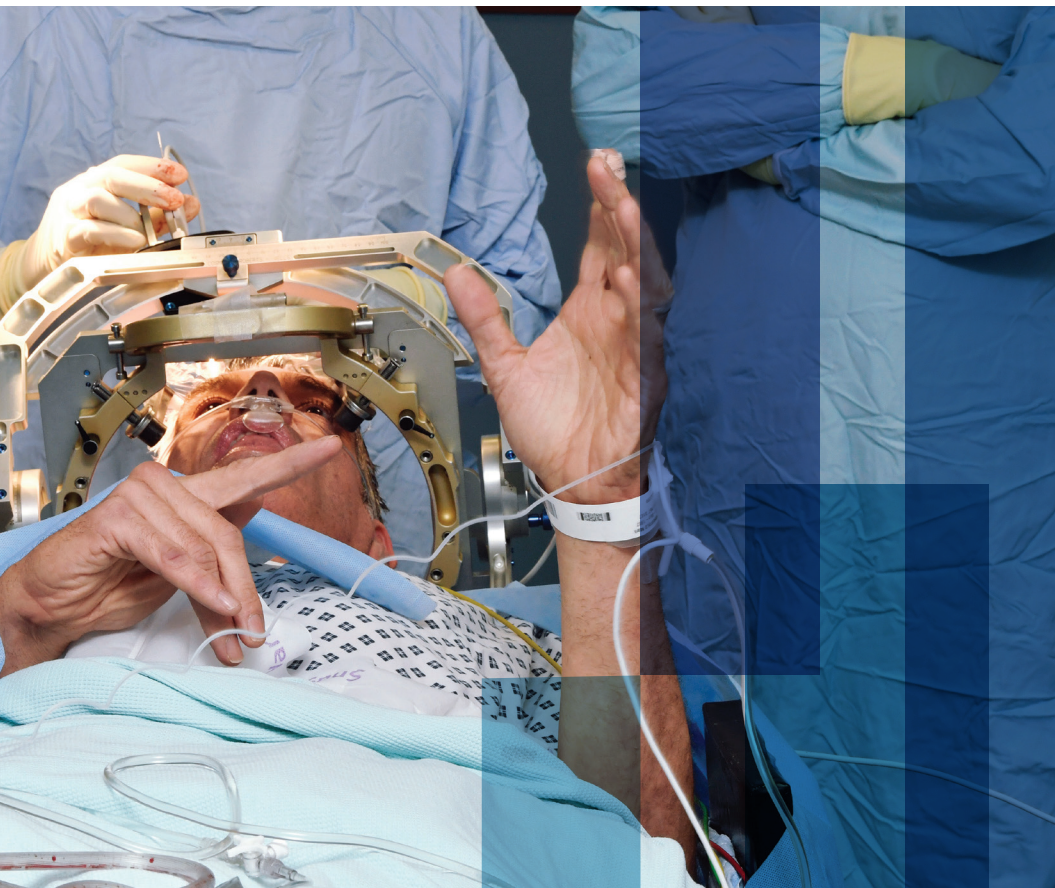


Clinical Practice Today

Multidisciplinary Program for Deep Brain Stimulation



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News Briefs



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One in 12 Patients With Multiple Cancers Carry Inherited Genetic Risk

A new study reveals that about one in 12 patients who are diagnosed with two or more different types of cancer were born with a mutation in a known cancer-risk gene. This discovery could reshape how genetic testing is offered to patients with cancer. The study by Duke Health researchers is published in the *JAMA Oncology*.

Using data from the UK Biobank, which includes genetic and health information from hundreds of thousands of participants, the team analyzed 96 established cancer-predisposition genes across 11 common cancers. This included the *BRCA1* and *BRCA2* genes, which are well known to be associated with cancer. They found that 8.36% of individuals with multiple cancer diagnoses had a rare pathogenic variant in one of these genes. Notably, the study confirmed associations between *BRCA2* and cancers not traditionally linked to the gene, such as bladder and lung cancers.

The study's authors note that the elevated frequency of inherited cancer risk genes in this group warrants broader access to genetic screening, which could inform treatment decisions, guide screening for additional cancers, and alert family members to potential inherited risks.

"As more patients survive their first cancer, we're learning that many carry inherited genetic mutations that put them at risk of developing additional cancers," says Kathleen Cooney, MD, senior author of the study.

"Knowing this opens the door to earlier screening, more personalized treatment, and the chance to protect family members through genetic testing," Cooney says.

Two-Dose Antibiotic Offers New Hope for Treating Deadly Staph Infections

A new study shows that a simplified, two-dose intravenous (IV) antibiotic treatment may be just as effective as traditional, long-term IV therapy for serious staphylococcus bloodstream infections, offering patients a safer and easier path to recovery.

