

Brain Surgery Breakthrough:
Technology Drives Precision
Tumor Removal

Clinical Confidence:
Mayo Clinic Collaboration
Provides Valued Second Opinion

DNA Defense:
Personalized Medicine
Boosts Disease Prevention

Connections

A health and lifestyle publication from NorthShore University HealthSystem | Fall 2015 | northshore.org/connections



 **NorthShore**
University HealthSystem

MAKING A SPLASH

Orthopaedic Expertise Revives
Young Athlete's Dreams

Healthcare for what's next.

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“The precision of our advanced surgical techniques is unprecedented,” said Neurosurgery Chairman **Dr. Julian Bailes**, referencing new NorthShore technology to remove brain tumors once considered inoperable.

 WATCH A VIDEO

NorthShore Neurological Institute Surgical Director Julian Bailes, MD, walks you through the amazing technology of Synaptive Medical's BrightMatter surgical navigation system for brain surgery and its dramatic impact on patient care. Tune in at northshore.org/synaptivevideo.

- The BrightMatter system features the following three key elements:
1. Robotic arm, which allows hands-free positioning of optics and light with optimal precision
 2. Surgical optics with great resolution and a high and wide depth of field
 3. Guide tool with 3-D imaging to better navigate the surgical path

Brain Surgery Breakthrough *Technology Drives Precision Removal of Tumors*

By Susan J. White

NorthShore University HealthSystem (NorthShore) is the first health system in Illinois—and one of just a handful nationally—to implement an advanced surgical optics and robotic guide system that enhances minimally invasive brain surgery capabilities. The innovative system is now being used at NorthShore Neurological Institute to remove brain tumors and blood clots deep in the brain.

GREATER PRECISION, REDUCED RECOVERY TIME

Synaptive Medical's BrightMatter™ surgical navigation system mounts a powerful optics platform onto an automated positioning system. When used in conjunction with another advanced neurosurgery technique already available at NorthShore, it creates an unparalleled method for neurosurgeons to more precisely remove tumors and blood clots once considered inoperable. The minimally invasive technique also means less pain, faster healing and shorter hospital stays.

“With this new and sophisticated technology, the precision of our advanced surgical techniques is unprecedented and ultimately means improved outcomes and reduced recovery time for patients,” explained Julian Bailes, MD, the Bennett-Tarkington Chairman of Neurosurgery and Surgical Director of the Neurological Institute. “It’s very exciting for us to be able to help more and more patients. We’re gratified by NorthShore’s investment in this extraordinary technology.”

REFINED PRESURGICAL PLANNING

“The brain is the last organ in the body to be conquered in terms of its internal anatomy,” said Dr. Bailes, who holds an academic appointment at the University of Chicago Pritzker School of Medicine. “The safety and effectiveness of working inside the brain is the last frontier and the most complicated with 100 billion nerve cells and 100,000 miles of connecting fibers.”

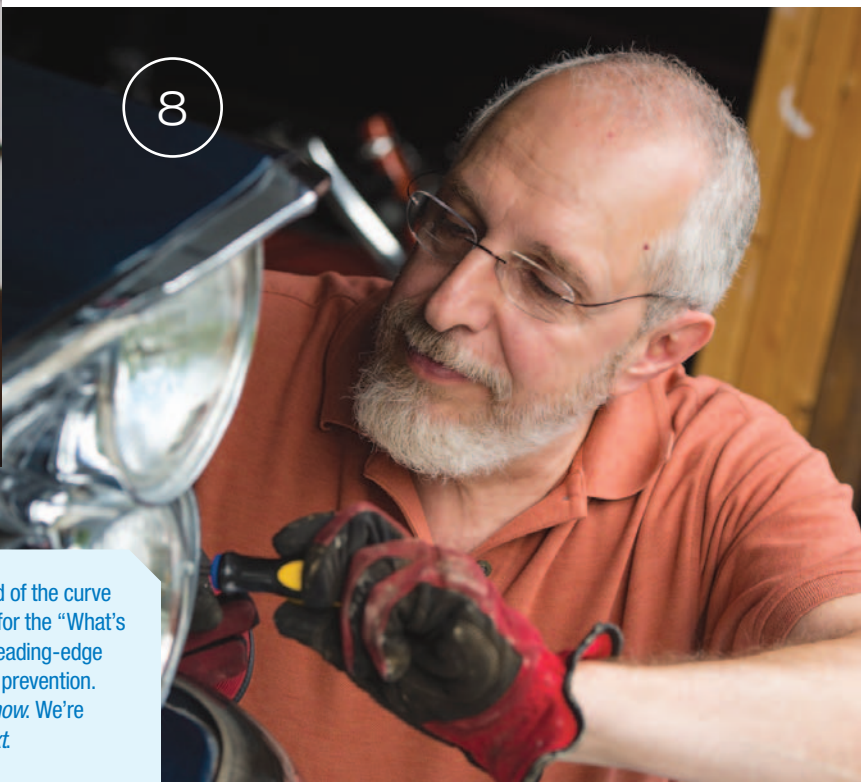
With the BrightMatter system, neurosurgeons also can study the wiring of a particular patient’s brain before surgery to plan the safest route. “It allows us to conduct operative planning like never before,” added Dr. Bailes. “The technology empowers us to refine our efforts to operate safely and more precisely for continued improvement in patient outcomes.”

NEUROLOGICAL EXPERTISE, REMARKABLE OUTCOMES

NorthShore Neurological Institute operates one of the highest-volume programs treating brain tumors in the Midwest. Go online and see how our nationally recognized experts provide an extraordinary healthcare experience to every patient at northshore.org/h1, or to make an appointment, call **(847) 492-5700 (Ext. 1256)**.



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Healthcare for what's next.

NorthShore is always thinking ahead of the curve when it comes to your health. Look for the "What's Next" logo on stories featuring our leading-edge innovation in disease treatment and prevention. NorthShore is not just here for you *now*. We're helping you get ready for what's *next*.

