

# Brain expertise

## STROKE CARE DEPENDS ON PHYSICIANS, NURSES, THERAPISTS & MORE

**P**atients who are wheeled into Upstate University Hospital's emergency department suffering from stroke are likely to receive acute treatment and rehabilitative care under the same roof, and then followed by the same ensemble of providers.

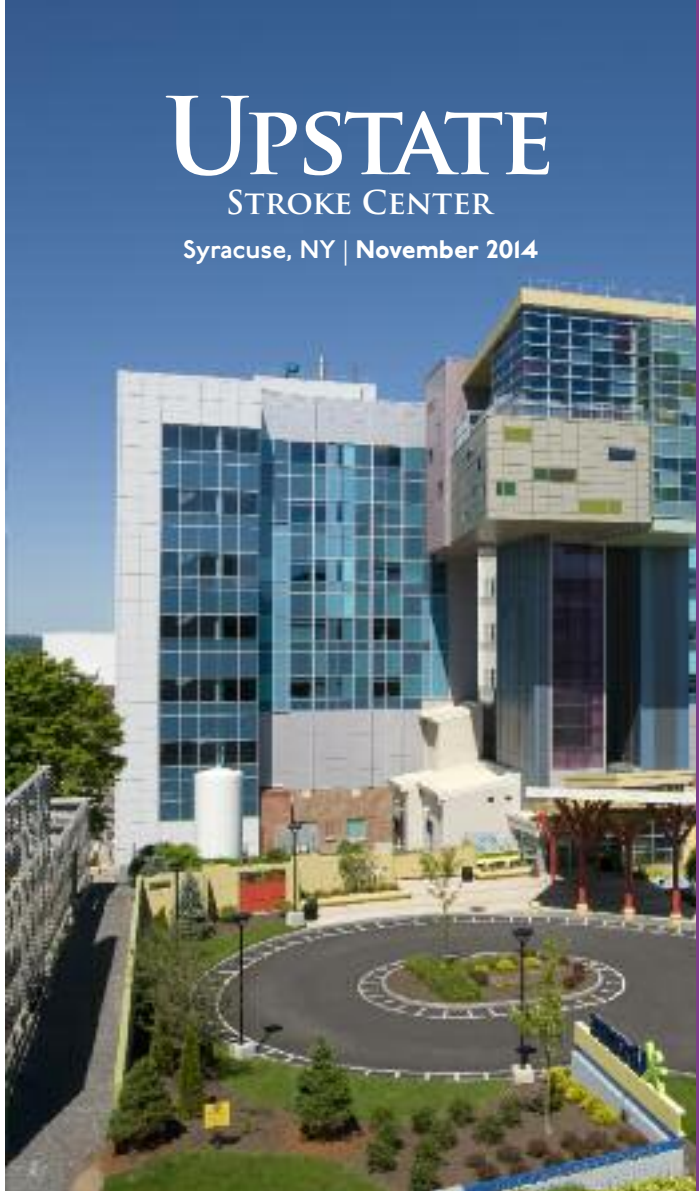
The hospital, the first designated stroke center in Central New York, features the region's only specialized neuroscience and rehabilitation floors, with three levels of specialized nursing care. The neurologists, neurosurgeons and emergency physicians train students and conduct research that improves our understanding of how the brain works and how best to treat stroke. And as an interdisciplinary team, they are always on call to care for patients with stroke.

The hospital's stroke team works together to determine what treatment is best for each individual patient.

Since becoming a stroke center, Upstate has also taken care of hundreds of severely complicated stroke patients who were too sick to be cared for at other hospitals in Central New York.

### Before arrival

When paramedics report a possible stroke patient, the team is summoned to the emergency department. This includes an emergency physician, a neurologist, a stroke coordinator and emergency department nurses. In addition, the nursing supervisor alerts the pharmacy, laboratory and radiology departments.



**UPSTATE**  
STROKE CENTER  
Syracuse, NY | November 2014

**Above: Upstate University Hospital has dedicated the entire 9th floor of its East Tower to Neurosciences.**

**At left: Neurologist Gene Latorre, MD**

### In the ED

Blood tests are done as soon as the patient arrives, and a doctor conducts a neurological exam. CT or MR imaging or an arteriogram may be used in the diagnosis, along with blood flow measurements and tests to detect clots. The staff also assembles a medical history.