Led by researchers at Duke Health and funded by the National Institutes of Health, the study tested the antibiotic dalbavancin against the standard of care—antibiotics delivered through a peripherally inserted central catheter (or PICC line).

The findings suggest that dalbavancin, given in two doses one week apart, can treat the infection without the risks and burdens of a PICC line, which often requires weeks of specialized nursing care at home or in the hospital and is associated with risks such as limited mobility, blood clots, and additional infections.

The study is published in *JAMA*. Duke researchers explain that the results are significant, given how prevalent and dangerous staph infections can be.

"This study expands the treatment options for patients and their doctors," says Thomas Holland, MD, corresponding author. "Dalbavancin offers a way to complete therapy without the hassle and hazards of long-term IV access. That's a meaningful shift in how we care for patients with serious infections."

The researchers note that dalbavancin may be particularly beneficial for vulnerable populations. A cost-effectiveness analysis is underway to assess broader healthcare system impacts associated with the reduced hospitalization times dalbavancin allows.



PHOTO CREDIT: Jacob Wackerhausen/Getty Images.

Recognizing and Addressing Patient Burnout Before It Derails Care

By Emily Paulsen

The day-to-day struggle of living with chronic disease can lead to patient burnout—that feeling of being worn down by the constant stress of managing disease symptoms and medications. Patient burnout can show up in a variety of ways, such as declining engagement, missed visits, and missed medications. These can all have clinical implications, such as increased emergency department usage, hospitalization, and complications.

Recognizing and acknowledging the problem can go a long way to helping patients manage burnout and improve clinical outcomes. “Recognizing burnout as part of the medical picture is essential,” says Coni Dennis, DNP, RN, NE-BC, a nurse executive specializing in chronic disease management. “Burnout should really be seen as a signal to adjust support, not as a sign of personal weakness or clinical or patient failure,” she adds. “It’s a sign



PHOTO CREDIT: Anastasia Havrysh/Getty Images.

that we need to adjust our sails to meet the changing winds of the patient's circumstance."

When Burnout Is Most Likely To Occur

Patient burnout can occur any time over the course of a chronic illness but may be more prevalent at certain times. For children with chronic illness, the teenage years can be some of the hardest, Dennis says, explaining that some studies show as many as 50% of teens with diabetes experience burnout. For young adults, transitions from home to college, from college to the workforce, or from being single to starting a relationship can raise the risk of burnout. Risk also rises as the number of chronic diseases an individual has increases, as well as when other factors are present, such as low socioeconomic status, lack of health insurance, or minority group identification.

Burnout can also flare with a new diagnosis, complication, or a change or intensification of treatment. "Some of the worst burnout comes at the very beginning; it can be like a fire hose," says Jen Singer, a chronic disease patient advocate who is an 18-year non-Hodgkin lymphoma survivor and a heart failure patient.

She explains that many patients have already gone through a lot by the time they receive their diagnosis. "You're fighting the disease, and you're also fighting the system that you have to go through to get better. It's exhausting, it's lonely, and it's very difficult," she adds.

Recognizing and Acknowledging the Problem

Integrating specially designed assessment tools into patient visits can help clinicians pick up on signs of patient burnout. Dennis points to "distress surveys" that are available for diabetes, chronic obstructive pulmonary disease, heart failure, and other chronic conditions. Other general tools, like the World Health Organization's Well-Being Index, can apply to patients with any condition.

She also advises that clinicians ask open-ended questions that normalize this issue. One of her favorites is: What is the most difficult part of managing your condition right now? "Asking one good, open-ended question can elicit more information than a series of five closed questions," she says.

Singer agrees that acknowledging patient burnout and frustration makes a big difference. She explains that most patients look forward to seeing their doctor because they hope the doctor will offer something that helps manage their condition, which can boost their motivation and mood.

"ASK" Open-Ended Questions

- **Acknowledge** the challenge ("Managing this can be tough...")
- **Solicit** more information about what's most difficult right now
- **Keep** the door open for more sharing

It Takes a Village

Singer points out that opportunities to recognize and acknowledge patient burnout exist outside of the 15-minute office visit. When all practice staff—from the front desk team to the office administrators to clinicians themselves—lead with empathy and understanding, it makes a huge difference.

Dennis highlights that patients with chronic diseases spend an average of 74 minutes a year with their provider. However, research shows that it can take 400 to 600 minutes of support for patients to feel comfortable managing their condition and improving outcomes. The good news is that the clinician and the practice don't have to provide all of that care. "It's not necessarily all on the provider practice," Dennis says. "It takes a village."

Dennis advises clinicians to be ready to refer to support groups and other services that can provide the training patients need to feel more comfortable managing their condition. Some insurance companies offer supplemental benefits that cover the cost of diabetes education or other services that can help address burnout. In addition, websites like Findhelp.org or the Administration for Community Living's eldercare locator (<https://eldercare.acl.gov/home>) can help identify community-based organizations that offer transportation or financial or emotional support for people with different health conditions.

