

NORTHWELL CONNECTIONS

VOLUME 2, 2023

CARDIAC HEALTH SPECIAL REPORT

**Do you need a
heart checkup?**

PAGE 10

**A no-surgery
cancer solution**

PAGE 13

**Saved by
strangers —
and hands-only
CPR**

PAGE 6



FROM MATHER HOSPITAL

Contents

VOLUME 2, 2023



News & notes..... 3
A sneak peek at Mather’s new lobby, new tech that’s enhancing breast cancer care and our latest awards.

3 questions for Alexandra Capece, DO..... 5
Mather’s newest breast surgeon reveals what she loves about her specialty and her favorite things about life at Northwell.

Back in the game after cardiac arrest..... 6
Last winter, speed coach Michael Gibson collapsed at a Long Island indoor sports facility. If not for skilled doctors and a group of local dads trained in CPR, he might have lost his life.

Do you need a heart checkup?..... 10
Preventive tests go beyond cholesterol and blood pressure. They’re simple, easy — and can ward off big problems. Here’s how to know if some might be right for you.

A no-surgery cancer solution 13
Noninvasive and exceptionally precise, CyberKnife radiation therapy can treat several cancers. Radiation oncologist Joseph Cirrone, MD, explains why it’s such a powerful tool.

One more look.....15
Hip, hip, hooray! Celebrating Mather’s prestigious five-star rating from the Centers for Medicare & Medicaid Services.

CONNECTIONS

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News & notes

FROM MATHER HOSPITAL AND ACROSS NORTHWELL HEALTH



OPENINGS

A fresh look

Featuring an airy and open contemporary design, enhanced security features, fully equipped laptop work stations and much more, Mather Hospital's new lobby offers every comfort and convenience. Next year, the lobby will also open the Family Caregiver Center, a dedicated area for caregivers that will be staffed with specially trained coaches prepared to offer support. "The idea was to create a space that impresses upon our visitors that this is an exceptional healing environment," says **Kevin McGeachy, FACHE**, Mather's executive director. "From the moment you walk in, you know you're in a place that delivers excellent care."

CANCER PREVENTION

Should you be screened for lung cancer?



Lung cancer kills more Americans each year than any other cancer — but when the disease is found early, it is often treatable. For the past nine years, Mather Hospital's Lung Cancer Screening Program has been saving lives. The program uses low-dose computed tomography (CT) to take detailed pictures of the lungs in search of suspicious nodes. A few key facts and figures:

24%

Amount lung cancer mortality was reduced through screening with low-dose CT scans, per one key study

3,700+

Number of patients who have been scanned so far

2 minutes

Duration of the CT screening scan

2014

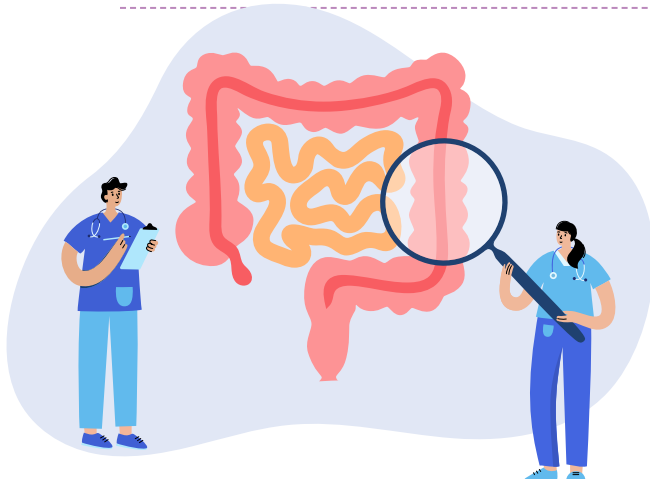
Year the Lung Cancer Screening Program began

November is Lung Cancer Awareness Month. To see if you're eligible for a screening, visit matherhospital.org/lung or call 631-250-6539.

NORTHWELL VOICES

"You just have to be cognizant that colorectal cancer is not an old person's disease anymore. It's a middle-aged person's disease now."

— Long Island Jewish Medical Center chief of colorectal surgery **John Ricci, MD**, to HealthDay on the rising rates of colon cancer among young people. The U.S. Preventive Services Task Force (USPSTF) now recommends that most adults start colon cancer screenings at age 45.