Ischemic strokes are treated with tPA, usually intravenously, but sometimes the blood clot is too big or the patient can not be given the clot-busting medication due to contraindication. Fortunately, Upstate has specialists such as Amar Swarnkar, MD who can remove the clot using special catheters inserted in the patient's groin.

The treatment of a hemorrhagic stroke depends on its location and severity. Sometimes it is managed with

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**Brain expertise** *continued from page A1*



**Above left:** Communication centers are in each neuroscience unit of Upstate's East Tower. Nursing stations are between each patient room. **Above right:** Neurosurgeon Lawrence Chin, MD, (right) leads daily patient rounds which includes neurosurgery, neurocritical care and neurology. This includes nurse practitioners, case managers, social workers and staff from occupational therapy, dietary, and speech therapy. **Below:** Patient rooms have innovative towers that move monitoring equipment away from the traditional location to allow easy access to the patient's head. Each patient has a private room with space for family.

medications to carefully control blood pressure, says Gene Latorre, MD. Other times, surgery is indicated. Surgeons may place clips at the base of the aneurysm, or they may place platinum micro-coils inside the vessel to act as a mechanical barrier to blood flow.

Hypothermia is employed in the treatment of some patients. Others may undergo brain tissue oxygen monitoring.

### In the ICU

Upstate has a 14-bed neuroscience intensive care unit, plus 35 additional beds devoted to patients with neurological problems on other units. Patients are transferred as their conditions improve, but nurses with special training in the care of neurological patients continue to monitor and implement the plan of care for each patient.



### Rehabilitation

Physical, occupational and speech therapists and a psychiatrist evaluate each stroke patient within 24 hours of admission.

Rehabilitative therapy begins almost immediately as Upstate offers an inpatient rehabilitative unit, where patients may be moved once they are able to handle three hours per day of therapy.

Rehabilitative counselors offer support for patients who are returning to work or school.

The outcome of acute stroke care is tightly connected to how quickly appropriate emergency treatment is initiated, and the quality of the overall management. At Upstate, it is not unusual for patients with severe stroke to go home after three days, with minimal or no evidence of lasting stroke effects.

Reach the Stroke Team Coordinator, Catherine Stephans, RN, at 315-464-8418. ■



**Amar Swarnkar, MD**

## BREAST RECONSTRUCTION OPTIONS INCREASE

**M**astectomy patients who desire reconstruction have more options today than years past.

“Immediate reconstruction, which refers to reconstruction — either with placement of spacers or implants — is done when the breast is removed. This is the gold standard now, and it is done in most of the patients who are reconstructed,” says plastic surgeon Prashant Upadhyaya, MD, an assistant professor of surgery at Upstate.

Up to 90 percent of breast reconstructions today are “immediate,” but some women have to defer reconstructive surgery for medical reasons, and some want to complete cancer treatment before considering reconstruction.

While many reconstructions today are “staged” with surgeons leaving spacers in place to prevent the skin of the breast from retracting. Patients then must undergo a second surgery for the reconstruction after completion of chemotherapy and full expansion of the breast spacer.

### Direct to implant

However, a growing “direct to implant” trend in reconstruction allows the patient to have the entire breast reconstructed in a single surgery. “About half of my breast reconstructions are now direct-to-implant, single-stage surgeries,” says Upadhyaya.

He says patients are increasingly opting for removal of both breasts, even in cases of single breast cancer. Most health insurers are required to pay for reconstruction of both breasts after mastectomy.

“A patient’s wishes play a big role in what kind of breast surgery she ends up with. It all depends on her anatomy and her expectations,” he says.

Both hospitals on the Upstate campus have SPY Elite imaging machines through which blood flow in the breast flaps can be ascertained in real time. “This helps me in deciding on which type of reconstruction to choose during the surgery,” says Upadhyaya. This also translates into decreased post-operative clinic visits for the patient.

Breast reconstruction can be done using implants, or it can be autologous.



**Prashant Upadhyaya, MD, in the OR with sample silicone breast implants that he uses to discuss surgery with patients.**

Techniques differ, but in general an autologous reconstruction requires complex surgery in which soft tissue is either transplanted from the abdomen to the chest and connected to a new blood supply, or a soft tissue and muscle flap is moved from the patient’s abdomen or back to her chest while maintaining the same blood supply.

Only 10 to 20 percent of reconstructions are done this way, Upadhyaya says, but the procedure appeals to patients who do not want implants containing silicone or saline in their bodies. This is also very useful in patients who have had radiation to their chests.