In addition, equipment suppliers, specialty pharmacies, and other ancillary medical services are increasingly offering support for burnout. For example, some offer coaching and education, which can help the patient feel heard, add an additional layer of support, and guide the patient through complex management needs.

Turning Recognition Into Action

Addressing patient burnout doesn't require reinventing care. It requires recognition, empathy, and connection to the right resources. When practices approach burnout as part of the clinical picture—not a personal failing—they help patients build resilience and stay engaged in their care.

Collaborative Robotic Bronchoscopy and Lung Nodule Resection

By Nicole Jablonski

A 71-year-old male patient with a history of liver cancer presented to thoracic surgeon Jacob Klapper, MD, with a small lung nodule and an enlarged lymph node. Due to the patient's history of liver cancer, resection of the lung nodule was recommended. Because the nodule was small, traditional robotic lung resection techniques would be challenging.

"This nodule was so small that it would be difficult to feel with the robotic instrumentation alone in a direct surgical approach, so I worked with interventional pulmonologist Coral X. Giovacchini, MD, to provide a collaborative robotic approach," Klapper explains.

Innovative Resection Coordination Expedites Treatment

Klapper and Giovacchini have unique expertise in performing robotic bronchoscopy and lung resection procedures together, and the patient was a good candidate. "Using the patient's CT scan, I mapped out their airways in real time using 3D imaging techniques. Then I located the nodule and placed a small coil marker that would illuminate with the light of the surgical robot, so Dr. Klapper could very easily see the nodule and perform the robotic resection with extreme precision," says Giovacchini.

After Giovacchini placed the coil, the patient was immediately prepped for surgery. Klapper guided the robot through small incisions in the patient's chest. "I then turned on the light attached to the robot, and it illuminated the coil. I removed the nodule and the coil that Dr. Giovacchini inserted, and the procedure was efficient and successful," says Klapper.

Benefits to Patients

With this approach, Klapper can more precisely remove just the nodule, even if it is very small, sparing the loss of larger portions of the lung and giving patients a better quality of life long term. "This is a major benefit to patients," says Klapper. "Small nodules don't need big resections, so this technique allows us to remove just the nodule and surrounding tissue."

The combined robotic bronchoscopy and robotic lung resection procedure is completed in one surgical day under general anesthesia. In the past, patients had a biopsy completed through a separate outpatient procedure, then waited for pathology results before scheduling a clinic appointment to review results and treatment recommendations. Now, treatment is expedited in a coordinated fashion. "Patients with a lung nodule see the multidisciplinary team in one clinic appointment and receive a collaborative treatment plan that day, leaving with a more streamlined surgical plan and process overall," says Klapper.

"Having the robotic bronchoscopy and resection together saves patients time and speeds up the time to both diagnosis and potentially curative resection for patients with a suspicious or small lung nodule. This is particularly important for patients who are being treated for another cancer or are facing recurrence," says Giovacchini.

Thoracic surgeon and surgical oncologist Hai Viet-Nguyen Salfity, MD, MPH, is also performing this collaborative resection procedure with Giovacchini, further expanding access to more patients.

Learn how to refer a patient to
Duke Health:



Aligning Purpose and Practice: Tips To Update Your Mission Statement

By Haifa Kassir, MD



PHOTO CREDIT: Panchenko Vladimir/Shutterstock

Well-crafted mission, vision, and values statements aren't fluff. They're "critical operational tools that guide decision-making, strengthen culture, and clarify the purpose and focus of the practice to staff, physicians, patients, and other partners," says Cristy Good, MPH, MBA, CPC, CMPE, senior editor at Medical Group Management Association (MGMA). Together, these building blocks give practices a foundation for strategic planning, growth, and adaptability.

The mission statement is "the operational focus that guides you in your daily work," explains Good. To stay relevant, she recommends reviewing it every three to five years—or sooner if your practice has undergone significant changes. The process should involve multiple stakeholders: leadership, clinicians, staff, and even patients. She emphasizes that the goal is to gather input on "where the practice is right now, what it needs to focus on to achieve its long-term vision, and how it will get there," noting that if the current statement no longer reflects that feedback, it's time for an update.