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Navigating Perimenopause

Connections, Volume 8, Issue 4

Editor: **Phil Rozen**
Director, Corporate Communications

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ON THE COVER: Former college soccer player **Katie Nasenbenny** has set her sights on an Iron Man triathlon, following advanced surgeries at NorthShore for ACL injuries in both of her knees.

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Katie Nasenbenny talks about her recovery from multiple ACL injuries. Hear the story in her own words at northshore.org/katiesstory.

KATIE'S COMEBACK

Advanced Orthopaedic Technique
Repairs Double Knee Injury

By Susan J. White

Katie Nasenbenny of La Grange found her passion at age 5: soccer. She joined a competitive club in fifth grade, excelled at the sport in high school and was recruited to play in college. Her freshman year at the University of Iowa, Nasenbenny ran, kicked and dodged her way through the first full game of the varsity season.

The next day at practice, the unexpected happened. Nasenbenny tore the anterior cruciate ligament (ACL) in her right knee.

"It was a major bummer," Nasenbenny recalled. She had surgery in Iowa to repair the torn ACL and dedicated herself to rehab. Her efforts paid off, and she was able to play soccer again the following summer.

INJURY DÉJÀ VU

Her knee health was short-lived. Later that season during a game at Purdue University, Nasenbenny made a hard cut to her right and instantly knew she had reinjured her ACL.

Her parents—who were in the stands at that game—received a fervent recommendation from other local parents for NorthShore Orthopaedic Institute Surgeon Mark Bowen, MD. Dr. Bowen, a sports medicine specialist with knee and shoulder injury expertise, has worked with many professional athletes and serves as team physician for the Chicago Bears.

After the initial consultation, Nasenbenny and her parents felt totally confident that Dr. Bowen was the right choice to repair her knee. "I researched him and really liked what he had to say. I could also tell he was a really good man," said Nasenbenny.

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Katie Nasenbenny turned to NorthShore expertise after suffering ACL injuries in both of her knees.





Get Back in Your Zone

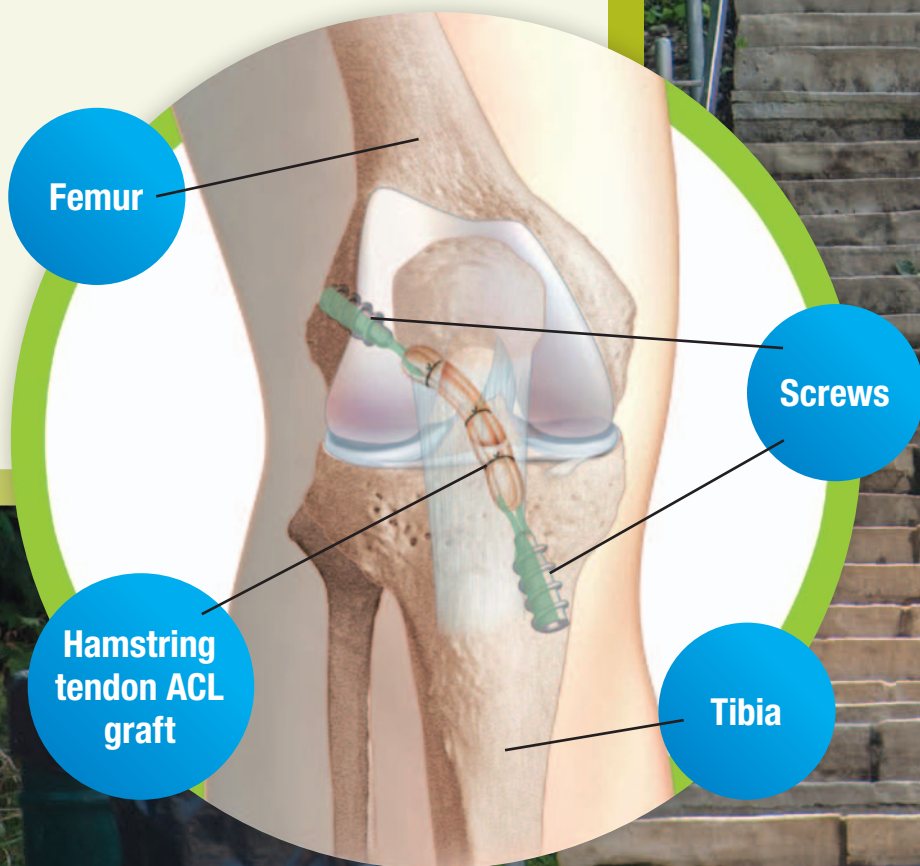
The multidisciplinary Sports Medicine Program at NorthShore Orthopaedic Institute helps athletes of all ages and fitness levels remain active, healthy and pain-free. NorthShore's board-certified and fellowship-trained Orthopaedic Sports Medicine surgeons are experts at diagnosing and treating sports-related injuries, including ligament sprains, muscle/tendon strains, fractures and cartilage injuries. Our specialists also offer expertise in concussion, sports performance and rehabilitation to help keep serious competitors and weekend warriors active both in life and in the game. Explore our capabilities online at northshore.org/h2. To make an appointment, please call (847) 492-5700 (Ext. 1257).

Did You Know?

The anterior cruciate ligament (ACL) is the most important of the four ligaments that stabilize the knee. Injuries to this ligament are common and can lead to knee instability and further damage to other structures in the knee. Surgeries to reconstruct the ACL have been refined over the last 30 years.

In the advanced CoLS® repair technique—available at NorthShore Orthopaedic Institute—the patient's own hamstring tendon is harvested and quadrupled, then grafted to the bone to replace the torn ACL. The hamstring graft is suspended by tapes that are secured into the femur and tibia using screws. This strong fixation minimizes slippage while the graft heals into the bone.

After two successful knee surgeries at NorthShore, **Katie Nasenbenny** is back to full strength and plans to do a marathon and perhaps an Iron Man triathlon.