News & notes

FROM MATHER HOSPITAL AND ACROSS NORTHWELL HEALTH

RAISING AWARENESS

Spotlight on breast cancer

AROUND TOWN Mather Hospital and the Fortunato Breast Health Center offer best-in-class breast health care year-round — but in October the hospital goes all out to observe National Breast Cancer Awareness Month through Paint Port Pink, a community outreach campaign now in its ninth year. Last month, participants took part in an array of fun events throughout Port Jefferson, from a pumpkin decorating contest to a fundraiser at PoBoy Brewery.

DON'T FORGET The American College of Radiology recommends annual mammography beginning at age 40 for women of average risk of breast cancer. Women with a known family history or other risk factors should start screening even earlier. This fall is good a time as any to line up your mammogram. **Call the Fortunato Breast Health Center at 631-250-8261 to make an appointment.**



INNOVATIONS

New tools for lumpectomy

THE PROBLEM Many patients with localized breast tumors undergo lumpectomy, a surgery in which only the cancer (not the whole breast) is removed. Wire localization is one way physicians mark tumors; in this technique, a radiologist inserts a slim wire into the breast, where the cancer is, before the surgery. But scheduling a wire-guided lumpectomy can sometimes be tricky: A radiologist — and a breast surgeon — must both be available.

THE SOLUTION Two new implantables now available at Mather are giving patients the option of an alternative approach. One, SAVI SCOUT, enlists a rice grain-sized reflector that works with radar waves to guide a surgeon to a tumor. The other, Magseed, uses a metal bead that performs the same function, but works with magnetic energy. Wire localization has to be done right before surgery; but these implants can be placed 30 days prior, says **Michelle Price, MD**, medical director of Mather's Fortunato Breast Health Center. That can reduce the overall amount of time a patient needs to spend in the hospital on the day of their lumpectomy — a net positive.

CONGRATS AND KUDOS

Awards and accomplishments at Mather Hospital

Mather Hospital has received **five stars from the Centers for Medicare & Medicaid Services (CMS)**, the agency's highest rating. The recognition goes out to hospitals that offer the highest level of patient care, experience and safety, and demonstrate a hospital-wide commitment to efficiency.



In **U.S. News & World Report's 2023-24 Best Hospitals rankings**, Mather Hospital was recognized as "high performing" in four specialties and two conditions.

Mather was noted for care in gastroenterology and GI surgery, geriatrics, orthopedics, and pulmonology and lung surgery, as well as treatment for heart failure and kidney failure. The hospital's transitional care unit (TCU) was also rated a best nursing home.

Mather Hospital received the **American Heart Association's Mission: Lifeline® STEMI Receiving Center Level Bronze** in recognition of its commitment to rapid, state-of-the-art care for people experiencing an ST-elevation myocardial infarction (STEMI) heart attack.



3 QUESTIONS FOR...

Alexandra Capece, DO

Mather's newest breast surgeon reveals what she loves about her role and Northwell's streamlined approach to care



Q: What drew you to breast surgery, and what do you enjoy most about it?

I've always wanted to be a physician. I grew up in Tucson, AZ, and went to medical school in South Carolina. Then I did a medical school rotation on Long Island and fell in love with surgery.

Breast cancer surgery is an ever-evolving field with lots of new research and novel surgical approaches to care. I like staying up to date on the newest data, techniques and technology (see "New tools for lumpectomy," p. 4). I specialize

in performing nipple-sparing mastectomies and surgeries that preserve the anatomical shape of the breast.

I try to spend a lot of time with my patients, especially on their initial consultation. I think repetition is really important; it can be hard to absorb everything, especially in the beginning, so I work hard to make sure patients understand their diagnosis and their treatment options.

While my focus is breast cancer, I also see patients who have benign breast disease, or who are at high risk for breast

cancer. My goal is to detect cancer as early as possible so that my patients require less invasive treatment.

Q: What brought you to Northwell?

I completed my surgical residency on Long Island in a combined program at Stony Brook Southampton and Peconic Bay Medical Center, so I had a lot of exposure to Northwell during my training. I joined the system right after I finished my fellowship in breast surgical oncology at Women & Infants Hospital of Rhode Island.

I like that Northwell has a lot of patient resources. Doctors and other providers streamline care across facilities so that patients receive the same great treatment no matter where they live. I work closely with the medical and radiation oncologists at New York Cancer & Blood Specialists, one of Mather's partners. We have a great team of nurse navigators who support patients throughout their treatment. I love that

Northwell is so focused on the patient experience.

Q: What do you like to do in your spare time?

I used to be an avid runner. I have this goal of running either a half or a full marathon in every state. I'm actually training for a half in the Hamptons that's been on my bucket list for a while.