Steps for Updating Your Mission Statement

- **Gather input:** Ask your team and a few trusted patients what makes your practice distinct and what they value most about it
- **Define your purpose:** Summarize what you do, who you serve, and why your work matters
- **Draft and refine:** Keep it short—one or two sentences that feel natural to say aloud
- **Test for alignment:** Make sure it reflects your values, goals, and patient experience
- **Share and apply:** Feature the statement on your website, in patient materials, and in staff communications so it becomes part of everyday decisions

Hallmarks of a Strong Mission Statement

- **Easy to remember:** Concise enough for everyone to recall
- **Easy to say:** Sounds natural when spoken aloud
- **Aspirational:** Motivates and inspires your team
- **Credible:** Genuinely reflects what you deliver
- **Clear and concise:** Avoids jargon or vague language
- **Actionable:** Connects directly to daily operations
- **Values-driven:** Grounded in your practice's principles

Once your new mission statement is finalized, share it broadly and reference it often. Good underscores that leaders should "ensure that both organizational and employee goals are set within its focus." That consistency helps transform a mission statement from a few words on paper into a guidepost that keeps your practice aligned, resilient, and patient-centered.

Early Referral to Liver Transplant Improves Outcomes

By Jordan McCollum

Past liver transplant guidelines may have resulted in physicians waiting too long to refer patients to transplant. According to guidance in *Clinical Gastroenterology and Hepatology* by Lindsay Y. King, MD, MPH, medical director of the Duke liver transplant program, relying solely on the Model for End-Stage Liver Disease (MELD) score may delay referral until patients are too sick to receive a liver.

“Historically, we’ve prioritized allocation based on MELD score, predicting 90-day survival,” King continues. “However, MELD was originally developed to determine how to allocate organs—not to identify which patients need a transplant.”

Early referral gives patients time to explore options, including transplant before they become too ill for such interventions. They can establish relationships and rapport with transplant team members and prepare for a later transplant. Patients may even improve without the need for transplant, as the multidisciplinary team focuses not just on medical care but also on nutritional and psychosocial support.

Research Updates Previous Guidance

This diagnostic use of MELD has led some physicians to delay referring patients for liver transplant. Historically, individuals with a MELD score above 15 could be considered for transplant. However, longer-term studies and more recent data have shown that patients with MELD scores as low as 11 might benefit from liver transplantation.

Studies have also shown that persistent outdated beliefs among providers can delay referrals, especially around contraindications. “Many guideline recommendations related to contraindications have been updated recently,” King says. “The six-month rule for alcohol has been updated, and there’s no BMI limit for liver transplant.”

Contraindications including obesity, age, alcohol/substance use, and other comorbidities should be evaluated on a case-by-case basis. “Other than severe cardiopulmonary disease, contraindications for transplant tend to be relative,” says King.

“We strive to get everyone who needs a liver transplant into the process,” King continues. “We work with the mentality of ‘How do we get to a transplant?’ and focus on opportunities rather than barriers.”

When To Refer for Liver Transplant

Rather than basing referral on MELD score, King advises that decompensation be the primary consideration for determining whether a patient should be referred for transplant candidacy evaluation. Patients with the following conditions can be referred:

- Cirrhosis with decompensation including ascites, variceal bleeding, hepatic encephalopathy
- Hepatocellular carcinoma
- Unresectable perihilar cholangiocarcinoma
- Pulmonary complications of liver disease: hydrothorax, hepatopulmonary syndrome, portopulmonary hypertension
- Polycystic liver disease with significant symptoms
- Primary sclerosing cholangitis with recurrent cholangitis episodes
- Alcohol-associated hepatitis not responsive to corticosteroids
- Acute liver failure

**Learn how to refer a patient
to Duke Transplant**



**Guidance for Timely Referral
to Liver Transplantation, *Clinical
Gastroenterology and Hepatology***



Creating an Inclusive Office Setting for Neurodivergent Patients

By Meredith Lidard Kleeman



PHOTO CREDIT: Ingorthand/Getty Images.

Neurodivergent individuals process information, communicate, and respond to their environment in ways that may differ from those who are neurotypical. Although “neurodivergence” is not a medical diagnosis, it encompasses clinically recognized conditions such as:

- Autism spectrum disorder
- Attention-deficit/hyperactivity disorder
- Dyslexia
- Dyspraxia
- Tourette syndrome

These and other neurologically based differences affect how patients experience sensory input, understand instructions, and interact during visits. Even small adjustments in your office setup and communication style can make a meaningful difference for such patients.

Tara Chandrasekhar MD, BSc, a child and adolescent psychiatrist at the Duke Autism Clinic, shares the following tips for creating an office that’s welcoming to people with environmental sensitivities or communication challenges.

Create a low-sensory environment. Many neurodivergent people have sensory challenges and find sitting in a waiting room overstimulating. Slightly dim the lights (or turn half of them off), lower window shades a bit,

eliminate extra noise like music or television, or create a separate, sensory-friendly waiting area. Alternatively, allow patients to wait in their cars or at an outside seating area and text them when their exam room is ready.

Be mindful of communication differences. Autistic individuals may have difficulty processing information and responding in real time. And some neurodivergent conditions can affect a patient’s ability to detect internal signals. This can translate to unexpected communication challenges in the exam room. According to Zoe Gross, director of advocacy at the Autistic Self Advocacy Network, “asking ‘What number is your pain?’ is a question that just doesn’t make sense” to some people. Clinicians may need to gather different information and do more objective tests to see what’s going on.

