

HEALTH NEWS *from*

gw hospital

SUMMER/FALL 2018

Looking inside THE BRAIN

HOW VIRTUAL REALITY IS
TRANSFORMING SURGERY

INSIDE:

**Nurturing
early bonds**

NicView™ cameras
come to the NICU

**A cardiac first at
GW Hospital**

Mark Swartz
receives a life-
saving heart pump

Compliments of

Danielle Collins tells about her experience with virtual reality, and how doctors used it to plan for her life-saving surgery.



THE GEORGE WASHINGTON
UNIVERSITY **HOSPITAL**



DEFINING Moments

GW Hospital patients share their life-changing experiences



“They re-wrote my future.”
- Lauren Levinson

Days before finding out she was pregnant with her second child, Lauren Levinson learned that she had the BRCA1 mutation, a genetic alteration that made it about three to seven times more likely for her to develop breast cancer in her lifetime.*

Lauren’s mom had recently been diagnosed with breast cancer for a second time, which prompted Lauren to get tested. “Late 2013 into 2014 was quite a roller coaster,” she says. “I had to be attentive to my mom’s care, all while processing my own high risk of getting cancer and maintaining a healthy pregnancy.”

Determined to have a plan for her future and understand her options, Lauren met with board-certified genetic counselor Elizabeth Stark, MS, CGC, at GW Hospital. Lauren says she was “all-too-aware that my odds were not improving with time,” so in March 2017, at age 38, she opted to have a preventative bilateral prophylactic mastectomy and DIEP flap reconstructive surgery with Chief of Breast Surgery Christine Teal, MD, and Teresa Buescher, MD, a board-certified plastic surgeon.

Her doctors’ unwavering commitment to her future health and happiness stood out. “For me to know that Dr. Teal and Dr. Buescher were just as focused on long-term results as I was made me feel very empowered,” she says. “I was worried about what such a serious reconstruction would look like, and these doctors and their teams brought their A-game.”

Dr. Buescher explains that Lauren’s DIEP flap reconstruction involved transferring tissue from the abdomen to create new breasts. “The nice thing is that your own tissue is used for a permanent reconstruction. It’s comfortable, and once you’re done, you’re done,” Dr. Buescher says.

“My kids cuddle up with me all the time, and I was nervous that they might shy away or that mommy would feel different,” Lauren recalls. A **defining moment** for her, she says, is when she realized that her kids couldn’t tell.

“In one very long and complicated surgery, my odds of developing breast cancer were reduced by up to 90 percent,** and I got healthy breasts that look and feel like the originals,” Lauren says. “My team at GW re-wrote my future, and I will be forever grateful for their expertise and support.”

Learn more about breast cancer surgery at gwhospital.com/breast.

*Breastcancer.org, breastcancer.org/symptoms/testing/genetic/pos_results

**National Cancer Institute, www.cancer.gov/types/breast/risk-reducing-surgery-fact-sheet



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DEFINING MEDICINE

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NICU cameras help
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Technology plays an important role in medicine, opening up new opportunities to advance the care we provide. In this issue of *Health News*, we're excited to show you the virtual reality tool that we use to step inside the human body and strategically map out complex treatment for patients like Danielle Collins, who is featured on our cover. Read on page 6 how advanced

surgery and technology helped save Danielle's life after a sudden and life-threatening neurological diagnosis.

We also bring you the story of Mark Swartz, who is the first patient at the George Washington University Hospital to receive a life-changing device that keeps his heart pumping while he awaits a heart transplant. In other articles, you'll meet Tracy Allison, who is now hearing certain sounds for the first time with her cochlear implant, and Andrea Payne, who was able to monitor her newborn in the neonatal intensive care unit using her smartphone.

We remain committed to continually putting new technology in the hands of skilled caregivers who provide only the highest quality care and world-class service to the communities in the DC region. I am personally devoted to these advances as they provide access to life-saving technology and raise the standard of care for all patients, so their needs can be met and so they can live life to the fullest.

Kimberly Russo
Chief Executive Officer

CELEBRATING THE *gift of life*

The 2nd Annual Living Donor Appreciation Celebration was held in April to honor those who have given the ultimate gift through organ donation. Kidney recipient Ronit Atlan (pictured right) was among the special guests at the event, hosted by the GW Transplant Institute, the Ron and Joy Paul Kidney Center and EagleBank. Two-time kidney recipient and EagleBank CEO Ron Paul also attended. "GW Hospital is committed to raising awareness about living organ donation," says Sherri Newman, director of transplant and cardiac operations at GW Hospital. "It's important to take time out and say thank you to our donors."

To learn more, visit gwhospital.com/life.

Photo by Linnea
Farnsworth Photography



“How a cochlear implant helped me *hear again*”

Tracy Allison, pictured here with Ashkan Monfared, MD, continues to enjoy her sense of hearing thanks to advanced care at GW Hospital.