I also love hanging out with my family. My husband, Gregory Capece, DO, is an emergency medicine physician at Peconic Bay Medical Center; we met in medical school. He's from Mount Sinai, so we have strong ties to the area. We also have a two-year-old son and a pug named Sir Charles. I try to spend as much time with them as I can.



To schedule a consult with Dr. Capece, scan the QR code above or call 631-546-0366.

"I try to spend a lot of time with my patients...to make sure they understand their diagnosis and treatment options."


— Mather Hospital breast surgeon Alexandra Capece, DO, on how she approaches patients

Coach Mike needed a **HERO**

And when the father
of two collapsed at
a local indoor sports
facility, a team of
them saved his life



Michael Gibson and his wife,
Penny, walking their dogs near
home in August.



On the night of February 7, in the parking lot of a Port Jefferson Station indoor sports facility, Michael Gibson woke up, bewildered, in the back of an ambulance. “What’s going on?” he asked.

Less than an hour earlier, the Ronkonkoma retiree, 66, a former collegiate hurdler and lifelong athlete, had been leading a speed and agility session for youth baseball players coached by his old friend, Jason Merz.

Gibson and Merz go back 30 years — Gibson had been an assistant coach for Merz’s East Islip High School football team. Back then, “Coach Mike” was adored by his student-athletes, Merz says: “Everybody loved him.” So Merz, a father of three, had tapped Gibson to run a few speed clinics.

That evening, all had gone smoothly. Gibson was getting ready to head home.

But then, mid-conversation with Merz, his face went blank. “It was like he was there, and then he wasn’t,” Merz recalls.

Gibson collapsed. He’d suffered a cardiac arrest.

Nearly 90% of cardiac arrests that occur outside of a hospital are fatal, according to the American Heart Association. Gibson’s physicians say he likely would have died if not for the bystanders on the field who gave him CPR, and the first responders and skilled physicians at two Northwell hospitals who took over his care. As Mather interventional cardiologist Giridhar Korlipara, MD, one of those doctors, puts it: “He’s a lucky guy.”

It took both good fortune and great care to give Gibson’s story a happy ending.

“He was there, then he wasn’t.”

At about 7pm on February 7, Gibson and Merz were saying their goodbyes when things suddenly went wrong.

Jason Merz: Mike just dropped. There were no warning signs; he just went right to the ground. I could tell he was struggling to breathe, and he was turning blue. I had a parent call 911.

Merz started doing compressions, then realized he needed help. Rich Savicki, a fourth-grade teacher from Stony Brook, had just arrived at the facility with his 16-year-old and heard Merz calling.

Rich Savicki: We’d just gotten there for batting practice. The boys were setting up when Jason ran over, yelling, “Mike collapsed! Does anyone know CPR?”

It’s hard to describe the feeling; it was like blank panic. I ran to the front desk to see if they had a defibrillator, and then ran to Mike and started doing compressions. Another guy I didn’t know was there too, keeping time, tracking how long Mike had been down.

Merz: Rich and this other gentleman [Mike Elflein, of Shoreham, another parent] took over. I started trying to contact Mike’s wife. [Gibson also has two grown children, Anthony, 31, and Lauren, 32.] In my head, I’m panicking, thinking, “Mike, you can’t die.” This is someone I’ve known for 30 years. I can’t let this happen.

“Usually they don’t come in alive.”

Savicki and Elflein continued until first responders arrived. Suffolk County police officer Kyle Nilsen used an AED, or defibrillator, to shock Gibson’s heart back into normal rhythm. Paramedics also applied a mechanical CPR machine known as a Thumper to Gibson’s chest. By the time the ambulance reached Mather Hospital, Gibson had revived.



WORLD-CLASS CARDIAC CARE: In 2021, Mather opened its Cardiac Cath and Electrophysiology Labs (left) to offer patients swift, minimally invasive treatment for cardiovascular diseases.

Michael Gibson: When I got there, I was yapping away. I couldn't believe it when they told me I'd had CPR for so long. The ER nurse at Mather was looking at me, shaking his head. "Usually they don't come in alive," he says.

Attending emergency physician Kenneth Hirsch, MD, was relieved to see Gibson talking. But he was worried about Gibson's heart.

Dr. Hirsch: When someone comes to us after a cardiac arrest, we do a test called an electrocardiogram (EKG) to see if they had a STEMI, or ST-elevation myocardial infarction, the most serious type of heart attack. People who have STEMIs need to go to the catheterization lab immediately for further assessment and treatment.

Fortunately, Mike's EKG looked good; I immediately sent it to my colleague, Dr. Korlipara, the on-call cardiac catheterization cardiologist, who agreed. We decided to admit him and treat him medically — we gave him a beta blocker to moderate his heart rate, and baby aspirin to prevent a blood clot. Then we'd send him to the catheterization lab in the morning.

