

Shopping salvation!

Our holiday gift guide

LIFE, TAKE 2:

A local woman's mega-makeover

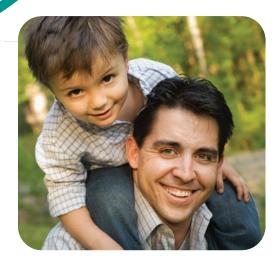
Where to find

- beauty bargains galore
- knitter's nirvana
- help for a petulant pooch

5th
ANNIVERSARY
ISSUE:
A LOOK
BACK

health link

- Breast cancer screening: Which test is best?
 - No flu for you!
 - Treating stroke: When every minute counts



Let's take care of your financial and personal health.

HEALTH SAVINGS ACCOUNTS

We are pleased to offer Health Savings Accounts for individuals and businesses who want to take control and make the most of their healthcare benefit dollars.

Are you enrolled in a High Deductible Health Plan (HDHP), or thinking about changing to a plan that can take advantage of an HSA? Learn how we, as a real community bank, can make a healthy difference.

Easy application process
Interest bearing account
Free Debit Card and Checks
Unused money in the account rolls over each year



You deserve a real community bank.

www.TwoRiverBank.com email: HSA@TwoRiverBank.com 1.877.706.9009



A salute to first responders

uring the holiday season, there is much talk of goodwill toward others, but for people committed to helping others all year long, the true spirit of the holidays doesn't end on January 1.

The community depends on members of ambulance, EMT and first-aid squads in their vital role as "first responders" when there is an accident or catastrophe, just as it depends on the emergency room physicians on duty at a hospital like Monmouth Medical Center. The members of emergency medical services teams are ready to provide lifesaving care to those in need 24 hours a day, seven days a week, and as a partner in this perpetual care, Monmouth Medical Center salutes these first responders as a vital part of every community.

At Monmouth, where our emergency department is led by Jennifer Waxler, D.O, past president of the New Jersey chapter of the American College of Emergency Physicians, we have made the strengthening of our emergency services a priority. Earlier this year, our Emergency Services Pavilion was dedicated to local philanthropists Morgan E. Cline and Benjamin D'Onofrio, whose \$3 million donation is funding major improvements.

Monmouth—which has earned designation as both a Chest Pain Center and Primary Stroke Center—in recent years has added emergency coronary angioplasty services and a dedicated pediatric emergency department to the continuum of lifesaving health care services available to our local community. These important services ensure continuity of care—which often begins with the arrival of the EMS caregiver—while easing the patients' and families' stress through the knowledge that their community hospital too is ready, responsive and reliable.

Monmouth Medical Center honors the contributions of first responders, our partners in care, and celebrates them as our community's true heroes and heroines who are dedicated to the needs of others every day of the year.

From the Monmouth family to yours, I wish you

the happiest of holidays and the healthiest of new years.

Sincerely,

Frank I Vozos MD FA

FRANK J. VOZOS, M.D., FACS Executive Director Monmouth Medical Center

HEALTH

WHAT'S NEW IN MEDICINE AND HOW YOU CAN STAY WELL



No flu for you!

3 WAYS TO STEER CLEAR OF THIS SEASONAL MENACE

Maybe the flu won't strike you this year, with its fever, dry cough, sore throat, body aches and chills. But why take the chance?

The influenza virus—a contagious infection of the respiratory system—affects 5 to 20 percent of the population annually, says Allan Tunkel, M.D., chair of the Department of Medicine at Monmouth Medical Center, and there are new strains every year. More than 36,000 people in the U.S. die each year from the flu, with the over-65 and under-2 age groups at greatest risk.

> Fortunately, there are three things you can do to lower your risk of flu:

GET A FLU SHOT—or a nasal vaccine. Health authorities say vaccination is far and away your best protection from the virus. Ideally you should get your injection at the start of the season in October or November, but flu season in New Jersey generally lasts until March. "The shot has minimal

side effects," says Dr. Tunkel. "Some people may experience a bit of soreness or swelling at the site of the vaccine, but overall it's very safe." It's also typically covered by insurance and is recommended for patients 50 years or older, pregnant women, people with chronic medical conditions, children from age 6 months to 5 years andaccording to the American Lung Association—"anyone who wishes to avoid the flu." (But do not get the shot if you're allergic to eggs or feathers, have a history of Guillain-Barré Syndrome or have an acute illness and a fever.)