“We looked at what Dr. Bowen had accomplished in his surgical career and were confident in his talent,” said Nasenbenny’s father, Dane. “But even more importantly, he made us feel like Katie was his only patient. My wife and I have been in sports our whole lives, and this guy is the best. His bedside manner and how he explains things are everything you would look for in an orthopaedic surgeon.”

TRAILBLAZING EXPERTISE

A recognized expert in the innovative CoLS® technique, Dr. Bowen was one of the first American surgeons to perform the advanced reconstructive procedure that involves harvesting one of the patient’s hamstring tendons, which is then quadrupled and used as a graft to repair the torn ACL. The tissue-sparing procedure is less painful and results in an easier rehab than the traditional method of using the patellar tendon to repair the knee, explained Dr. Bowen.

“One of the main benefits of the CoLS technique is the strength of the graft,” said Dr. Bowen, who describes it as a superior fixation for the graft, by drilling sockets in the bone to implant the new graft rather than the conventional technique of drilling all the way through the bone for attachment. “The chance of these grafts slipping is much, much less,” he said.

There were additional challenges in Nasenbenny’s surgery, as Dr. Bowen had to navigate around previous hardware used to secure the original graft performed in Iowa, but the CoLS procedure was a complete success. Dr. Bowen has performed hundreds of these procedures on amateur and professional athletes alike and now teaches the technique to other surgeons.

Nasenbenny again devoted herself to rehab and was able to return to college

soccer. “I wasn’t ever the best player or the most talented player, but no one worked harder than I did,” she said. During her junior year, the Iowa women’s team took second place in the Big Ten Conference tournament and made it to the NCAA playoffs, the first time in the school’s history.

“It was awesome. I played a lot and was proud of our success,” said Nasenbenny. “I wouldn’t have been able to do that if Dr. Bowen hadn’t fixed my knee.”

ARE WOMEN MORE SUSCEPTIBLE?

ACL tears are not uncommon in college and professional sports. But female soccer players are among the highest-risk groups.

“There’s been a lot of research and a lot of theories,” said Dr. Bowen, who believes it is likely that a combination of factors—including the intensity of the game, anatomy and limb alignment—account for the high injury rate.

Sadly, before her final season, Nasenbenny suffered another injury. This time she tore her ACL in her *left* knee during practice.

“I knew right away,” she said. “We just needed to pick a date that would work with my schedule and get back home for surgery with Dr. Bowen.”

Nasenbenny had another successful surgical repair with Dr. Bowen using the same CoLS technique. Now a college graduate, the 23-year-old is no longer playing soccer. After rehab from her last surgery, Nasenbenny is once again back to full strength but channeling her athletic pursuits in new directions. She runs, bikes and swims, and she plans someday to do a marathon and perhaps an Iron Man triathlon.

“She can absolutely continue as an active athlete,” said Dr. Bowen. “It’s very rewarding as a surgeon to cheer for patients like Katie.”



Orthopaedic Institute Surgeon **Dr. Mark Bowen** is a recognized expert in the advanced CoLS technique, which uses patients’ own hamstring tendon to repair their torn ACL.

ACL 101

NorthShore Orthopaedic Institute Surgeon Mark Bowen, MD, offers frank advice on treatment and recovery from ACL and other knee injuries. Get the facts at northshore.org/h3.

Avert Injury

Follow these tips to reduce your risk for an ACL injury:

WARM UP: Get blood circulating to your muscles and joints before you start any physical activities.

STRETCH: Stretching helps warm up your muscles and increases flexibility to lower risk for injury.

STRENGTHEN: Squats and lunges can help build strength in your thighs and hips, which provide support to your knees.

REST: Get adequate sleep and alternate strenuous workouts to minimize injury risk.



After suffering her second ACL injury, **Katie Nasenbenny’s** parents **Dane and Mary** received multiple recommendations to consult NorthShore Orthopaedic Institute Surgeon **Dr. Mark Bowen**.

Healthcare
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GENE-POWERED PRESCRIPTION

Your Unique DNA Influences Your
Response to Medications

By Martha Floberg

You Can Help

Help shape the next generation of medicine by participating in NorthShore's Genomic Health Initiative at the Center for Personalized Medicine. Adult NorthShore patients can donate a blood sample and allow our researchers to study your DNA in combination with research data obtained from your Electronic Medical Record (EMR). All DNA samples and data obtained from patients' EMR are de-identified and kept strictly confidential. Genomic Health Initiative participants now receive a Starbucks eGift as a thank-you for their contribution. Sign up today at northshore.org/h6 or call (847) 492-5700 (Ext. 1259).

An antique car buff, Tony Cirrincione underwent comprehensive genetic testing at NorthShore to better understand how his body responds to different kinds of medication.

When he suffered excruciating kidney stone pain a few years back, Tony Cirrincione's doctor prescribed an opioid to help manage the pain. But rather than providing relief, the medication only bred frustration. Opioids are designed to reduce the intensity of pain signals reaching the brain, but they did not work in Cirrincione's case.

"These strong pain relievers may be standard protocol for this kind of condition," he explained, "but they didn't relieve my pain. I actually felt much better after taking ibuprofen instead."

Cirrincione's experience illustrates how a person's unique DNA can affect his or her response to certain medications. This burgeoning area of medicine—known as pharmacogenomics—is transforming patient treatment and outcomes through NorthShore's new Center for Personalized Medicine.

EYE-OPENING INSIGHTS

Curious about the importance of genetics in prescribing medication, Cirrincione had a simple cheek swab at NorthShore's Pharmacogenomics Clinic.

"Tony underwent genetic testing to study 15 genes specifically involved in metabolizing and transporting drugs," explained Mark Dunnenberger, PharmD, BCPS. "NorthShore's Pharmacogenomics Clinic is the only clinic of its kind nationwide with services available to all patients regardless of condition or disease. It focuses on how an individual's genetic makeup, or DNA, influences his or her response to medications."

Cirrincione was wowed by the results. "The findings surprised me because the results had specific information related to me—and to my family," he said. "Now this data is in my medical record and can serve as an important reference point when my doctors need to make decisions about my care."