### Nipple-sparing surgery

Patients who opt for implants may also seek a nipple-sparing surgery in which the incision is made away from the nipple. “It’s actually very well hidden below the breast,” Upadhyaya says. The implants are often inserted through the same incision, and “the patient wakes up with breasts completely intact.”

Although sensation won’t be the same, the surgeon says after a woman recovers from the operation, her breast may appear much as it did before.

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## HOW DO YOU TAKE OCCUPATIONAL HISTORIES?

CONNECTING THE DOTS FROM CANCER DIAGNOSIS TO THE WORKPLACE

**L**ung cancer, bladder cancer and mesothelioma account for the majority of work-related cancers in America, where an estimated 24,000 to 60,000 deaths per year are thought to be attributable to occupational carcinogens.

“The estimates we have should be considered under-estimates,” says Michael Lax, MD, medical director of Upstate’s Occupational Health Clinical Center, explaining that only 2 percent of chemicals are tested for carcinogenicity before being put into use. He says that makes American workers unwitting participants in a giant experiment to determine which workplace chemicals may lead to disease. While other international and national organizations recognize more than 110 substances as carcinogenic, the federal Occupational Safety and Health Administration regulates only 27 as cancer-causing.

At the 10th annual Upstate Cancer Symposium in September, held on campus, Lax told physicians, healthcare providers and medical students that assessing a person’s exposure to cancer-causing chemicals over a lifetime is tricky to do with accuracy. Keynote speaker Harvey Pass, MD, chief of thoracic oncology at New York University Langone Medical Center, told of a blood biomarker that could be ready for use within the next five years. It would help screen people for asbestos-related diseases such as mesothelioma before they develop symptoms, which could develop decades after exposure.

Doctors play a crucial role in recognizing if a cancer is work-related so that patients can seek treatments that may be effective and compensation to pay future medical bills, says mesothelioma lawyer Joseph Belluck, another speaker at the symposium. Lax adds that such documentation can help researchers trace cancer causes, and possibly lead to safer workplaces.

Pathology professor Jerrold Abraham, MD, emphasizes that occupational exposures may be evident in patients’ biopsy tissues, but may go unnoticed and/or unreported by many pathologists. Some of the substances that indicate an exposure are too small to be seen by light microscopy and require electron microscopy. For others, he says, “you must have adequate polarized light microscopy, or you are likely to miss things.”



Lax

Pass

Abraham

Making sense of various reporting terminology is also important. Abraham points out that for materials being sold, the term “trace” asbestos indicates less than 1 percent asbestos by weight. That may sound more relevant when you consider that since asbestos fibers are so small, “less than 1 percent asbestos” actually corresponds to “less than 10 billion fibers per gram.” Abraham says trillions of fibers can exist in a gram of asbestos.

Most important is for pathologists to become more interested in their roles in recognizing and reporting evidence of occupational exposure, he says.

People will not always be aware of their past exposures since a seemingly minimal use of asbestos-containing materials can potentially release billions of fibers into the air they breathe. That is why physicians need to consider a thorough occupational and environmental history for all patients – especially those who receive cancer diagnoses.

Jotting “retired” in the blank that asks for occupation does not give clues to possible exposures. More helpful would be to ask for the work and hobbies in which the patient has engaged over the decades.

Lax recommends using a 4-page exposure history form available on the website for the Agency for Toxic Substances and Disease Registry at [www.atsdr.cdc.gov](http://www.atsdr.cdc.gov). Patients can complete the form prior to their appointments.

For consults, reach Abraham at 315-464-4750 and Lax at 315-464-8668. ■

**Background image from the laboratory of Jerrold Abraham, MD**

**Breast Reconstruction** *continued from page A3*

He favors silicone gel implants. "Saline implants do not have the natural feel or the look of silicone gel implants. I offer both to patients. But I think the longevity of the results is better, and the feel of the breast is better with silicone implants." Silicone implants have been proven to be safe, he adds. The latest silicone styles have more natural tear-drop shapes, and their feel and consistency outside the body have prompted doctors to refer to them as "gummy bear" implants.

So which surgery provides the best outcome?

The surgeon says the answer has to be based on each patient's expectations. He offers all kinds of reconstruction options to the patient and together they figure out what's best. Breast reconstruction is a very intensive process and requires a lot of motivation and participation from both the surgeon and the patient.