Schedule strategically. Chandrasekhar works with her team to schedule patients according to their needs. “If someone struggles with waiting or sensory overload, we’ll offer them the first or second appointment of the day,” she says.

Prepare in advance. Standard intake procedures can be updated to include questions about any accommodations a patient might need, as well as how they prefer to communicate with providers.

Offer visual guides. Medical supporters for autistic people often create visual materials for their personal use that detail every step in a doctor visit, Gross says. But “telling everyone what to expect would be beneficial to all patients,” adds Gross.

Turn interests into icebreakers. Build rapport with patients by asking them about their hobbies or interests. Chandrasekhar explains that “not only is it a great way to distract them from a stressful exam, but it’s also fun! I’ve learned tons of stuff about bugs, space, and movies that I wouldn’t have learned otherwise.”

Neurosurgeons and neurologists combine expertise to effectively treat Parkinson disease

Multidisciplinary Program for Deep Brain Stimulation

By Nicole Jablonski

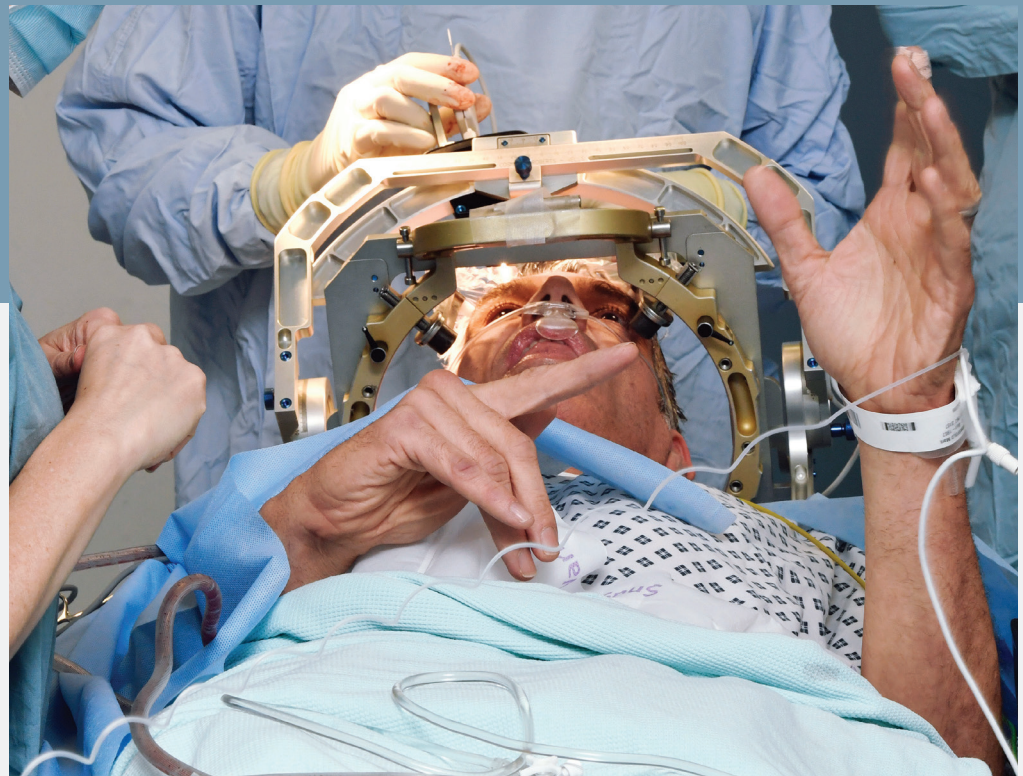


PHOTO CREDIT: DR P. MARAZZI/Science Source.

Through close collaboration between neurologists and neurosurgeons, Duke Health is expanding its expertise in deep brain stimulation (DBS) to treat advanced Parkinson disease. Specifically, DBS is being used to successfully treat patients with Parkinson disease, dystonia, or essential tremor who are not responding well to medications or who are experiencing adverse effects.

“DBS is a great treatment for many conditions. We often see dramatic changes in patients’ symptoms, which continue long term. Our multidisciplinary team works to thoroughly evaluate patients for DBS, identifying those who are most likely to achieve the highest success rates, and most patients experience positive outcomes,” says Kyle Mitchell, MD, neurologist and movement disorders specialist.

Care Coordination for Patients

Duke neurosurgeons and neurologists have developed innovative clinical and surgical approaches for DBS and a coordinated process for patient referrals, evaluations, and treatment.

Mitchell explains that the team has refined the process for patients being evaluated for DBS to see both the neurologist and neurosurgeon in a single day. “We have a designated navigator who supports patients with scheduling the evaluation process to make sure it is comprehensive, convenient, and efficient,” he says.