The Clinic includes a team of genetic counselors, specially trained pharmacists and medical geneticists who help patients understand and use genetic test results to optimize current and future treatment with targeted, effective therapies.

By providing information about specific genes, pharmacogenomics improves the likelihood that patients will receive the safest and most effective drug and dosage when they need drug therapy. Drugs most affected by a person's genetic makeup include some medications to treat heart conditions, depression, gastrointestinal disorders, infectious disease, epilepsy and chronic pain.

MINIMIZING TRIAL AND ERROR

"Tony's case is a perfect example of how pharmacogenomics is most valuable when a patient needs medication," said Dr. Dunnenberger. "When we looked at his genetic test results, we found that he has two variants in his mu opioid receptor gene. This means he inherited a gene mutation and has no normal receptors to respond to opioids. If he had these results up front, his physicians would have been able to provide pain relief sooner."

Cirrincione's results also revealed that based on his genetics, his body would not respond to certain anticoagulants—or blood thinners—such as Plavix®. "My parents and brother died of cardiovascular disease," he added. "Having this information in my medical record ahead of time will influence treatment decisions if I ever develop heart disease myself."

In addition to benefiting patients with individually tailored drug therapy, pharmacogenomics gives physicians a powerful clinical decision-making tool with immediate and practical applications.

"Typically, physicians use evidence-based information on which medication is most likely to work and prescribe it on a trial-and-error basis," said Dr. Dunnenberger. "Pharmacogenomics now empowers them to get ahead of a medical problem by giving them discrete, concrete data to better choose the best drug therapy for an individual patient with a particular condition."

EDUCATE YOURSELF

When it comes to medications, one size does not fit all. A drug that works well for one person may not benefit another. View a visual diagram that further explains Personalized Medicine and how pharmacogenomics is transforming healthcare at northshore.org/h5.



Dr. Mark Dunnenberger helps patients understand how their body genetically responds to different medications at NorthShore's new Pharmacogenomics Clinic.

The Right Drug at the Right Dose

NorthShore's new Pharmacogenomics Clinic at the Center for Personalized Medicine offers genetic testing and interpretation to enhance drug therapy, from selection to dosage. A simple cheek swab or small sample of your saliva or blood allows our pharmacogenetics team to study your DNA for a better idea of how you may respond to specific types of medications.

To find frequently asked questions about drug-gene testing and answers from Mark Dunnenberger, PharmD, BCPS, visit northshore.org/h4. Or, to make an appointment, please call (847) 492-5700 (Ext. 1258).



After genetic testing, **Tony Cirrincione** was surprised to learn that his body does not respond to a commonly prescribed pain medication.



“My grandchildren love that granny can eat with them,” exclaimed Geneva Fulwiley, who traveled more than 50 miles to NorthShore for life-changing treatment that helped her regain the ability to swallow food.

Here for You

From Chicago Heights to the Wisconsin state line and beyond, NorthShore is here to serve you. With four hospitals and more than 1,900 primary care physicians and specialists, we offer a team of experts representing a vast array of specialties for you to select from for your care. Easily search for physicians online via the Web, tablet or smartphone at northshore.org/h7, or call (847) 492-5700 (Ext. 1274) to schedule an appointment.



EFFECTIVE THERAPIES

Swallowing dysfunction not only affects eating and drinking—it also can impact your ability to speak and clearly communicate. NorthShore’s talented speech pathologists work closely with otolaryngology specialists to provide comprehensive voice, airway and swallowing services. To make an appointment, please call (847) 492-5700 (Ext. 1260).

Appetite for Life

Swallowing Expertise Helps Grandmother Regain Her Ability to Eat

By Susan J. White

Imagine not being able to savor your favorite foods or sip a beloved beverage. Picture replacing family meals with a feeding tube—your only source of nutrition. For Geneva Fulwiley, a Chicago Heights resident, eating and drinking became a distant memory following treatment for throat cancer in 2006.

Fulwiley had retired her dreams of dining at restaurants or relishing the taste of desserts, as her doctors at the time offered no solutions.

“The hardest part was always the holidays, to see the cake coming out and see everybody gathered,” said 59-year-old Fulwiley. “I would leave the room and pour my meal into the feeding tube. I didn’t want to let other people know,” she recalled.

MULTISPECIALTY COLLABORATION

Thanks to a fortuitous recommendation from a stranger, Fulwiley found out about the remarkable work of NorthShore Otolaryngologist Mihir Bhayani, MD, an expert in head and neck cancer. The appointment—which was 50 miles from her home—proved to be life-changing.

After examining Fulwiley, Dr. Bhayani determined that she was a good candidate for targeted therapy with Speech Pathologist Jamie Allison, who has specialized training and experience treating patients dealing with weakened throat muscles and swallowing challenges related to chemotherapy and radiation treatments.

The pair met once a month over a six-month period, and the results were dramatic. Fulwiley regained her ability to swallow by starting with soup, bananas and yogurt, eventually working her way toward more solid foods.

“Jamie did a phenomenal job working with her, and Geneva was very motivated,” said Dr. Bhayani, who holds an academic appointment at the University of Chicago Pritzker School of Medicine.

“Geneva was really eager and made the effort,” noted Allison, who pointed to the importance of developing patient-specific exercises and collaborating with a team of physicians and nurses focused on helping individual patients. Success stories like Fulwiley’s are very gratifying, added Allison.

A SLICE OF DELICIOUS LIFE

“Where Geneva is now is part of what drives me to do what I do,” said Dr. Bhayani, who along with Allison, is proud of the progress Fulwiley has accomplished.

“My grandkids are so happy,” Fulwiley said, beaming. “I have treats in the house for them, and they love that granny can eat with them. Dr. Bhayani and Jamie were both wonderful and with me every step of the way.”

Otolaryngologist Dr. Mihir Bhayani (left) and Speech Pathologist Jamie Allison partnered on Geneva Fulwiley’s care.