If you cringe at the thought of a shot, you're in luck: The Food and Drug Administration has approved FluMist, the first nasal spray to administer the vaccine. It was initially suggested for healthy people between the ages of 5 and 49, but in September the FDA expanded the recommendation to include 2- to 5-year-olds—a key needle-fearing group. Unlike the shot, which contains a killed virus that cannot be transmitted, the spray contains a weakened live virus. This won't give you the flu, but the virus may be passed to others, although the estimated risk is less than 3 percent. Check with your doctor for the best strategies for avoiding transmission of the virus to other people after you've taken the spray.

AVOID GERMS and take care of yourself. This might seem common sense, but it bears repeating: Try not to have close contact with infected persons; when someone who has the flu coughs or sneezes, the virus is expelled into the air and may be inhaled by others. Wash your hands frequently to protect against germs. Keep hands away from your eyes, nose and mouth, as touching these areas can lead to the spread of bacteria. To keep your immune system strong, stay on top of fundamental healthy habits: Get plenty of sleep and

exercise, drink a lot of fluids, maintain a balanced

diet and manage stress.

drug called oseltamivir (trade name Tamiflu) has been approved for flu prevention in both adults and children. This antiviral medication comes in capsule and liquid forms and may be prescribed for people who cannot tolerate the flu shot due to allergies. Also, because it takes two weeks for the flu shot to become effective, your doctor may suggest Tamiflu to keep you well if you've had no shot and someone in your

But most doctors use Tamiflu sparingly. It's been known to cause side effects such as skin rashes, vomiting, diarrhea, headache and fatigue. Also, a number of reports—mostly from Japan—describe self-destructive behavior in children who have taken the medication. Finally, public health officials worry that heavy use of antivirals could cause strains of the influenza virus to build up a resistance, making the drugs ineffective if they're needed later—and Tamiflu is considered a principal weapon against the possible spread of avian, or bird, flu. (Two other antivirals once used against one type of influenza virus, aman-

family has the flu or if there's been a local outbreak.

tadine and rimantadine, are no longer recommended because the virus has become resistant to them.)

Tamiflu and another antiviral medication called zanamivir (Relenza), which comes in a nasal spray, may also be prescribed as a treatment—as long as it's within 48 hours of the onset of symptoms. The drugs can shorten the period of illness by a day or two and may help prevent possible complications such as pneumonia. However, Relenza isn't approved for children under 7.

"Relenza may also cause wheezing or shortness of breath in people with a history of chronic respiratory diseases like asthma or emphysema," says Dr. Tunkel. "Pregnant women or those nursing newborns should also avoid taking both Tamiflu and Relenza, because doctors are unsure about the side effects they may cause in newborns and infants."

If you believe you're getting the flu—especially if a fever has come on suddenly—see your doctor. He or she can do a nasal-swab test in the office to determine promptly if you have the illness. "Influenza symptoms occur quickly," warns Dr. Tunkel. "The incubation period is 1-2 days, so once you've been exposed to this virus, you could start feeling sick in 24 hours." To relieve dis-

cound start feeling sick in 24 hours. To refleve discomfort, try a product containing acetaminophen (Tylenol) or ibuprofen (Advil, Motrin and others) and get plenty of rest and fluids.

And be sure to monitor the progress of your illness. If you get worse instead of better, consult your doctor to make sure you're not developing a flu-related complication. "Bacterial pneumonia is one type of secondary infection," says Dr. Tunkel. "And unlike flu, it has to be treated with antibiotics."

Is it the flu—or just a cold?

Sometimes it's hard to tell the difference. Here are key traits of each:

STIVIPTOW	COLD	FLU
Fever and chills	Rarely	Yes (101 degrees or higher)
Cough	Yes	Yes (dry)
Sore throat	Yes (scratchy)	Yes
Body aches, fatigue	Rarely	Yes
Decreased appetite	Rarely	Yes
Congestion	Yes	Rarely
Sneezing	Yes	Yes
Duration	2-14 days	7 days to several weeks
Onset of symptoms	Gradual	Sudden



SURGICAL STRIDES

How operations have improved: one family's story

A HEREDITARY CONDITION REQUIRES REMOVAL OF THE SPLEEN.

TODAY, THAT'S LESS OF AN ORDEAL



Want to know how much surgery has improved in recent years? Ask the family of 3-year-old Luke Brown of Keyport.