"Three blood vessels were more than 90% blocked."

The next day, Dr. Korlipara performed a coronary angiogram, a test that helps physicians evaluate blood flow through the heart.

Dr. Korlipara: When somebody collapses like Mike did, we worry about myocardial ischemia, a condition in which the heart isn't getting enough oxygen. Ischemia can happen due to coronary artery disease. Plaque builds up in the arteries, which narrows them and blocks blood flow to the heart. That narrowing can cause the heart's rhythm to be abnormal. That's what happened to Mike, and it caused him to collapse.

Before we opened our catheterization lab in 2021, patients like Mike would have to be transferred for care. Now, thanks to the lab, we can detect and treat heart attacks right away.



FILLED WITH GRATITUDE: In June, Gibson reunited with his Northwell doctors (middle photo, left to right, SSUH's Harold Fernandez, MD, and Giridhar Korlipara, MD, and Kenneth Hirsch, MD, of Mather Hospital), as well as his friend Jason Merz (bottom photo, right).

Many of our patients get stents to open their clogged arteries. To place them, we thread a catheter into an artery, inflate a very small balloon to give us some space, and then apply the stent, a small metal implant that holds the artery open.

But some patients need more advanced intervention. When we performed Mike's coronary angiogram, we found that three of his blood vessels were more than 90% blocked. He needed surgery. We do not have a cardiac surgical service at Mather, but South Shore University Hospital does. So I told Mike he needed to be transferred.

Dr. Korlipara placed an urgent call to South Shore University Hospital (SSUH) surgeon Harold Fernandez, MD, to explain Gibson's case. Within hours, Gibson was transferred to SSUH, where he was stabilized in preparation for open heart surgery. Gibson needed a quadruple bypass — a major operation.

Dr. Fernandez: To perform a bypass, we have to open a patient's chest and use the heart-lung machine, which stops their heart but keeps oxygenated blood pumping to the brain and the rest of their body. Then, to fix the blockages, we use grafts from another part of the body — like veins from the leg — to create new avenues for the blood to travel. We needed to do four of those on Mike. He had so many blockages, it was hard to know which caused his heart attack.

"I trust you. I'll see you on the other side."

The next morning, before being put under for his surgery, Gibson addressed his surgical team. "I hear you guys are the best," he said, his voice quavering. "I trust you. I'll see you on the other side."

The eight-hour surgery went beautifully. As Gibson slept in recovery, his wife, daughter and cousin, a close friend, spent the day by his bedside. Late that night, reluctantly, they left. Hours later, around 4am, Gibson woke up.

Gibson had been through a lot — and yet, all things considered, felt OK. Within days, he was transferred to a surgical stepdown unit.

Gibson: I remember the head of the physical therapy department coming in and taking me for a walk. "You're pretty good on your feet," she says to me. I wouldn't quit. I would grab a nurse in the evening and say, "When you're free, can we go for another walk?"

"This is Mike Gibson, the man from the sports center. You saved my life."

Eight months later, Gibson is thriving. Thanks to a healthier diet, more exercise and a new medication regimen, he's lost 50 pounds and reduced his blood sugar and cholesterol levels. Every six months, he checks in with Dr. Korlipara.

He's also in daily contact with Merz and Savicki. For weeks after the event at the field, Savicki wasn't sure what had become of Gibson. Then, on March 29, out of the blue, he got a phone call.

Savicki: I was walking out of a hockey game when I saw I had a missed call. Mike had left a message on my phone: "This is Mike Gibson, the man from the sports center. You saved my life. I can't thank you enough." He was choking up. I'm getting choked up just thinking about it. I still have it. I'll never delete it. The next day, I called him back, and we've been in touch ever since.

Gibson created a group text that includes Savicki, Merz and some of his other heroes; he sends them a positive message every day to remind them how thankful he is. At an emotional Northwell press conference in June, he had the chance to reunite with some of them.

Savicki: Someone said to me that day, "You were his heartbeat for 10 minutes." I think about that a lot; if everything had happened five minutes later, Mike would've been in his car, driving home. And five minutes earlier, I might not have been there to help.

Merz: It was incredible. The right people were there at the right time.

Gibson: People can be indifferent when a stranger needs help — but not these guys. I was dead. They saved my life. What more can you say?