## Factors

### DECISIONS ABOUT RECONSTRUCTIVE BREAST SURGERY DEPEND ON A PATIENT'S:

- overall health
- breast cancer stage
- natural breast size
- tissue available for autologous transplant
- desire for reconstruction on both breasts
- interest in changing her breast size

Source: American Cancer Society

Reach Upadhyaya with referrals at Upstate's Patricia J. Numann Center for Breast, Endocrine and Plastic Surgery by calling 315-464-8224. ■

## LIVER CANCER A RISK FOR MEDICAL WORKERS EXPOSED TO HEPATITIS C ON THE JOB

A healthcare worker was exposed to hepatitis C through a needle stick on the job and went on to develop cirrhosis. Fifteen years later, his doctors discovered a mass in his liver, and he underwent resection.

Ajay Jain, MD, spoke about the complexities of managing liver cancers in cirrhotic patients at the 10th annual Upstate Cancer Symposium in September. Jain is the associate director of hepatobiliary and pancreas surgery.

With no vaccine against hepatitis C, workplace exposure remains a serious threat to the lives and livelihoods of physicians and other healthcare professionals who may not be able to work again if they are infected.

HCV, the most common blood-borne infection in the United States, is now a leading cause of liver cancer — and the majority of people who are infected don't know it.

The virus causes a chronic liver infection that can exist for decades without symptoms and that can lead to cirrhosis. Up to 7 percent of people with cirrhosis develop liver cancer each year, Jain says.

A blood test can reveal HCV antibodies.

The Centers for Disease Control and Prevention

recommends testing for all Baby Boomers — anyone born from 1945 to 1965. Jain adds that healthcare workers and anyone who believes he or she may have been exposed should also be tested.

Hepatitis C can be treated with a long-acting interferon and ribavirin, which together have a response rate ranging from 45 percent to 80 percent. Combining ribavirin with one of a couple newer medications can have up to a 95 percent response rate. Simeprevir is a protease inhibitor that works on some subtypes of HCV. Sofosbuvir, approved for some genotypes of HCV, works by blocking a specific protein the virus needs to grow.

Treatment also includes 6- to 12-month surveillance with ultrasound and a blood test that looks for alpha-fetoprotein, the levels of which rise in the presence of hepatocellular cancer.

Jain says patients who develop liver cancer should be treated at a high-volume center, such as Upstate University Hospital. The disease is treated most successfully with a liver transplant — for which Upstate patients are referred out — but resection of small tumors can be effective, and radiofrequency ablation or trans arterial embolization are sometimes options. Chemotherapy is not effective.

Reach Jain for consults by calling 315-464-6295. ■



**Guests tour the Upstate Cancer Center at a "sneak peek" reception for physicians in July.**

The **Upstate Cancer Center** welcomed patients for the first time Aug. 25. The new 90,000 square foot facility features 27 infusion stations, four linear accelerator vaults for radiation therapy, a high-tech intraoperative suite, which includes a 3T MRI, a four-season rooftop healing garden, meditation room, family resource center, multidisciplinary practice locations and private space for genetic, financial and nutrition counseling services. A valet service provides patients with easy access to the center.

## UPSTATE ROUND UP

A medical office specializing in **vascular services** has opened in suite 3K of the Physician's Office Building North at Upstate's Community campus. Patients can receive evaluation, diagnostic management and treatment for many vascular diseases from the team, which includes vascular surgeons, physician assistants and nursing and administrative staff. Reach the office at 315-492-5750.

Four patient exam rooms and an adjacent laboratory are designed to handle diseases of the arteries, including aneurysms, ischemia of the limbs, deep vein thrombosis and varicose veins.

Upstate's downtown Syracuse vascular office is located at University Hospital. In addition, Upstate provides outpatient vascular clinical services at satellite locations in Ithaca, Oswego and Watertown.

Construction is underway for **Upstate's new academic building** on the southwest edge of campus. The five-story, 88,000-foot structure will house the university's College of Nursing and select programs from the College of Health Professions when it opens in the spring of 2016. The building is designed by Ewing Cole Architects of Philadelphia, with a projected total cost of \$40.5 million.

Three research studies at Upstate are among eight projects that will share \$800,000 from the State University of New York and the Research Foundation for SUNY. The projects were chosen because they advance research into the causes, treatments and cures for neurological-based diseases and disorders.