The youngster had a splenectomy—removal of the spleen—at Monmouth Medical Center in May. After the Wednesday operation, he was home on Friday and by Saturday was "running around like a maniac," as his mom recalls. He has a scar the size of a freckle. His mother, Jennifer Santana, 34, and grandmother, Joanna Frigon, 60, are pleased—and a little envious too.

The operation was done to correct a condition called hereditary spherocytosis. Santana, Frigon and Frigon's mother also had the problem—and the proce-

dure—years ago. But surgery was a much bigger ordeal for them.

Spherocytosis, also known as congenital spherocytic anemia, is a genetic disorder affecting the surface membrane of red blood cells. It makes these cells, which are normally almost flat, take on an abnormal spherical shape, which in turn causes them to be trapped and destroyed in the spleen at faster-thannormal rates. The ensuing lack of red blood cells can cause mild to severe cases of anemia.

A splenectomy cures the anemia: Although the cell defect continues, the red blood cells' life span returns to normal when the spleen is not present to destroy them. But until the last few years, splenec-

tomies required open surgery involving a large incision, leading to scarring and a long period of recovery.

"My mother had the operation when she was 18," recalls Frigon, who lives in Brick. "She was in the hospital for two months. They didn't know what it was. She had 10 blood transfusions beforehand."

Frigon herself had the surgery at age 7. "I was in the hospital two weeks," she says. "All I remember is waking up in an oxygen tent, which is what they used back then."

When Santana had her spleen removed at age 3, says Frigon, the hospitalization period was down to 10 days. "It was heart-wrenching," Frigon remembers, "with all the monitors and drains and tubes down her throat."

By the time Luke was born, the condition could be diagnosed right away. "Two days after he was born they told us he had it," says Santana. "I was upset that he'd have to go through the surgery experience."

Like his mother, Luke was sick often—the disease leaves its victims especially vulnerable to infections—and his blood count sometimes dropped so low his doctors had to consider giving him a transfusion. As he approached age 3, they decided it was time for his spleen to come out and referred him to Saad A. Saad, M.D., section chief of pediatric surgery at Monmouth.

"His spleen was the size of a football," Dr. Saad says, "when normally it's like a tangerine." But he had good news: Luke could have his surgery laparoscopically—that is, in a minimally invasive way using fiber-optic instruments. "While his grandmother had a 20-inch incision and his mom about half that, Luke's incisions were pinholes," Dr. Saad says. "That's how far we've come in the past 50 years."

Dr. Saad worked with Frank Borao, M.D., section chief of laparoscopic surgery at Monmouth Medical Center. The surgeons cut tiny holes under Luke's ribs, and through them they inserted the surgical instruments and a small camera. "We perform the same operation as in open surgery," Dr. Borao says. "We divide the blood vessels going to and from the spleen, freeing up all the attachments to it." Then, instead of taking the organ out whole, the surgeons put it in a plastic bag and, in effect, mash it up into small pieces so that it can be removed through the pinholes.

While both traditional open surgery and the laparoscopic method take about an hour to com-

plete, "the difference is in recuperation time and postoperative pain," Dr. Borao says.

"Usually we send patients home the next day. The pain is much less, so few if any narcotics are required. And complications are low—the chance of wound infections is close to zero."

Recuperation time is reduced from a few months to a few weeks. Or, in the case of a rambunctious preschooler, a few days. "Luke did incredibly well," says Santana with a laugh. "I could not have been happier. And his scar is phenomenally small—I am so jealous!"

Luke will most likely remember none of this. His only reminder will be the low-dose antibiotics he'll need to take for the rest of his life to fight minor infections, and the flu and pneumococcal vaccinations he will require every one and five years, respectively. And he'll have conversations with his family about the disease he may pass on to his children.

"We talk about the operation and compare scars now," his mother says. "As soon as he starts asking more questions, I'll lay it out for him."

But by the time Luke has kids, who knows how far medicine will have advanced? "Maybe they'll just press a button," Santana muses, "and the spleen will be gone."







The moments between a call to 911 and arrival at a hospital can mean the difference between life and death. And often, that difference is made by members of a Monmouth County emergency medical technician (EMT) squad.

When there is an accident or a sudden onset of illness, it's often up to these "first responders" to administer care on the scene and get patients to the emergency-room physicians on duty at a hospital such as Monmouth Medical Center. Unlike paramedics, who are hospital-paid professionals, EMTs receive little or no compensation. They devote many hours of their time both to training and to the job itself, often spending nights and weekends away from family—all

to help people they usually don't even know.