Helping hands

Michael Gibson's rescuers relied mostly on compressions to keep his heart pumping. Applying just compressions, and not breaths, is known as hands-only CPR — and it can be extremely effective, says Mather Hospital emergency physician Kenneth Hirsch, MD. "Just doing compressions to circulate the blood is much better than doing nothing," says Dr. Hirsch, a longtime CPR instructor. "Compressions are the most important thing."

There's a knack to doing them right, though. The American Heart Association recommends pumping to the beat of the song "Staying Alive," by the Bee Gees, to mimic the heart's rhythm. ("Baby Shark," a newer tune, will also do the trick.)

By sharing his story, Gibson hopes to remind people how important it is to know CPR — and stress as well that every public place, especially athletic facilities, should have heart defibrillators available. "Without one of those," he says, "I wouldn't be here."

To learn more about hands-only CPR, scan the QR code.



Do you need a heart checkup?

The right tests at the right time can protect your health — or even save your life

Christopher Malin had always been diligent about his health, so he was used to getting the basic tests — blood pressure readings and blood tests for cholesterol and glucose levels. The 59-year-old Melville, N.Y., resident knew he faced a higher risk of heart disease because of blood pressure that remained high despite medications and a family history of cardiac problems.

Malin thought he'd covered all the bases. But at a visit with his primary care doctor in early 2023, the grandfather of one mentioned a new development — dull, come-and-go pain in his left shoulder and arm when exercising. He soon found himself getting an electrocardiogram (EKG) to gauge his heart's electrical activity and an exercise stress test with nuclear imaging. Those exams prompted a referral to Northwell Health cardiologist Jeffrey Kuvin, MD — who looked at Malin's risk factors,

symptoms and test results and quickly set up a coronary angiogram.

A WINDOW INTO A WIDOWMAKER

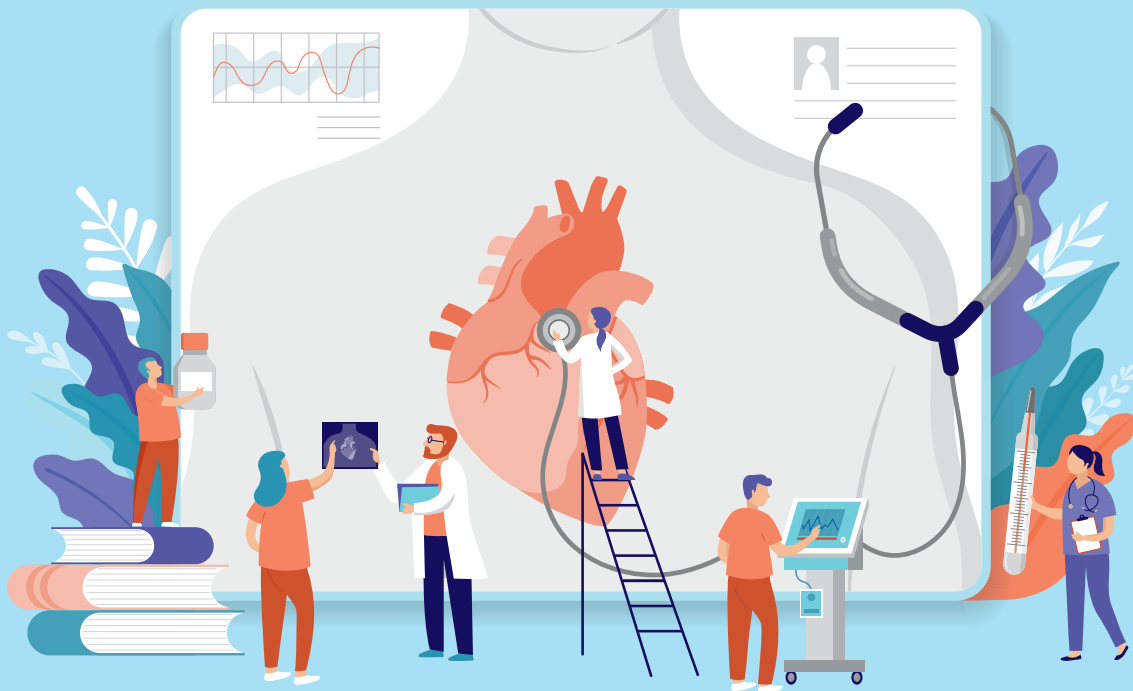
The results made the scope of Malin's heart problem stunningly clear: He had a 99% blockage of his left anterior descending (LAD) artery. A heart attack originating in the LAD is sometimes called a "widowmaker" because the artery plays such a key role in supplying blood to the heart. The interventional cardiology team fixed the problem on the spot, inserting a mesh stent in Malin's LAD to prop it open. Six hours later, Malin went home, healthy, grateful and ready to adopt the medications and lifestyle changes his doctors advised.

