through those first eight weeks, all was OK. Now I preach about LINX."