**Daniel Tso, PhD**, is principal investigator for a study that explores the neural mechanism of color vision. **Michael E. Zuber, PhD**, will explore how to generate eye cells that can be used to cure blinding diseases. **Eduardo Solessio, PhD**, is researching novel approaches to determining the environmental risk factors and genetic components that lead to myopia or nearsightedness.

Children 16 and younger were asked to refrain from visiting patients in the hospital in September to help avoid the spread of **human enterovirus-D68**. Officials at the Upstate Golisano Children's Hospital, along with the Onondaga County Department of Health, were the first in New York state to announce confirmed cases of the virus, which dominated national headlines when it infected hundreds of kids in the Midwest.

Doctors at Upstate stopped testing children for the virus since treatment is the same for EV-D68 as for any other respiratory virus. The number of pediatric visits to the emergency department fluctuated from 84 to 129 daily, with a small percentage of hospitalizations.



**Oswego Health was recognized for participating in the Rural Medical Education Program for 25 years.**

Upstate's **Rural Medical Education program** celebrates its 25th anniversary this year. It was introduced by the Department of Family Medicine in 1989 to help alleviate the state's ongoing shortage of physicians who practice general medicine in New York's rural communities. Since then, 215 students have graduated from this program.

The American Cancer Society's Cancer Action Network honored **Upstate interim president Gregory L. Eastwood, MD**, for his role in creating a smoke-free campus. Upstate became the first smoke-free hospital in New York in 2005 and has led policy change in the 64-campus State University of New York and Onondaga County.

The **Upstate Golisano Children's Hospital** celebrated its fifth birthday Sept. 26. Since opening in 2009, the children's hospital has cared for about 4,500 children annually. Patients come from 44 of New York's 62 counties, and more than a third are Onondaga County residents.

The 71-bed hospital is a two-story "treehouse" addition connected to Upstate University Hospital with generous playrooms, an interfaith chapel, family resource center, performance center and family living spaces with laundry facilities. It was designed by the architectural firm **Karlsberger**, of Columbus, Ohio with assistance by **King and King Architects LLP**, of Syracuse.



Medical director **Thomas Welch, MD**, says the children's hospital has helped recruit numerous pediatric specialists in diabetes, neurosurgery, gastroenterology and motility disorders. It has also given physicians and researchers a larger platform from which to do their clinical analysis, especially in the areas of autism and developmental disorders, as well as exploring ways to influence child health policy.



Aggarwal Berg Byler Gonzalez Nicholas Paonessa Reddy Shaw Surowiec Vourganti Whittaker

## NOW ACCEPTING REFERRALS

**These physicians at Upstate are ready to accept referral patients:**

**Vikram Aggarwal, MD**, is an assistant professor of medicine who specializes in nephrology. He is also a member of Upstate's transplant program. Reach him at 315-464-8668.

**Andrea I. Berg, MD**, is an assistant professor of medicine specializing in geriatrics. She can be reached at 315-464-8668.

**Timothy K. Byler, MD**, is an assistant professor in urology, specializing in general female urologic health. Reach him at 315-464-8668.

**Lorena Gonzalez, MD**, provides vascular surgery and endovascular services. Reach her at 315-464-8668.

**Brian Nicholas, MD**, assistant professor of otolaryngology and communication sciences, cares for adults and children and specializes in neurotology. Reach him at 315-464-4636.

**Jessica E. Paonessa, MD**, is an assistant professor in urology, specializing in nephrolithiasis, enlarged prostate, urination problems, voiding dysfunction, bladder surgery and kidney surgery. Reach her at 315-464-1500.

**Elizabeth A Reddy, MD**, is an assistant professor of medicine who specializes in infectious disease, particularly HIV infection. She leads the Designated AIDS Center Clinic. Reach her at 315-464-8668.

**Palma Shaw, MD**, an associate professor of surgery, provides vascular surgery and endovascular services to adults and children. Reach her at 315-464-8272.

**Scott M. Surowiec, MD**, is an assistant professor of surgery specializing in vascular surgery. He treats adults and children. Reach him at 315-464-8272.

**Srinivas Vourganti, MD**, is an assistant professor in urology, specializing in urologic oncology, prostate cancer, bladder cancer, kidney cancer and penile cancer. Reach him at 315-464-1500.

**Vaughn Whittaker, MD**, is an assistant professor of surgery specializing in hepatobiliary and pancreatic surgery and transplant services. Reach him at 315-464-8668.