Why do they do it? Many have it in their blood. Both Sam Tomaine, trustee for the Long Branch First Aid Squad, and Judi Schneider, captain of the West Long Branch squad, were influenced by firefighter fathers—and have siblings who are firefighters, EMTs or other community helpers as well.

"We're there and we care," says Tomaine, 52, a full-time police officer who has been an EMT since 1974. "That's our squad motto. People know that when they call 911, they can count on us, and that's very important to me. I want things to go the right way for the people we serve."

"I like the compassion of being an EMT," says





Schneider, 48. She has been serving for 10 years
—in addition to her regular job as a paralegal—
and also sits on the board of trustees for the New Jersey
First Aid Council, which helps

"It's quite remarkable

what the EMTs do. We

are very fortunate to

—Jennifer Waxler, D.O.

chair of Monmouth's

emergency department

have them."

establish procedures for EMTs statewide. She says simply, "It's satisfying to help others."

First responders include EMTs, police officers and firefighters. But while police and fire departments are considered essential services and are paid for with tax dollars, EMTs are not.

The all-volunteer West Long Branch squad answers 600 to 700 calls a year, Schneider says. It uses a "scramble squad" approach, in which any available members respond to a call.

Long Branch is much busier, responding to about 3,000 calls a year. There, shift duty is divided among the members so that each EMT works about three shifts a week.

A few years ago the volume of calls in Long Branch was forcing volunteers to leave their jobs and homes too often. "We were burning out," Tomaine says. So his squad incorporated in order to collect insurance money to pay EMTs a small day rate when they are on duty. That has helped increase membership and decrease the individual workload.

"It's quite remarkable what the EMTs do," says Jennifer Waxler, D.O., chair of the emergency department at Monmouth Medical Center. "These people provide exceptional service. We are very fortunate to have them."

When someone calls 911, Monmouth County dispatchers page the squad nearest to the scene. "We'll be sitting around the squad room, cleaning the gear or watching TV, and when the call comes in we drop everything, get in the ambulance and go," says Tomaine. "We then call them back and tell them we're on our way."

En route, the EMTs hear from dispatchers what situation to expect. If the illness or injury may be life-

threatening, professional paramedics are also dispatched from the hospital to provide advanced life support if needed. The EMTs usually arrive first. They assess the patient, take vital signs, start a chart history and begin appropriate care. EMTs perform car-

diopulmonary resuscitation (CPR), administer oxygen, splint broken bones and place an injured person on an immobilizing board. They are not allowed to perform invasive services, such as administering medication or starting an IV drip.

By the time the paramedics arrive, the EMTs have determined whether or not the problem is indeed life-threatening and give way if it is. If not, they cancel the

paramedics, prepare the patient for transport and head to the most appropriate nearby hospital.

On arrival, Schneider says, "We give the nurse our report and the nurse assigns us to a care area." Then the EMTs help take the patient to the room, where the emergency department technician assigned to the case takes over. It's all done as swiftly as possible.

"Dr. Waxler is very EMT-oriented," Schneider says. "She understands that we are a small town and at times have only have one ambulance crew available, so she tries to get us in and out fast in case we have another call."

First responders and hospital personnel hold regular meetings to work out problems, fine-tune procedures and stay up-to-date on the latest techniques and procedures for various injuries and illnesses. "We have a close relationship with them and take it very seriously," Dr. Waxler says.

But it's the relationship with the community that matters most to first responders. They enjoy getting surprise thank-yous at the supermarket and being able to help the parents of people they knew in school and haven't seen for years. They even get to know those patients who, because of age or chronic illness, require frequent hospital trips.

"We call them frequent flyers," Schneider says. "We know their address when it's called in." She remembers a neighbor who suffered from chronic pulmonary obstructive disorder. "I would just sit and hold his hand as we went to the hospital. After his last trip—he eventually died from the illness—his wife told me that just my holding his hand made him feel much better."



Who should have a breast MRI?