Breathing Easier

Patient Credits “Dream Team” in Winning Lung Cancer Battle

By Martha Floberg

Judith Kowal has been a loyal patient at NorthShore Evanston Hospital since the 1960s. It is a healthcare partnership that has served her well, especially when a dangerous health scare surfaced five years ago. Following unexplained weight loss, Kowal’s affiliated primary care physician Jeffrey Geohas, MD, sent her for a CT scan that found a mass in her right lung confirmed to be cancer.

“I’ve always had good health,” Kowal said, “but when I was diagnosed with advanced lung cancer, it was life-changing. Fortunately, I knew where to turn.”

MULTISPECIALTY TEAM EFFORT

Kowal credits what she calls her “dream team” of physicians and nurses at NorthShore Kellogg Cancer Center for an amazing experience that saved her life. That team was led by John Howington, MD, NorthShore Division Head of Thoracic Surgery, and Medical Oncologist Alla Gimelfarb, MD, who both hold academic appointments at the University of Chicago Pritzker School of Medicine.

“When patients are at Stage 3A lung cancer that has spread to the lymph nodes, it takes more than one approach to treat

them,” explained Dr. Howington, who also serves as Vice Chair of Surgery for Quality and Patient Safety.

Dr. Howington noted that every NorthShore patient with lung cancer is followed throughout his or her journey by a multispecialty group of medical oncologists, radiation oncologists, thoracic surgeons, pathologists, radiologists and a specialized oncology nurse navigator.

“We have a well-coordinated team that meets weekly,” said Dr. Gimelfarb. “Judy is a prime example of how well it works. Our treatment plan for her included an aggressive regimen of chemotherapy and radiation, followed by surgery.”

Kowal’s presurgical treatment reduced the lung tumor by 90 percent. Then, using a minimally invasive thoracoscopy technique, Dr. Howington removed the lower portion of her right lung. After surgery, Kowal received another round of chemotherapy to keep her cancer in remission.

LEADERS IN ADVANCED CARE

According to Dr. Howington, only a limited number of medical centers perform minimally invasive lung cancer surgery. Even fewer offer the combination of therapies that Kowal received. “NorthShore patients also



HERE FOR YOU

Kellogg Cancer Center’s Thoracic Oncology Program offers the most advanced care for patients with lung cancer and other thoracic malignancies. Watch a video to learn more about these life-saving capabilities at northshore.org/h8.

have access to national and local clinical trials,” he added.

“In addition, we offer screening CT scans for individuals at high risk for lung cancer so we can diagnose patients at an early stage and intervene right away,” added Dr. Gimelfarb.

Today, Kowal receives regular checkups and is cancer-free. “I can’t speak highly enough of all those involved in my treatment,” said Kowal. “They’re so smart, always straightforward and have a great sense of humor. You can’t get better than that!”

Medical Oncologist **Dr. Alla Gimelfarb** and Thoracic Surgeon **Dr. John Howington** collaborated on Judith Kowal’s lung cancer treatment plan.



Lung cancer survivor **Judith Kowal** is back to enjoying creative pursuits, including furniture painting at her Rogers Park home.

ASSESS YOUR RISK

Early detection is a proven and successful strategy for fighting many forms of cancer, including lung cancer. NorthShore offers screening with low-dose computed tomography (CT) for people at high risk for lung cancer, the only recommended screening test for the disease. Medicare and many insurance companies now cover this diagnostic lung cancer screening for patients who meet certain criteria. For more information, please call (847) 492-5700 (Ext. 1275).



Healthcare
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"We've built our own little health community," said **Joseph Flanagan**, who received preventive health counseling for himself and his extended family based on genetic testing from the team at NorthShore's new Center for Personalized Medicine.



WATCH A VIDEO

Joseph Flanagan talks about the personalized preventive care his family received through NorthShore's Center for Personalized Medicine. See his story at northshore.org/josephsstory.



FAMILY FOCUS

Extended Clan Learns the Value of
Personalized, Preventive Healthcare

By Susan J. White

F

amily is enormously important in Joseph Flanagan's world. His father was one of six sons. His mother is one of seven. Flanagan himself has five siblings, and he and his wife have five children. Thirty members of the Flanagan clan recently traveled together for a family vacation.

Now this close-knit family has a new, shared mission. It revolves around their health and identifying common genetic factors that predispose them to cardiovascular disease. Flanagan's paternal grandfather died of a heart attack at the age of 47, and three of his dad's brothers died prematurely from coronary disease.

"My dad is the oldest living Flanagan male at 77," he said. The family always thought that some of the uncles probably did not take great care of themselves. But then tragedy struck the next generation, when a cousin suffered a serious cardiac event at age 47 and another died of cardiac arrest at age 53.

THE POWER OF GENOMICS

Hoping to change the course of his family's health history, Flanagan turned to NorthShore's new Center for Personalized Medicine, which customizes patient care and treatment based on an individual's unique genetic characteristics and health history. Flanagan decided it was time for his family to learn more about what they could do to cut their risk factors for serious illness.

"The first step was to test one person from each family," explained NorthShore Cardiologist David Davidson, MD, who has specialized expertise and board certification in lipidology—or managing cholesterol. Joseph Flanagan was the first to undergo blood tests, and Dr. Davidson was able to quickly identify a fairly common genetic abnormality called lipoprotein(a) or LP(a)—which creates bad cholesterol more prone to forming coronary blockages.

continued on the next page



“We’re trying to eat as healthy as we can and exercise more,” explained **Joseph Flanagan**, prepping in the kitchen with wife **Margaret** and sons **Robert** and **Patrick**.

“When you look at a normal cholesterol panel, the numbers might not look that bad. But with this genetic factor and a family history, it needs to be more aggressively treated,” said Dr. Davidson.

Testing of additional family members revealed that Flanagan’s brothers also carry the same LP(a) genetic mutation.

“Dr. Davidson said this is likely the gene that contributed to our uncles’ shortened lives,” Flanagan recalled. “We’re trying to learn from the past generation.”