The assessment for DBS requires extensive testing, including an off-medication/on-medication evaluation, imaging, and neuropsychiatric testing. After testing, the multidisciplinary team convenes to review results and determine whether the patient is a good candidate for DBS.

Leading DBS Technology and Techniques

DBS has been approved by the U.S. Food and Drug Administration (FDA) to treat movement disorders for more than 25 years and continues to evolve with new technologies and techniques. “We’ve employed the latest methods to accurately place the device with surgical precision and perform long-term, personalized adjustments to the therapy,” notes Mitchell.

Duke has a team of four highly respected neurosurgeons performing advanced DBS surgeries, all of whom collaborate with neurologists during the procedure. Many cases are performed under light anesthesia with sedation to allow for patient-awake confirmation of the device, whereas others are done under general anesthesia. “In cases where partially awake surgery is not an option, we use interventional MRI-guided placement of the device to ensure accuracy,” explains Mitchell.

Neurologists are very involved in both the planning and execution of the procedure to record brain activity and test the device. “We’re having conversations back and forth in the operating room,” says Mitchell. “It’s highly collaborative.” This partnership continues postoperatively to closely monitor the patient’s symptoms and adjust the device as necessary.

Leading Research in the Field

DBS is evolving with new devices and technologies to improve the level of care for patients. “We have some of the best biomedical engineers in the country at Duke working on DBS to improve our devices and targets,” says Mitchell.

Duke also has open clinical trials focused on optimizing DBS devices. “Many of our patients are offered participation in trials as a continuation of their care,” notes Mitchell. “We’re also one of the first programs to offer a new FDA-approved DBS device that auto-adjusts to symptoms. If brain waves signal slowness or stiffness, the device automatically turns up to control them.”

If patients are still experiencing motor dysfunction after medication therapy, early referral for evaluation is key. “We’re here to support our community neurologists by offering second opinions or solutions with advanced approaches that can relieve symptoms and improve quality of life,” Mitchell explains.

“

We’re here to support our community neurologists by offering second opinions or solutions with advanced approaches that can relieve symptoms and improve quality of life.”

- Kyle Mitchell, MD

To refer a patient for consideration of surgical therapies for movement disorder care, call 919-668-2852.

Learn more about Duke Health’s clinical trials for Parkinson disease:



New Year, New Goals: Metrics To Move in 2026

By Frank Celia

The new calendar year offers a clean slate for setting measurable performance goals. Three metrics stand out for their consistent impact on patient care and practice efficiency: patient portal adoption, appointment wait times, and preventive screening.

Portal adoption rates. Portal adoption benefits patients and practices. Engaged portal users are more likely to keep appointments, refill medications on time, and use secure messaging rather than phone calls—reducing staff workload.

Despite these benefits, surveys suggest that only about 50% of patients use their portal. One way to help engage the other half is to make sure the portal is fully functional. Sue Fletcher, RN, a nurse executive with more than 25 years of experience leading clinical operations and practice transformation, notes that practices sometimes overlook features designed to make portals more useful. For example, some never activate the “ticket scheduling” tool, which streamlines referral appointments—just one of several small adjustments that can significantly improve the patient experience.

Optimizing functionality isn’t enough—patients who initially engage with the portal may stop using it. These patients are a key target demographic for improving your practice’s portal adoption rate. Ask them about the portal at the end of exams. Are they using it? Why or why not? Patient feedback may identify simple barriers that can be addressed. “Making the portal more useful can bring back the folks who signed up five, seven years ago but didn’t find it convenient,” Fletcher explains.

Appointment wait times. Access to timely care is one of the strongest predictors of patient satisfaction and outcomes. Long waits risk disengagement, higher no-

show rates, and delayed diagnoses. For most practices, a realistic benchmark is to keep new-patient waits under three weeks and to actively monitor lost capacity from no-shows and cancellations. Fletcher recommends combining no-shows and late cancellations into a single metric “because that really is a metric of lost capacity.”

Beyond expanding hours or adding staff weekends, other ideas for increasing capacity include leveraging advanced practice providers, nurses, pharmacists, or even group visits. Fletcher advises against relying on the “third next available” metric—once common in scheduling—because it has little value in the digital age.

Preventive screening. Closing preventive care gaps improves population health and reduces long-term costs, yet adherence to screening recommendations remains stubbornly uneven. Automation now makes it possible to track who is overdue for mammograms, colonoscopies, or lung cancer screenings. “Technology has been key in improving that over the last few years,” says Andrew Resnick, MD, a nationally recognized expert in quality, patient safety, and high reliability.

Importantly, technology can identify who is overdue, but personalization drives results. Fletcher notes that, to really see this metric tick up, each message should be customized to the patient. At the most basic level, this starts by knowing what language the patient speaks and reads and how they prefer to be contacted for reminders.