For patients diagnosed with breast cancer, breast MRI can yield more information about the cancer and help doctors plan surgical treatment. Also, this year the American Cancer Society recommended that breast MRI be used in addition to mammogram for screening patients who meet one of these conditions:

- Genetic testing has shown that they have a BRCA1 or BRCA2 gene mutation. (This causes about an 80 percent risk of developing cancer, says Yasmeen Shariff, M.D., director of ultrasound and breast MRI at Monmouth Medical Center.)
- They have a first-degree relative (parent, sibling, child) with a BRCA1 or BRCA2 mutation and haven't been tested themselves.
- Their lifetime risk of breast cancer has been scored at 20–25 percent or greater, based on one of several accepted risk assessment tools that look at family history and other factors.
- They had radiation treatments to the chest between ages 10 and 30.
- They have the hereditary conditions Li-Fraumeni syndrome, Cowden syndrome or Bannayan-Riley-Ruvalcaba syndrome, or may have one of these syndromes based on a history in a first-degree relative.

VITAL WOMAN

MRI's role in breast cancer imaging

THE GOOD NEWS IS IT'S SUPERSENSITIVE.

THAT'S ALSO THE BAD NEWS

Breast magnetic resonance imaging (MRI) has been highly touted recently for spotting breast cancer early. But doctors say it's not ready to replace mammography as the "gold standard" for breast cancer screening.

Mammography remains the only technology proven in scores of studies to reduce death rates from breast cancer—in one study by as much as 46 percent—says Melinda Staiger, M.D., director of breast imaging and medical director of the Jacqueline M. Wilentz Comprehensive Breast Center at Monmouth Medical Center. Breast MRI, she says, should be used only as an adjunct to, not in place of, regular mammograms.

If a mammogram detects a growth, an MRI can then be used to find out more about it. In breast MRI, radio-frequency waves capture three-dimensional images of the breast after injection of the intravenous contrast agent gadolinium. Because an MRI is a series of images, unlike the single-image mammogram, it shows how the growth reacts to the agent over time, offering clues as to whether it is likely to be malignant or benign.

"MRI is very sensitive," says Yasmeen Shariff, M.D., director of ultrasound and breast MRI at Monmouth and director of breast MRI at Shrewsbury Diagnostic Imaging, a new facility working in partnership with the hospital. "It can pick up cancers in 90 to 100 percent of cases, while mammography spots 85 to 90 percent of cancers in average breast tissue, but can miss up to 50 percent in dense breast tissue."

So why not give every woman a breast MRI? "That sensitivity also means it picks up a lot of things that aren't cancerous," Dr. Shariff says. False-positive readings can lead to many unnecessary biopsies. And some cancers develop calcium deposits that show up on mammogram but not on MRI.

Cost is also a deterrent. A mammogram costs \$200 to \$300. An MRI costs from \$1,000 to \$2,000, and insurance may not cover it. Plus, no long-term studies have yet been completed proving that MRI screening can reduce mortality as mammography does.

Dr. Staiger's basic advice: "Women should come to a center like ours that specializes in breast cancer for appropriate imaging decisions." ■

Treating stroke when minutes count

A PRIMARY STROKE CENTER HAS
WHAT IT TAKES TO ADDRESS THIS MALADY
IN THE CRITICAL FIRST THREE HOURS

In a recent study, one-fifth of those who called hospitals fearing they might be having a stroke were told to contact their family doctor—potentially causing a dangerous delay. That's a troubling finding. The right answer, of course, is that if you believe you may be having a stroke, you should call 911 and seek emergency treatment right away.

The ideal place for that treatment? A state-designated primary stroke center. And Monmouth County residents should know that Monmouth Medical Center earned that status in September.

"The designation means that our center has a rapid response team for stroke," says Martin Herman, M.D., medical director of the stroke facility. "We have available the radiology services, the neurosurgeons and the vascular surgeons needed to treat stroke. And we are able to get patients processed fast enough to administer clot-buster drugs within three hours of the first signs of stroke."

That's the key, Dr. Herman says. These clot-buster drugs—called tissue plasminogen activators, or

tPA—open blocked blood vessels and return blood flow to the brain, limiting and in some cases reversing the effects of the most common type of stroke. But they must enter the bloodstream within that three-hour window to be effec-

tive. "The arrival of tPA changed stroke treatment and mandated rapid response," Dr. Herman says. "Until they came on market in the early 1990s, it didn't matter when stroke patients were treated, because nothing we could do worked."

Designation as a primary stroke center came after representatives from both the state health department and the Joint Commission on Accreditation of Healthcare Organizations assessed the hospital by 150 criteria that included stroke protocols, policies, procedures, staff credentials and response times for admission, examination and other measurable treatment benchmarks.