TARGETED, PREVENTIVE STRATEGIES

A former college basketball player, 51-year-old Flanagan already had fairly healthy habits, exercising several times a week and eating a reasonably healthy diet. Dr. Davidson conducted several more tests, including a cardiac ultrasound, to rule out any immediate problems and develop a baseline to measure against. Based on that data, he increased the statins (cholesterol-lowering drugs) Flanagan was on, prescribed some supplements and offered personalized dietary recommendations.

One by one, Dr. Davidson is now addressing each Flanagan family member’s risk factors and treating them with personalized and specific treatments including medication, dosage and dietary changes. “The more you can get rid of the bad cholesterol, the less chance of it attaching and blocking arteries,” he added.

“Across our family, we started sharing our medical tests, and all the boys have this gene, which gives us a higher risk,” noted Flanagan. “We can all lose a little weight, and we’re trying to eat as healthy as we can and exercise more. I really like Dr. Davidson’s measured approach. He’s not judgmental, and he’s practical about his recommendations and talking to us about eating better. We’re all embracing this together.”

Flanagan is hoping his cousins will embrace the process, too, and ultimately he and his siblings will involve their children as well.

“Without NorthShore’s focus on Personalized Medicine, this wouldn’t have happened,” said Flanagan. “It’s amazing seeing the power of this all integrated with my family. We have built our own little health community.”



HEALTH NEWS YOU CAN USE

Seeking preventive medicine and wellness information? Sign up today for NorthShore emails tailored to the needs of you and your family. Please visit northshore.org/h13.



EXPERT GUIDANCE

NorthShore Cardiologist Jason Robin, MD, answers common questions about heart disease and prevention in an online chat at northshore.org/h12.

UNIQUE CAPABILITIES

NorthShore's level of expertise in developing and interpreting advanced blood tests and other data is part of what sets its Center for Personalized Medicine program apart. But it is much more than simply expanded genetic insight. An array of NorthShore physician experts—from cardiology to neurology to cancer care—are advancing the science of genomics and quickly translating it into improved patient care and outcomes.

"There are so many people who can benefit," Dr. Davidson said. "The so-called 'walking well' who want to be more proactive about their health can take advantage of this uniquely personal genetic information and make minor lifestyle tweaks that will improve their health and cut potential risk factors."

Education is another important component in Dr. Davidson's patient care. "There's still a huge knowledge gap. For example, many people may think they're eating healthy but are quite surprised to learn what they should really be eating," he said.

Dr. Davidson's commitment to cardiac health is a personal one. "Heart disease also runs in my family. I'm named after my grandfather who died of a heart attack at 47, and that's a daily reminder of the importance of cardiac risk management."

"This is a game changer for our family. We're learning in our 40s and 50s, but we'll get the next generation involved and they'll learn how to better manage their health in their 20s," said Flanagan.



OUNCE OF PREVENTION

Looking to improve your heart health? For a visual chart that offers 10 surprising ways to keep your ticker in tip-top shape, visit northshore.org/h11.

Unlock the Mysteries in Your Genes

At the heart of many cardiovascular conditions are the genes handed down via your family tree. While you cannot change your family's genetic history, you may be able to reduce your chances of stroke or sudden death through Personalized Medicine and the integration of cardiovascular genomic information. NorthShore Cardiovascular Institute Lipidologist David Davidson, MD, specializes in cholesterol management and cardiovascular risk assessment to accurately translate your genomic information into highly individualized care. Schedule an appointment at (847) 492-5700 (Ext. 1276), or read more about these capabilities online at northshore.org/h9.



Lipidologist
Dr. David Davidson



Joseph Flanagan and his sister Charlotte Ahern learned more about their genetic predisposition to cardiovascular disease from NorthShore Personalized Medicine experts, including Director of the Center for Medical Genetics Dr. Peter Hulick (right) and Cardiovascular Institute Lipidologist Dr. David Davidson.

Proactive Wellness

NorthShore Cardiovascular Institute recently launched a new Weight Loss Management Clinic, connecting patients with physician-led teams of specialists to help them safely and effectively lose weight and improve overall wellness and quality of life. Learn more at northshore.org/h10.

To make an appointment with one of our cardiovascular specialists, please call (847) 492-5700 (Ext. 1277).



Specialty Care for Women

NorthShore's Center for Pelvic Health brings together a team of specialists to alleviate the pain and issues of pelvic health through cutting-edge approaches, regular pelvic exams and multidisciplinary views of women's health issues. Learn more about these comprehensive services online at northshore.org/h14. To make an appointment, please call (847) 492-5700 (Ext. 1278).

Healthcare for what's next.

"This procedure changed my life," said Deborah Herring, who received innovative care at NorthShore for pelvic organ prolapse, a common condition among women.

Trailblazing Treatment

NorthShore Pioneers Advanced Procedure for Pelvic Organ Prolapse

By Martha Floberg

Deborah Herring of Glenview is by no means a typical 61-year-old. For this former competitive gymnast, activity is the name of her game. She lives out her passion for athletic pursuits and savors her physically demanding job in construction rehabilitation.

But last year, Herring found it more difficult to maintain her active lifestyle when she developed pelvic organ prolapse. A common condition among women who have had children, pelvic organ prolapse occurs when the muscles and tissue surrounding the uterus and bladder weaken. It often leads to pain, pressure and urinary problems.

"Prolapse is something women typically don't like to talk about," said Herring. "Most women who have the condition just live with it, because they're unaware of treatments that can help."

REPAIR WITHOUT HYSTERECTOMY

That was not the case for Herring, who went online and read about a pioneering technique at NorthShore developed by Urogynecologist Roger Goldberg, MD, to repair prolapse without a hysterectomy.

Herring recalled saying to herself, "He's the one who's going to do my surgery."

"In the past, the only option women had for certain types of pelvic organ prolapse was total hysterectomy," explained Dr. Goldberg, who holds an academic appointment at the University of Chicago Pritzker School of Medicine. "But new surgical techniques to preserve the uterus now offer patients more effective and diverse treatment options than ever before."