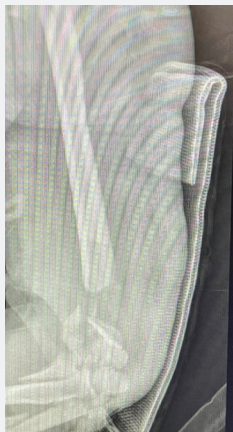
Measurable metric: Reduce average number of days to the next available new- and existing-patient appointment by three to five business days.

Measurable metric: If your practice is below 50% adoption, aim for 50% to 60% within 6 to 12 months. If you’re already between 50% and 60%, target 65% to 70%.

Measurable metric: Many primary care organizations aim for ≥ 80% completion rates for age-appropriate cancer screenings, though goals will vary by specialty and patient population.

Innovative Technique Rebuilds Patient's Arm After Traumatic Accident

By Jordan McCollum



After a 2021 rollover accident in an all-terrain vehicle, a woman in her 30s sustained damage to her internal organs as well as proximal and midshaft fractures of the left humerus. The upper extremity fractures involved ulnar nerve injury, proximal forearm injury, and circumferential soft tissue laceration to the bone.

"This was one of the worst elbow injuries I've treated," says Duke Health orthopaedic

surgeon David S. Ruch, MD, chief of the hand, wrist, and upper extremity division. "She was missing 4 inches of the bone into the elbow. Realistically, she was a candidate for amputation in the midshaft humerus."

After coordinating with the Duke orthopaedic trauma team and other specialties to stabilize the patient and treat her other injuries, Ruch needed to find a way to replace a significant portion of the patient's upper arm. "When you're missing that much bone around a joint, it's very problematic," explains Ruch. "It requires a creative solution."

Graft Technique Replaces Bone

Ruch used an innovative graft technique to rebuild the patient's humerus in multiple surgeries. After stabilizing the arm, Ruch installed a long plate to hold the upper arm to length using a bone-cement spacer infused with antibiotics. The spacer helped create a membrane conducive to integrating a subsequent bone graft.

Approximately six weeks later, Ruch and team removed the cement spacer to place an autologous bone-graft from the patient's femur. "You can only obtain such a massive amount of bone from the femur," says Ruch.

Orthopaedic trauma surgeon Malcolm DeBaun, MD, assisted with obtaining the graft.

With the original long plate holding the elbow at 90 degrees, the team installed additional plates on either side of the bone to stabilize the arm while the graft incorporated into the humerus as well as the extant bone fragments in the elbow. To preserve function and sensation, "we also transposed the ulnar nerve out of the way of the injury, and the nerve was able to recover," Ruch adds.

Retaining Mobility, Utility

After the graft healed, Ruch removed the long plate. With the help of occupational therapy, the patient was able to regain 60 degrees of motion in her elbow and retain the use of her hand, now two years postsurgery. "It's a million percent better than it was," the patient says. "I am so grateful just to have an arm, and it works great."



Learn how to refer a patient to Duke Orthopaedics:



High-volume program offers advanced procedures for alternate access, valve-in-valve, and more