Thirty-six-year-old Tracy Allison has had hearing loss for most of her life caused by bacterial meningitis when she was a baby. Over the years, she's become

adept at lip reading and sign language, and she's also enjoyed communicating through voice with help from a hearing aid. Talking with others at home and in her career as a proposal subcontract analyst is important to her.

She always told herself that if she lost more hearing and other treatment options weren't working, she'd consider a cochlear implant. That time came in 2017, when her hearing worsened and she made the life-changing decision to have cochlear implant surgery at GW Hospital.

Her board-certified surgeon and otolaryngologist **Ashkan Monfared, MD**, explains that the outpatient procedure involves making a discreet incision behind the ear and implanting a small electronic device under the skin into the bone. A fine electrode goes into the inner ear and sends electrical signals to the nerve of hearing.

Unlike a hearing aid, which makes everything louder, a cochlear implant makes sounds clearer, explains Doctor of Audiology **Marquitta Merkison, CCC-A, F-AAA**. She notes that the sounds patients hear are

totally different from anything they've heard before, and the brain needs to be trained how to recognize the new signals. "I remember hearing a lot of 'beep-beep' sounds," Tracy says of the first time the device was activated. The next day, she remembers starting to pick up normal sounds.

She has worked hard in auditory rehabilitation, and her hearing continues to improve. She says she recognizes certain letters that she couldn't with the hearing aid – such as "ch" and "s" – and she notices little things, like the sounds the dishwasher makes or a bird chirping through her window. "I'm happy I did it," she says of her surgery. With practice, her hearing will continue to get better, Dr. Monfared says. ■

To hear a podcast by Dr. Monfared on cochlear implants, visit gwhospital.com/hear. To contact the Audiology Center, call 202-741-3275.

Could you be a candidate?

Many people think cochlear implants are just for babies, but they can help people of all ages, including many older adults. If you're struggling to hear and your hearing aids are not adequately helping, talk with your doctor.

The experience and potential benefits can vary for each patient, based on the cause and duration of hearing loss and other factors. While there is no age limit to implantation, good cognitive function is necessary for successful rehabilitation.

Not just for athletes: How sports medicine can benefit anyone



Sports medicine doctors can play an important role in keeping

professional athletes on the playing field, but even non-athletes can benefit from this type of medicine, says **Rajeev Pandarinath, MD**, who is board-certified in orthopedic surgery and orthopedic sports medicine. Here, he discusses the game plan for this medical specialty.

What is sports medicine?

Sports medicine focuses largely on finding ways to prolong the life and function of joints, from shoulders and hips to knees and ankles. In many cases, this may involve minimally invasive surgical treatments. Non-operative treatment may also sometimes be recommended, such as physical therapy or modifying activities for a while.

When should I see a sports medicine doctor?

If you have an injury to one of your joints with swelling or difficulty using it, and it's not getting better after trying an anti-inflammatory and resting it for a few days, that's when you'd want to see someone. Care can be comprehensive. You may see your primary care provider or an orthopedic surgeon, and then possibly a physical therapist, non-operative sports medicine doctor, or sports psychologist.

What types of conditions are included under the sports medicine umbrella?

Sports medicine can address a wide range of issues. Examples may include ligament injuries, cartilage injuries and repairing unstable joints.

What makes a sports medicine specialist different from a general orthopedic surgeon?

Sports medicine involves an extra year of training mainly in arthroscopic surgery, using a camera to manipulate things in the joint without making large incisions, thereby minimizing the amount of recovery time.* It also includes team coverage, evaluating athletes on and off the field. We all have a clock on our joints. As people are living longer and remaining active in recreational sports, there's more of a need for sports medicine. ■

**Individual results may vary.*



To hear podcasts from Dr. Pandarinath on rotator cuff injuries, visit gwhospital.com/cuff, and to learn about ACL tears, visit gwhospital.com/acl.

*“I have hope
for the future”*

– MARK SWARTZ



Mark Swartz is the first patient at GW Hospital to receive a left ventricular assist device (LVAD), a mechanical pump that keeps his heart functioning while he awaits a heart transplant.



Mark's medical journey began in September 2017, when he had a heart attack at the gym. Paramedics rushed him

to GW Hospital's emergency room, where he was treated by the hospital's emergency team, including **Jonathan S. Reiner, MD**, director of the cardiac catheterization laboratory. "Dr. Reiner saved my life that day," Mark says.