"This designation means that patients in Monmouth County can be sure that we fast-track stroke victims and supply a level of expertise that other hospitals can't," Dr. Herman says. "It also means that first responders such as EMT units know they can bring stroke patients here for immediate treatment."

Being a designated stroke center also entails responsibilities in educating the community about stroke, Dr. Herman says. As an example, the center recently hosted a dinner and lecture for local emergency-response units. "We reviewed stroke signs, protocols to follow, questions dispatchers should know to ask and what responders should do at the scene," Dr. Herman says. "And we told them to call us at the center right away, so we can rev up while we wait for them to arrive."

Act F.A.S.T. to save a life

Clot-busting drugs must be administered within three hours of the first sign of a stroke to be effective. To act fast, remember to think F.A.S.T. if you suspect someone is having a stroke:

FACE Ask the person to smile. Does one side of the face droop?

ARMS Ask the person to raise both arms. Does one arm drift downward?

SPEECH Ask the person to repeat a simple sentence. Do the words sound slurred?

TIME If the person shows any of these symptoms, time is of the essence. Call 911 or get to a hospital immediately.

Source: National Stroke Association

HEALTH

Bringing cutting-edge neurosurgery close to home

FOR BRAIN SURGERY, THESE DOCTORS HAVE PUT

MONMOUTH COUNTY ON THE MAP



Should a need for neurosurgery require leaving the Jersey Shore for a big medical center in New York or Philadelphia? Twelve years ago, a group of Monmouth Medical Center neurologists didn't think so.

"They'd been sending cases to Columbia University Neurological Institute," says Jonathan Lustgarten, M.D., a neurosurgeon with Neurosurgical Associates of New Jersey in West Long Branch. "There was no dedicated neurosurgical program here, so the

group asked Columbia to send someone down to set up a collaborative program."

Since then, he adds, "we've expanded our technological capabilities and grown our team here, and our ability to handle more complicated cases has grown. Today our team provides the kind of care you'd find at a major neurosurgical center."

The three-man practice also includes David Estin, M.D., who joined in 1998, and Ty Olson, M.D., who came on board in 2005. Dr. Estin specializes in endoscopic pituitary surgery, the removal of pituitary tumors at the base of the brain.

"Traditional surgery required an incision under the upper lip through the sinuses to get to the tumor, and large packings in the nose were needed afterward," he says. "With today's minimally invasive method, we use an endoscope to navigate through the nostril with no incision and no packings. There is less postoperative discomfort and a quicker recovery."

Dr. Olson specializes in brain mapping, a technique that explores areas of the cortex (brain surface) to identify where crucial functions are performed—while the patient is in surgery. "Because there are no nerves in the brain to convey pain, we can wake the patient up and use electrical stimulation to 'power down' a small area of the brain. Then we ask the patient to do things like count to 10. If he or she begins to slur, slow down or stop, we know that area is critical to speech and we need to preserve it. Then we put the patient back to sleep and remove the tumor."

The doctors are excited about the recent opening of the David S. Zocchi Brain Tumor Center, which joins their surgical expertise with that of other neurological specialists in oncology and radiation oncology. "This team offers complete and comprehensive brain tumor care," says Dr. Olson. "It's not something you find at many community medical centers."

The three surgeons are adept at all forms of spinal surgery, and Dr. Olson has special training in minimally invasive disc surgery. Besides brain tumor

and spinal work, Dr. Lustgarten specializes in trigeminal neuralgia, an ailment that causes intense pain in the face.

The program remains linked with Columbia—each surgeon holds a faculty post there and can call on colleagues at that institution for help with complex cases. "From our patients' perspective, it's the best of both worlds," Dr. Estin says. "They can be treated by faculty at one of the top neurosurgical departments without having to leave the county."

Three masters of brain and spinal surgery

JONATHAN H. LUSTGARTEN, M.D., 47 M.D.: Columbia University, 1988 Residency and fellowship in neurosurgery: Columbia, 1988–1995 Founded practice: 1995

DAVID ESTIN, M.D., 42 M.D.: New York University School of Medicine, 1991 Residency in neurosurgery: Tufts-New

Residency in neurosurgery: lufts-New England Medical Center, 1992-1998

Joined practice: 1998

TY J. OLSON, M.D., 35 M.D.: Duke University, 1999 Residency in neurosurgery: Columbia University, 1999–2005 Joined practice: 2005