"I've got pictures of my heart that clearly show the before and the after," says Malin. "It's very alarming how close I was to a tragedy."

"He was able to avoid a major — and perhaps life-ending — heart attack," agrees Dr. Kuvin, senior vice president of cardiology at Northwell Health and co-director of the Sandra Atlas Bass Heart Hospital at North Shore University Hospital. "It speaks to the importance of picking the right test for the right patient at the right time."

COMMUNICATION POINTS THE WAY

Indeed, when it comes to a heart check-up, there isn't a one-size-fits-all checklist. The most crucial factor is a frank conversation with your care provider. "There are a number of factors that go into choosing the appropriate tests," explains Dr. Kuvin, who is the health system's Lorinda and Vincent de Roulet Professor of Medicine. "Everyone's on their own path, and the clinician's analysis can determine if certain tests might be helpful."



So what are the tests your doctor might recommend — and how can they help you stay healthy? Here are nine that can make a difference:

CORONARY CALCIUM SCAN (HEART SCAN)

Why you might need it: It can show whether there's hardened plaque in the coronary arteries, which indicates a higher risk of heart attack.

How it works: You'll lie on a table that slides into a CT scanner. Electrodes on your chest connect to a device that records heart activity and allows images of the coronary arteries to be taken between heartbeats.

What it shows: Levels of calcium-containing plaque in arteries that can restrict blood flow to your heart. Results can determine if you need medication or lifestyle changes to reduce your heart attack risk. (The test isn't appropriate for someone with active heart symptoms, such as chest pain.)

ECHOCARDIOGRAPHY

Why you might need it: You have symptoms such as shortness of breath, chest discomfort or palpitations; you had a heart attack; or you may have heart failure.

How it works: An ultrasound probe on your chest will bounce or "echo" sonogram waves off heart structures, showing moving images of heart walls and valves.

What it shows: "It's a great window into the heart," Dr. Kuvin says. "We can see how the heart is functioning, including the muscle, valves and surrounding tissue."

EXERCISE TOLERANCE TEST (CARDIAC STRESS TEST)

Why you might need it: If you're having symptoms while exercising, such as chest pain, shortness of breath or lightheadedness, or if you want to make sure your heart can handle more rigorous exercise.

How it works: As you walk on a treadmill at varying speeds and inclines, an EKG will monitor the electrical activity in your heart. Your breathing, blood pressure and level of fatigue will also be tracked.

What it shows: It can help diagnose coronary or peripheral artery disease, determine heart attack risk and establish a safe level of exercise.



EXERCISE TOLERANCE TEST WITH IMAGING (NUCLEAR STRESS TEST)

Why you might need it: If you're experiencing new or worsening chest pain, shortness of breath or heart rate irregularities. It may also be recommended if an exercise tolerance test suggests you need more refined testing.

How it works: It's just like getting an exercise stress test (see above), but you'll also be injected with a radioactive tracer through an IV. This enables a nuclear camera to provide a view of the heart, how well it pumps and how blood flows. (Other kinds of stress tests use echocardiography or MRI to provide images.)

What it shows: It can determine specific areas of the heart that are not functioning normally.



ELECTROCARDIOGRAM (EKG)

Why you might need it: As a baseline test or if you're having symptoms such as chest pain, shortness of breath, dizziness or palpitations.

How it works: Electrodes and wire leads will be placed on your chest, arms and legs. The leads are attached to an electrocardiograph machine that records your heart's electrical activity.

What it shows: The electric impulses of the heart and whether you're having abnormal heart rhythms; it can also reveal a history of heart attacks.

CORONARY CT ANGIOGRAPHY

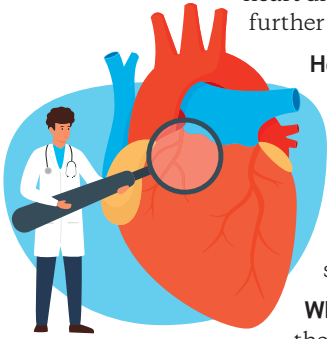
Why you might need it: You have symptoms suggesting heart disease or received abnormal results from other heart tests.

How it works: You'll lie on a table that slides into a CT scanner. An IV will inject contrast dye that will help blood vessels show up better on CT images. Chest electrodes will also record heart rate. You might require medication to slow your heartbeat so the images are clear.

What it shows: Detailed images of the arteries can detect abnormalities in blood flow, show areas of plaque buildup and pinpoint areas in need of treatment.