The next big step was recovery. "I thought in a few weeks or months, I would go back to normal," Mark recalls, but problems like shortness of breath were impairing his daily life. "I just wasn't getting better," he says. ►



Gurusher Panjra, MD



Elizabeth Pocock, MD



Anthony Rongione, MD

For some patients like Mark, damage from a heart attack can lead to heart failure, which occurs when the heart isn't strong enough to pump blood efficiently through the body. For specialized care to help treat this medical issue, Dr. Reiner introduced Mark to **Gurusher Panjrath, MD**, director of the Heart Failure and Mechanical Circulatory Support Program at GW Hospital.

Together, Dr. Panjrath and Mark discussed goals and treatment options. They decided that the best path forward was to pursue the LVAD implant as a "bridge" to a heart transplant, and Mark underwent an implant procedure performed by VAD surgeons **Anthony Rongione, MD**, surgical director for the VAD program, and **Elizabeth Pocock, MD**. While Mark waits for a donor, the mechanical pump assists his heart, so that he can be more active and enjoy a better quality of life. People who are bridged with a heart pump tend to do better with transplant surgery, Dr. Panjrath says.

Mark does not know when a donor heart might become available, but he is hopeful and remains focused on getting stronger. Adapting to life with his LVAD implant is an adjustment, he says. A cable from the pump goes through his skin to a battery and control system that he wears in a bag on his hip. "It's always with me," Mark says.

He credits his family and medical team for helping him through the implant surgery and the challenging



Mark Swartz is getting stronger with support from his implanted heart device.

recovery that followed. "If I did not have my family, I don't know how I would have done this, and the cardiac ICU nurses were just exceptional," Mark recalls. "They had such expertise, they cared so much."

Today Mark continues to rely on the support of Dr. Panjrath and Erin Breen, RN, CCRN, ventricular assist device coordinator/heart failure specialist, who see him regularly to monitor his device and his care. "Mark recognized his symptoms early and started discussing his treatment options and what was important to him," says Dr. Panjrath, of Mark's decision to pursue LVAD. This therapy can help him get back to daily activities that are meaningful to him, like going to the gym.

Along with getting stronger physically, Mark feels stronger mentally. He is happy to be returning to his routine with support from his family and the team at GW Hospital. "They have given me a chance at extending my life and having a good quality of life," he says. ■

ROBUST CARDIAC CARE at GW Hospital

The introduction of LVAD at GW Hospital increases treatment options for patients with heart failure. While some patients receive the device as a bridge to a heart transplant, LVAD may also be recommended as a way to prolong and improve quality of life for patients who are not transplant candidates. People diagnosed with heart failure often face multiple medical challenges, and comprehensive treatment is provided by a multidisciplinary team.

The Cardiovascular Center at GW Hospital offers many advanced diagnostic and treatment services for patients with heart disease and vascular disorders. These include cardiac catheterization, interventional tools like balloons and stents to treat blockages in the vessels, and specialized care for heart rhythm disorders and cardiac surgery, including coronary artery bypass surgery.



To learn more about advanced cardiac care at GW Hospital, visit gwhospital.com/heartcare.



VIRTUAL REALITY TECHNOLOGY

takes patients and
doctors inside the brain

Danielle Collins exercises religiously and makes her health a priority, so when she was suddenly diagnosed with a serious and rare brain condition at age 27, it was a shock. She first realized that something was wrong during a Pilates class, when she felt a sharp pain in her head that continued to bother her for the next couple of days. “It was the worst headache of my life,” she recalls. ▶



Back to her active routine, Danielle Collins is grateful for the “super-team” at GW Hospital that helped save her life.

Encouraged by her neighbor, she went to see a doctor near her home in Bethesda and discovered that she had a brain bleed caused by arteriovenous malformation (AVM), an abnormal connection between the arteries and veins. "Never in my life had I heard of AVM," says Danielle. "The worst thing I'd ever had was food poisoning."

She was admitted to GW Hospital, where her medical team explained everything that was happening with support from Precision Virtual Reality™ technology, an advanced system that gives patients a 360-degree view inside their own anatomy. Using a touch screen and a virtual reality headset, Danielle was able to get different views of her brain by turning her head and moving the joy stick.

She says that seeing the images helped "take away the fear of the unknown," and she was able to process her diagnosis and treatment plan on a physical and emotional level. It was "revolutionary," she says.



The technology helps doctors, as well, by enabling them to map out alternate surgical approaches ahead of time

and find the safest and best possible option, explains her doctor, **Anthony Caputy, MD, FACS**, chairman of the Department of Neurosurgery.

In the days before her craniotomy procedure to remove the AVM, Danielle recalls how the doctors and staff went out of their way to reassure her. Along with Dr. Caputy, her "super-team" included Wayne Olan, MD, director of interventional and endovascular neurosurgery; and board-certified neurosurgeon Walter Jean, MD. "I had the best level of care I could have asked for," she says.

After her surgery, Danielle again used the virtual reality technology, this time to confirm that the AVM was gone. Seeing the results for herself alleviated any potential anxiety and reaffirmed that she was going to be okay. "To be able to see that is amazing," she says.