DISCOVERING NEW TREATMENT OPTIONS

Dr. Goldberg has led NorthShore's efforts in developing minimally invasive uterine preservation surgery and studying its safety and effectiveness. His research recently was published in the *International Urogynecology Journal*. He has been invited all over

the world to teach the new procedure. Physicians also have traveled to NorthShore to observe and learn.

"I'm proud that NorthShore has contributed this innovative technique in women's health and that I work with talented partners to offer such a wide array of treatments," he added.

Additionally, a three-year National Institutes of Health (NIH) randomized clinical trial is under way to compare NorthShore's technique with traditional hysterectomy. "This NIH study demonstrates that other top-notch medical centers see this as a valuable option," said Dr. Goldberg, who noted the surgery might not be an option for every patient.

"This procedure changed my life," remarked Herring, who also enjoys the convenience of managing her care on the go through the secure online portal NorthShoreConnect. Recently enhanced features allow patients to schedule more specialty care appointments, set reminders and communicate with their doctors on the Web or via the mobile app.

"Prolapse is so common," Herring added. "Women should know they have a range of options to treat it—especially at NorthShore."



NorthShore Urogynecologist **Dr. Roger Goldberg** pioneered a new technique that repairs the prolapse without hysterectomy.

POST-CHILDBIRTH CONDITIONS: MORE INSIGHTS ONLINE

Pelvic organ prolapse is one of many conditions that can develop after childbirth. Urogynecologist Roger Goldberg, MD, answers commonly asked questions about "Your Body After Baby" online at northshore.org/h15.

Deep Dive into DNA

Researchers Seek Genetic Path to More Effective Diabetes Treatments

By Martha Floberg

Clinical research under way at NorthShore's Center for Personalized Medicine could have a far-reaching impact on millions of Americans with diabetes. A team of investigators led by NorthShore Endocrinologist Liana Billings, MD, MMSc, has launched new studies and clinical trials to more deeply examine the DNA architecture that underlies diabetes.

The hope is that by understanding an individual's diabetes based on his or her unique genetic makeup, clinicians can better personalize care for a disorder that is often treated with a one-size-fits-all approach.

DISCOVERY THROUGH COLLABORATION

"One of our more exciting studies is PHARMGen, a pharmacogenomics study involving more than 1,000 patients at four medical centers across the country," explained Dr. Billings. "By analyzing an individual's DNA, we'll better understand how genetic variations influence a patient's response to the drug Metformin—a commonly used oral medication to treat Type 2 diabetes."

In collaboration with researchers at The University of Chicago Medicine, Dr. Billings also is spearheading FIND MODY (Maturity-Onset Diabetes of the Young), a research project that focuses on patients younger than age 40 with diabetes caused by genetic mutations.

"More than 80 percent of individuals with MODY are misdiagnosed and inappropriately treated for Type 1 or Type 2 diabetes," said Dr. Billings, who also holds an academic appointment at the University of Chicago Pritzker School of Medicine. "As a result, they could be prescribed unnecessary insulin injections instead of an oral medication to control blood glucose."

"One of the key barriers to diagnosing MODY is identifying appropriate patients for genetic testing," added research partner Rochelle Naylor, MD, a diabetes specialist at the University of Chicago. "Our collaboration with NorthShore has broad implications for translating knowledge of diabetes genetics into improved outcomes and can serve as a model for other diseases as well."

Healthcare
for
what's
next.

Part of the collaboration includes using NorthShore's sophisticated Electronic Medical Record (EMR) system to identify and contact patients who have used Metformin in the past, who are taking it currently or who are at high risk for MODY. These patients are offered genetic testing as part of the research.

"Diabetes is an incredibly diverse disease with many subtypes," said NorthShore Endocrinologist Theodore Mazzone, MD, the Louise W. Coon Chair of the Department of Medicine. "We have very little information about which type responds better to specific therapies. This research will help us improve our approach to diagnosing and treating this common disease."



DIG INTO DIABETES FACTS

NorthShore recently launched a diabetes registry, where patients can find the latest information on diabetes clinical trials and research. Go online at northshore.org/h16 or call (847) 492-5700 (Ext. 1279).

Join the Conversation

Learn about *what's next* in managing diabetes. Participate in a live Web chat with NorthShore Endocrinologist Liana Billings, MD, MMSc, on Tuesday, Dec. 1, from noon to 1 p.m., at northshore.org/h17.

NorthShore's Dr. Liana Billings (left) and Dr. Rochelle Naylor from the University of Chicago are collaborating on genetic research to improve care for diabetic patients.



Second-Opinion Expertise

As the only Chicago-based health system within the Mayo Clinic Care Network, NorthShore is able to offer patients the benefit of experts from two leading health systems working together for the best patient outcomes.

“The interaction between NorthShore and Mayo allows several physicians to



Mayo Clinic Oncologist
Dr. Steven Alberts

think through a situation,” explained Mayo Clinic Oncologist Steven Alberts, MD, who collaborated with NorthShore Oncologist Matt

Adess, MD, on Mickie Jaffe’s colon cancer care plan. “It’s a positive for the patient to draw on the knowledge of this additional expertise,” he added.

Discover how NorthShore and Mayo Clinic are working together for you. Visit northshore.org/h18 or call (847) 492-5700 (Ext. 1280).

Healthcare, Simplified

Take advantage of our secure online portal—**NorthShoreConnect**—to stay on top of your health, including enhanced scheduling options for hospital-based procedures such as colonoscopies. With our mobile app or on the Web, you can schedule appointments, set reminders, message your physician and more. Sign-up is fast and easy at northshore.org/h19.



Colon cancer survivor **Mickie Jaffe** savors time with wife **Cheri** and their two daughters **Samantha** and **Sophia**, thankful for the collaborative care he received from NorthShore and Mayo Clinic.