CORONARY ANGIOGRAM

Why you might need it: You're having new or worsening symptoms suggestive of heart disease or received abnormal test results that require further investigation.



How it works: A flexible tube called a catheter is inserted into an artery in your wrist or groin and threaded to the coronary arteries in your heart. Dye is injected to make it easier to get a detailed view of blood vessels on an X-ray image called an angiogram. You'll likely get a light sedative to help you relax. As with Malin, results might lead to the immediate placement of a stent; a short hospital stay may be required.

What it shows: It can detect restricted blood flow to the heart.

CARDIAC MRI

Why you might need it: To get detailed information about your heart function, including the texture of the heart muscle.

How it works: You'll lie on a platform that slides into an MRI machine. Often, dye is injected through an IV to help produce refined images.

What it shows: The size of the heart and its pumping power, damage or scarring from a previous heart attack or disease, heart valve function and other cardiac conditions.



CHEST X-RAY

Why you might need it: As a baseline, or if you have chest pain and shortness of breath.

How it works: While standing, you'll be positioned between an X-ray machine and a plate that creates an image.

What it shows: "It provides a good view of the entire chest cavity and can give us information about the size of the heart and how it functions in relation to the lungs," Dr. Kuvin says.

When should you see a cardiologist?

Heart disease is the leading cause of death for men and women across the world. Seeing a cardiologist can make all the difference, but sometimes people don't realize they should make an appointment, says Jeffrey Kuvin, MD. "We have advanced technologies that allow us to diagnose and treat heart conditions and improve and prolong life," Dr. Kuvin says. Here are some reasons to make an appointment with a cardiology provider:

- Symptoms such as shortness of breath, chest discomfort (which may include pain in the arm, neck, jaw or back), palpitations or flutters
- High blood pressure or cholesterol that's not responding to treatment
- Exercise intolerance
- Prediabetes or diabetes
- Dizzy spells or fainting
- Family history of early-onset or major cardiovascular problems
- A history of smoking or obesity
- Complications during pregnancy, including high blood pressure, gestational diabetes, or preeclampsia or eclampsia
- Chemotherapy or other cancer treatments, such as radiation or immunotherapy
- Systemic lupus erythematosus, rheumatoid arthritis, Crohn's disease or other systemic inflammatory diseases
- A genetic condition known to raise the risk of heart disease



THE PLACE TO GO FOR CARE

Mather Hospital offers world-class cardiac care close to home.

Preventive care is critical to maintaining a healthy heart. To make an appointment with one of our cardiologists, call Three Village Cardiology, a part of Harbor View Medical Services, PC, at **631-430-5581**.

▶ Protect your heart by keeping your cholesterol at a healthy level. Scan



the QR code to learn about lifestyle moves and get the latest on treatments.

A man with glasses and a goatee, wearing a blue lab coat over a white shirt and purple tie, stands in a clinical setting next to a large white CyberKnife machine. The machine's circular gantry is visible in the background.

3 helpful facts every patient should know about CyberKnife

It's a nonsurgical cancer solution many people have never heard of — and it's available at a treatment facility near you. We asked Joseph Cirrone, MD, a radiation oncologist with New York Cancer & Blood Specialists (NYCBS), a Mather associate, to share three pieces of intel every CyberKnife-curious patient should know.

1 IT'S VIRTUALLY PAINLESS.

The first thing to understand about CyberKnife is that there's no knife involved.

Instead, it works by directing extremely focused, powerful radiation beams at a tumor, killing cancer cells with pinpoint accuracy. "The radiation gets into the cancer cells and damages the DNA," Dr. Cirrone explains, "so the cells can't replicate."

As you lie on the CyberKnife table, the radiation-emitting part of the unit moves around you, so the tumor is hit by targeted beams from multiple

angles. The table is open to the room, just like an X-ray table — you don't have to lie in a tunnel, as you do for a magnetic resonance imaging (MRI) exam, so there's nothing to make you claustrophobic. "It's also a fairly quiet machine," Dr. Cirrone says. In fact, it's so quiet, patients often report they don't hear it.

Unlike surgery, which can eliminate tumors in one treatment, CyberKnife does take time to work: Patients typically require one to five sessions. Prostate cancer patients receiving

CyberKnife treatment may not see their levels of PSA — a protein in the blood that can indicate the presence of prostate cancer cells — lower to a level that indicates the cancer has regressed for a year or so, Dr. Cirrone says.

But most people appreciate how easy CyberKnife sessions are. Prostate cancer patients may experience a small increase in urinary frequency and pressure; fatigue is another common side effect. But most patients can resume their usual activities shortly after treatment.