She is now fully recovered and back to her active routine. Through her personal experience, she's been inspired to start the "Healing Home Fund," an initiative that raises money to help support family members so they can be with their loved ones in the hospital.

Throughout everything that happened, she remains grounded in her faith and says that GW Hospital is where she was meant to be. "The level of care I felt was unparalleled to any I've ever felt in my life," she says.

Learn more about virtual reality technology at gwhospital.com/vr.



A promising surgical tool

As Danielle's story illustrates, virtual reality technology can have a meaningful impact on the treatment of neurological conditions, such as aneurysms, brain tumors, and intracranial and vascular conditions like AVM. It can also be useful in teaching basic surgical anatomy to medical students and educating residents, so they can train on surgical approaches.

Many of the possible uses for the technology are yet to be realized, Dr. Caputy says. Already its application is being expanded at GW Hospital to benefit patients and doctors in the treatment of thoracic conditions. Learn more on the next page, and find out how this advanced tool is bringing even greater insight and precision to patient care.

THE NEXT FRONTIER IN VIRTUAL REALITY TECHNOLOGY

GW Hospital's Thoracic Surgery Department is the first in the nation to trial Precision VR™ by Surgical Theater - a patient specific 360° virtual reality imaging platform for patient engagement, surgical planning and intraoperative visualization.



Much like the brain, the chest has major blood vessels and anatomy where millimeters matter when performing advanced medical procedures. To support surgical planning and patient education, the

use of Precision Virtual Reality™ (VR) technology has expanded at GW Hospital from neurosurgery (described on pages 6-7) to thoracic conditions involving the lungs and chest. Also, the hospital has been awarded a medical education grant to study the usefulness of VR imaging as a tool for staging lung cancer, says **Keith Mortman, MD**, director of thoracic surgery. Staging involves assessing the extent to which cancer has spread.

Dr. Mortman notes that the VR platform can be beneficial for treating patients who have a mass in their chest that may be next to or invading other structures. The advanced 360-degree view enables surgeons to better see where structures, vessels and airways are in relation to one another. This can help determine the best treatment and whether certain surgeries can be safely and effectively performed.

Dr. Mortman explains that surgery is not recommended for tumors that have spread to the middle part of the chest, between the

lungs. VR technology can potentially help to identify if a mass has invaded that area, and thereby avoid unneeded procedures. In the event that surgery is recommended, more precise views can help direct treatment. "Sometimes it can change the approach," Dr. Mortman says. For example, instead of going through the front of the chest, the surgeon may decide that it's better to go through the side.

Along with the potential for improving medical care, VR capabilities also offer other advantages. Patients can put on the goggles and become an "avatar" walking through their chest, Dr. Mortman says. This can provide a new and compelling way to help patients better understand their diagnoses, and be more involved in their treatment. ■



To learn more about thoracic surgery and lung cancer screening at GW Hospital, visit gwhospital.com/lungcare.

Special arrival: New camera technology helps keep parents and newborns close

GW Hospital now offers NicView™ technology in the neonatal intensive care unit (NICU) to help parents stay connected with their babies 24/7. With NicView, small cameras are placed near the infant's bed, allowing parents to see their babies in real time from their smartphones and computers. Log-in credentials are provided for access to a secure portal that can be shared with other loved ones.



Mohamed A. Mohamed, MD, director of the newborn services division, says the cameras are part of a “bigger picture” aimed at keeping moms and babies together from the moment of birth to encourage bonding and promote healthy starts. This has traditionally

been more challenging for families in the NICU, and the cameras have helped fill a need, he says.

Andrea Payne and Scott McNichols were among the first parents to use the hospital's NICU cameras when their baby girl, Sage, was born 11 weeks early and required specialized care. “Although we knew she was in good hands, it helped ease our minds to be able to see her,” says Andrea. “Any time I was feeling overwhelmed, especially at night preparing milk to take to the hospital, I could go on NicView.”

Andrea says that she and Scott chose to have their baby at GW Hospital because of the “collaborative care” model, which combines midwifery support with comprehensive hospital and OB care. Especially for new parents who want to start building strong connections with their baby right away, the NicView cameras can provide an amazing asset, say board-certified

nurse midwives Hannah MacIntyre and Michelle Clausen. Keeping moms and families involved can set families up for success and support better outcomes, they say.

Andrea says she and Scott never expected to need the NICU, but when a pregnancy complication arose, it was reassuring to have the full support and resources of their collaborative GW Hospital team behind them. Their baby girl is now home with them, Andrea says, and is “doing great.” ■

To learn more about maternity services at GW Hospital or register for a prenatal tour, visit gwhospital.com/birth, or call 888-449-3627.





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*For men between the ages of 40 and 70, without a history of prostate cancer.

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