Life-Affirming Care

Patient Values Second Opinion from Mayo Clinic Expert

By Susan J. White

Looking at the healthy glow on Mickie Jaffe’s face, it is hard to believe this 85-year-old just fought an intense battle with Stage 3 colon cancer. Thanks to the expertise of clinicians at NorthShore Kellogg Cancer Center—in collaboration with Mayo Clinic—Jaffe is feeling fine, and is back to his happy and healthy routine with his wife Cheri and their two young daughters.

TEAM APPROACH TO SPECIALIZED CARE

What Jaffe originally thought was a bad case of diverticulitis—an infection of the colon—turned out to be something far more serious: colon cancer that had spread to his lymph nodes. Fortunately, Jaffe was under the care of a seasoned medical team. NorthShore Surgeon James Spitz, MD, successfully removed the cancerous tissue, followed immediately by a consultation with Kellogg Cancer Center Oncologist Matthew Adess, MD, for postsurgical treatment. Both physicians hold academic appointments at the University of Chicago Pritzker School of Medicine.

Because the cancer had spread, Dr. Adess recommended that Jaffe undergo six months of chemotherapy. But he opted to leave radiation out of the treatment plan, as he did not believe there was a proven benefit. Still, in an effort to review all options, Dr. Adess suggested a second-opinion consultation through NorthShore’s ongoing collaboration with the Mayo Clinic Care Network. Jaffe welcomed the opportunity to have experts from two leading health systems weigh in.

“I was confident with Dr. Adess’s recommendation, but it was certainly an additional boost of confidence to have the Mayo consult,” said Jaffe.

“I strongly believe in second opinions,” noted Dr. Adess, whose recommended course of treatment was reinforced by Mayo Clinic Oncologist Steven Alberts, MD.

“I think all of us treating complex cancers find it helpful at times to review and discuss care plans with other clinical colleagues,” said Dr. Alberts. “We do electronic consults with a number of institutions, and the people at NorthShore are clearly very knowledgeable experts in cancer care.”

CUSTOMIZED TREATMENT PLAN

Chemotherapy was not easy, but Jaffe persevered. “Dr. Adess was always reassuring and even offered to reduce the strength of the chemo if necessary. He made us feel like it was doable,” recalled Cheri Jaffe. The couple also praised the NorthShore Highland Park Hospital Kellogg Cancer Center team for their care and compassion.

“The nurses and everybody were terrific,” said Jaffe. “They really took good care of me.”

Jaffe did what it took to ensure the best chance of beating the cancer, added Dr. Adess. “He’s a vibrant guy and doing great with a life expectancy of many years.”



Kellogg Cancer Center Medical Oncologist **Dr. Matt Adess** suggested a second-opinion consultation through the Mayo Clinic Care Network.

Navigating Perimenopause

Are you a woman between the ages of 40 and 55? If so, fluctuating hormones can wreak havoc in your body as you journey through perimenopause—the six- to 10-year period before actual menopause hits. Hot flashes, sleepless nights and low libido are a few of the symptoms that may leave you wondering if you will ever feel normal again.

NorthShore Integrative Medicine Specialist Mina Ryu, MD, and affiliated OB/GYN Linda Holt, MD, who both hold academic titles at the Pritzker School of Medicine, offer expert insight into new drugs and natural remedies that can help you feel better.

Q. What's the best way to control symptoms?

A. Dr. Holt: The most effective treatment is hormone replacement therapy using estrogen, but that carries a risk for cancers. Newer drugs called selective estrogen-receptor modulators—such as tamoxifen and raloxifene—have the benefits of estrogen on certain tissues and can help prevent breast cancer. Flibanserin will likely be the first drug approved by the FDA for treating low libido in women, but side effects and other factors may limit its use to treat perimenopausal symptoms.

Q. What about effective natural therapies?

A. Dr. Ryu: Nutritional strategies include adding soy and flax to your diet. Moderate exercise, reducing stress and maintaining a healthy body weight also can ease symptoms. Botanicals like black cohosh and red clover can help cool hot flashes. You might also consider acupuncture, with or without traditional Chinese herbal medicine. Since stress can make symptoms worse, I always encourage patients to try meditation, yoga and breathing exercises. When these are not adequate, bioidentical hormone replacement therapy may work well. These are hormones that are chemically identical to those your body produces and are available as a prescription. It's best to individualize treatment to provide relief while preventing age-related illnesses and minimizing cancer risk.



MAKE AN APPOINTMENT

NorthShore OB/GYN physicians offer complete, lifelong care to help women preserve good health at every age and stage. Call (847) 492-5700 (Ext. 1281) to make an appointment.



Integrative Medicine Specialist
Dr. Mina Ryu (left) and Obstetrician/
Gynecologist Dr. Linda Holt

Q. Are there additional medication options for women who can't or don't want to take estrogen?

A. Dr. Holt: Drugs known as selective serotonin reuptake inhibitors can help with hot flashes, as does the neurologic drug gabapentin and the hypertension medication clonidine. They are less effective than estrogen therapy, but still very helpful.

COPING WITH CHANGE

NorthShore Gynecologist Margaret Salamon, MD, offers suggestions for relieving some of the discomforts that menopause may bring. Read her tips at northshore.org/h20.

Save These Dates

Nov. 27, 2015–Jan. 3, 2016

NorthShore Sponsors Wonderland Express
Chicago Botanic Garden

Annual holiday exhibition delights children and parents alike with holiday lights and a festive train that winds through miniature Chicago landmarks.

May 7, 2016

Understanding Alzheimer's Disease
Chicago Botanic Garden

At this NorthShore Center for Brain Health event, author Lisa Genova, PhD, signs her best-selling book *Still Alice*, which has brought the reality of Alzheimer's disease to life for more than a million readers.

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STAY UP TO DATE on all NorthShore community seminars and events online at northshore.org/h21.



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From common colds
to common denominators.

Healthcare for what's next.

At NorthShore, we're always thinking ahead of the curve. From taking the time to talk to creating new approaches for treating everyday illnesses to analyzing your DNA for potential hereditary risks. At NorthShore, we're not just here for you now. We're helping you be ready for what's next.