2 IT'S EXTREMELY VERSATILE.

Since Mather Hospital and NYCBS first began using CyberKnife in 2014, it's become an integral part of many prostate cancer patients' treatments.

But radiation oncologists often use it for other cancers and conditions, too, Dr. Cirrone says.

CyberKnife is frequently tapped to treat and relieve symptoms of tumors of the lungs, brain, liver, pancreas, adrenal glands and bones.

And CyberKnife can be effective for more than just cancer. Benign tumors and conditions can also be zapped with it, Dr. Cirrone says. In addition, at Mather, CyberKnife is sometimes recommended for patients with trigeminal neuralgia, a chronic and often excruciating neurological condition that causes sudden and severe facial pain.

How it helps: For some patients, neuralgia happens when a nerve becomes inflamed, Dr. Cirrone says. CyberKnife kills cells in a critical part of the nerve, helping relieve pain.

All this is just the tip of the iceberg. Researchers are also using CyberKnife as a possible substitute for surgery when a breast cancer patient needs a lumpectomy — a procedure in which only the tumor is removed, but not the whole breast. And someday there may be even more applications, Dr. Cirrone says: "Researchers are looking at CyberKnife for seizures, Parkinson's and other neurological diseases."

3 IT'S PRECISE — AND POTENT.

In conventional radiation therapy, patients receive radiation doses called fractions over multiple sessions. Patients receive these fractions every weekday for several weeks, usually on an outpatient basis. For prostate cancer, standard radiation therapy often lasts nine weeks. (Patients may also receive it for five and a half weeks, Dr. Cirrone adds, a newer protocol.)

But CyberKnife uses "ultra-hypofractionated radiation" — a special, high-energy, finely focused type of beam. That means patients can



Dr. Cirrone uses computed tomography (CT) scans (as seen here) to plan patients' treatments.

be treated in five fractions, given every other day, over the course of a week and a half. (However, each CyberKnife treatment takes a bit longer than a conventional radiation session, lasting about a half hour, compared to 10 minutes or so for traditional radiation.)

To treat certain cancers, a physician may need to embed within a patient's tumors metal markers, tiny specks that can help direct the CyberKnife's beams. Placing the sand grain-sized beads is typically done in the earliest phases of a patient's cancer treatment.

Then, when it's time for the patient to receive their CyberKnife treatment, special cameras and sensors in the platform help the machine zero in on the tumor with tremendous accuracy.

Because CyberKnife is so precise, it's less likely than conventional radiation therapy to damage surrounding tissues. That lowers the risk of some of the more painful side effects that can occur with conventional radiation therapy, Dr. Cirrone says, such as skin blistering or sores.

Qualifying for CyberKnife depends on a patient's cancer type, stage and grade. Prostate cancer patients with early-stage, localized disease are generally well-suited for the treatment, says Dr. Cirrone. In fact, for many such patients, CyberKnife is the only

treatment they end up needing. "For low-risk prostate disease, it does the job in 90% to 95% of cases," the cancer specialist says.

CyberKnife is sometimes also helpful for cancer patients who have limited treatment options, or for those whose previous treatments have failed. Dr. Cirrone has used it for lung cancer patients who aren't healthy enough for surgery, for example.

While CyberKnife is highly effective against many types of cancer, it isn't for everyone. Patients with very large or numerous tumors may not be good candidates, for instance. "You have to meet certain criteria to get the benefit from CyberKnife," Dr. Cirrone says.

But when it's appropriate, CyberKnife can be a low-stress, near-painless way to vanquish a tumor.

"Coping with a cancer diagnosis is hard enough," Dr. Cirrone says. "We want to make treatments as short, easy and successful for our patients as possible."

And using an innovative technology like CyberKnife is one way to do it.

To schedule a consultation at Precision CyberKnife of New York — a program of Mather Hospital at NYCBS — call 631-407-2709.

Mather's 2,500

5 Stars



HIGH-FIVES FOR 5 STARS

This summer, Mather Hospital was one of three Northwell facilities to receive a five-star rating from the Centers for Medicare & Medicaid Services (CMS), the agency's highest honor. At the hospital's annual BBQ on July 27, employees (including, from left to right, Diana Gasparro, PA; Administrative Director of Imaging Services Craig Player; Sanah Siddiqui, MD; Alain Jay Neri, NP; and physical therapist Kelly McCann) gathered to celebrate the achievement. "This is a recognition that's indicative of the great quality of care our staff provides," says Mather Hospital Executive Director Kevin McGeachy, FACHE. "I couldn't be more proud."

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