TAVR for Complex and High-Risk Cases

By Jordan McCollum

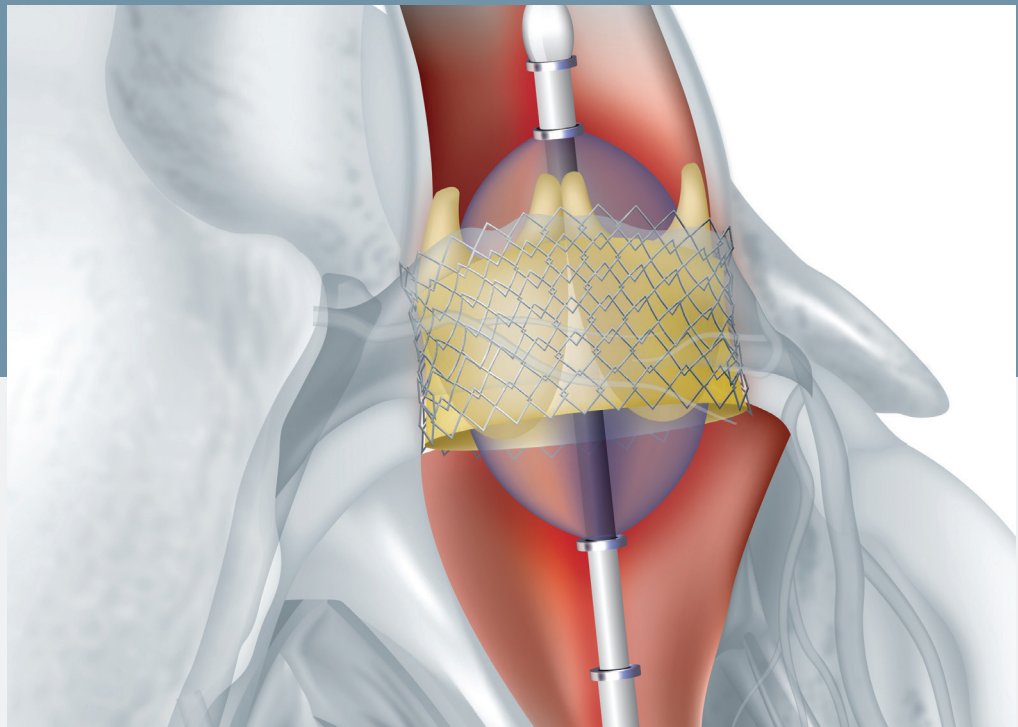


PHOTO CREDIT: liangpv/Getty Images.

Symptomatic severe aortic stenosis (AS) carries a mortality rate of 50% at two years without intervention, and there are currently no effective medical therapies for the condition. While surgical intervention was once the only option, transcatheter aortic valve replacement (TAVR) has surpassed surgery as the most common treatment strategy.

Duke Heart has the experience and expertise in TAVR to treat advanced

and complex cases, including alternate access, redo interventions, and valve-in-valve (ViV) procedures. Since its first TAVR in 2012, Duke has completed more than 2,500 procedures, ranging from straightforward to challenging.

“We have a broad portfolio of high-risk TAVR treatments,” says heart surgeon Jeffrey G. Gaca, MD, Duke section chief of adult cardiac surgery. “We often accept higher-risk patients from other centers, and we’re happy to review cases.”

Advanced Procedures, Advanced Care

Duke offers TAVR for standard presentations, as well as those with more challenging features, such as:

- Unfavorable anatomy for femoral approach
- Leaflet modification
- Redo or repeat intervention
- ViV replacement

“If a patient has been told they can’t have TAVR because of a problem with femoral access, we can use alternate access such as transcarotid or transaxillary approaches,” says Gaca. “If the valve is considered too small for redo TAVR at another center, we would be happy to see that patient to see what we can do.”

Gaca notes that Duke has also expanded its transcatheter treatments to include ViV replacement for the mitral valve, as well.

TAVR Research Expands Indications

Research led by Duke cardiologist Sreekanth Vemulapalli, MD—a leading enroller in clinical trials—has shown that patient outcomes for TAVR are better at high-volume centers, which are those that average more than 150 procedures annually. Now averaging more than 350 TAVRs annually, Duke ranks as North Carolina’s highest-volume TAVR center, as measured by composite scoring from the Society of Thoracic Surgeons/American College of Cardiology Transcatheter Valve Therapies (STS/ACC TVT) Registry. The registry’s composite scoring system was initially developed by Duke Clinical Research Institute physicians and statisticians.

Duke clinical trials have also demonstrated that TAVR is noninferior to surgical intervention for patients with severe AS and low surgical risk—even through five-year follow-up outcomes. The department continues to advance the science of heart valve treatment, including current studies on new TAVR devices, percutaneous mitral repair, and transcatheter pulmonic valve treatment.

Research like these trials led to the FDA expanding the approval of TAVR to include treating asymptomatic AS in May 2025. “Often, we’ll see patients who don’t recognize symptoms, but they’ve been subconsciously

changing their lifestyle, an incremental creep toward lack of activity,” Gaca explains. “Once we’ve fixed their valve, they say, ‘I didn’t realize how much I’d limited myself.’ TAVR is a great option for AS.”

Lifetime Management for Aortic Valve Disease

Given that surgical approaches may be more appropriate for younger patients with aortic valve disease, TAVR provides an option for those ineligible for surgery. This includes patients older than age 70 or those with end-stage renal disease; physical or mobility limitations that preclude effective rehabilitation; or serious pulmonary issues such as dependence on supplemental oxygen.

Working with cardiologists, cardiac surgeons, and referring providers, Duke takes a team approach to shared decision making with patients to determine the best course of treatment. “We’re focused on lifetime management,” says Gaca. “This isn’t just about getting a patient through a single procedure; we create a plan for them going forward beyond their initial valve treatment. What will we do in 10 years when this first valve wears out?”

Gaca emphasizes referring providers’ role in this management: “We’re here to help, and we’re more than happy to have referring providers provide continued care.”

“

We’re focused on lifetime management. This isn’t just about getting a patient through a single procedure; we create a plan for them going forward beyond their initial valve treatment.”

- Jeffrey G. Gaca, MD

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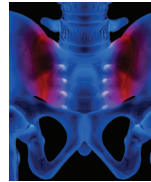
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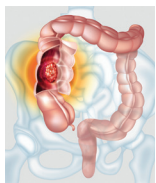
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