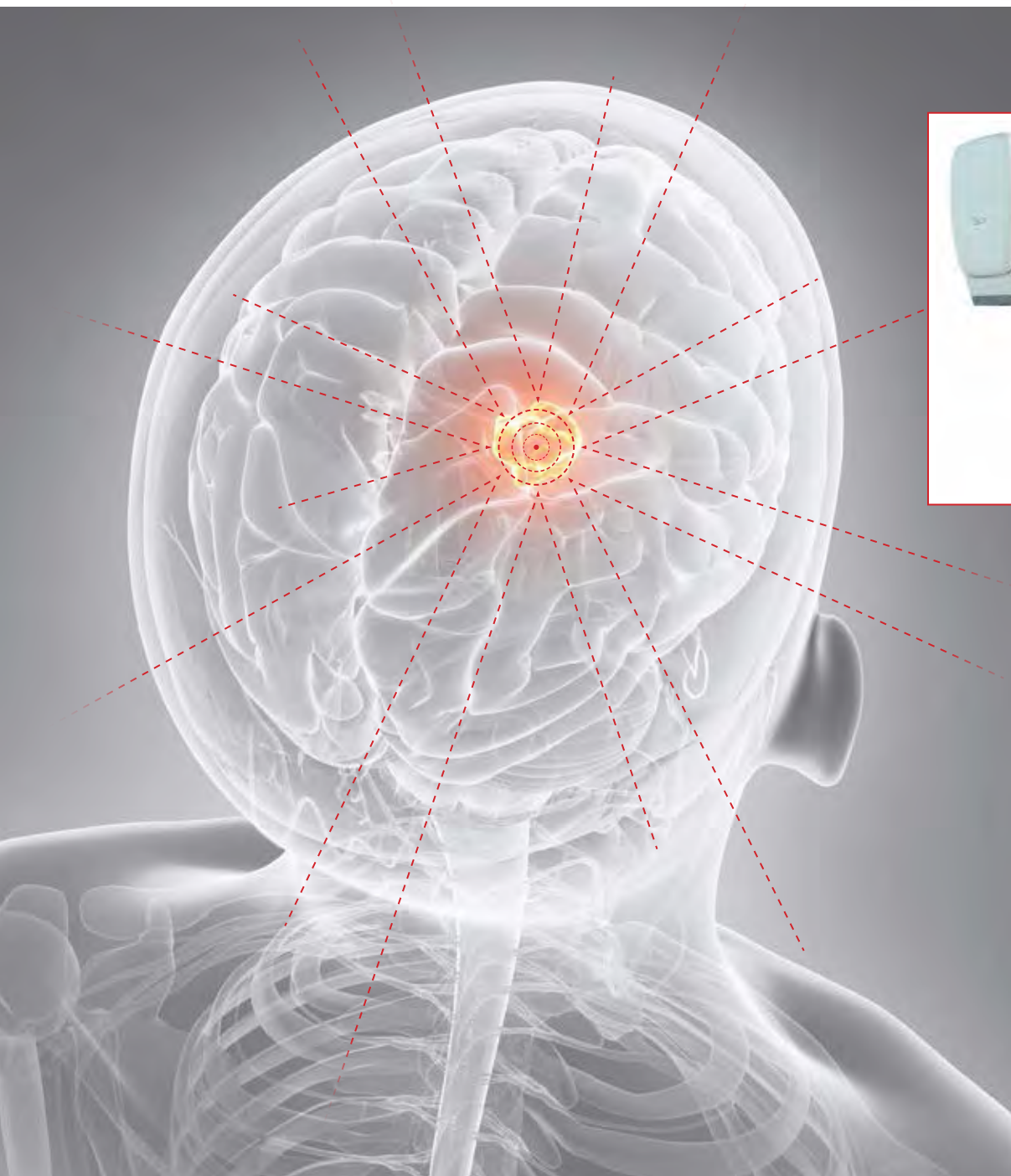




INOVA FAIRFAX HOSPITAL

INhealth



CyberKnife
radiosurgical
technology
fights cancer
non-invasively

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PRECISION **TOOL**

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FOLLOW THE LEADER

On Target

Advanced medicine is about delivering a powerful treatment in a precise way — with as little disruption to the patient as possible. The CyberKnife® Robotic Radio-surgery System, which we spotlight in our cover story, accomplishes all three objectives.

As you'll read, CyberKnife is able to target a tumor with high-dose radiation anywhere in the body. And it does so non-invasively. It is composed of a radiation delivery device, which is mounted on a robotic arm.

Patients can complete treatment as an outpatient in one to five days, compared to the weeks it takes to complete a course of conventional radiation therapy. CyberKnife patients routinely report that they have no side effects or minimal side effects from their treatment, and in most cases they can immediately return to their normal daily activities. We are proud to offer the CyberKnife to you as another weapon in our oncology arsenal.

You'll also see how high-tech equipment and services are used to help endoscopy and epilepsy patients on pages 4-5. The technology of medicine in our field is getting better, and there are plenty of examples of it right here at Inova Fairfax Medical Campus.



**PATRICK
CHRISTIANSEN,
PhD**

CEO, Inova Fairfax
Medical Campus

Executive Vice
President, Inova



PEDIATRICS

CRITICAL CARE

Inova Children's
Hospital is
equipped
for complex
cases

Kim Zimmerman and Kamal Faour were joyfully expecting the arrival of their first child when their world turned upside down. A routine sonogram revealed the baby had transposition of the great arteries (TGA), a rare and complex congenital heart defect in which the aorta and pulmonary artery are reversed. The infant would need open heart surgery at birth.

Kim and Kamal were in shock. "Everything had been going so well. It was the easiest pregnancy imaginable. To get this news just a few weeks before delivery was awful," Kim says.

The couple had planned to give birth at Inova Women's Hospital. They'd toured the birthing center and attended childbirth classes. Kamal's two daughters had been born there. Would this be possible now? The answer was a resounding yes.

They met with patient navigator Kelly Gallo and

Kamal Faour and
Kim Zimmerman with
healthy baby Nabil

pediatric cardiac surgeon Lucas Collazo, MD, who reassured them that Inova's unique, comprehensive Fetal Care Program would provide everything they'd need under one roof. From prenatal consultation, high-risk pregnancy expertise and delivery at Inova Women's Hospital to advanced pediatric care and surgery at Inova Children's Hospital, the program ensures that families stay close during this critical time. In fact, it is the only program in the Washington, DC, region where mother and baby are cared for in the same place.

PREPARING FOR BABY

Over the next few weeks, Gallo made things as easy as possible, coordinating everyone's schedules and assembling a team of specialists to prepare for the birth. When baby Nabil arrived by C-section, he was whisked to the catheterization lab where Jim Thompson, MD, a pediatric cardiologist, inserted a balloon catheter into his heart

to enlarge the opening between the atria and keep him breathing until his surgery. Three days later, Dr. Collazo and Irving Shen, MD, performed an arterial switch, moving Nabil's aorta and pulmonary artery to their normal positions. The infant was placed on a bypass machine while the cardiac surgeons repaired his tiny heart, barely bigger than a walnut.

Nabil spent 10 days in the PICU before Kim and Kamal brought him home to Falls Church. He's now a healthy, thriving baby boy. His parents are extraordinarily grateful for such a positive outcome.

"Kelly and Dr. Collazo were so encouraging and explained everything so well," Kim says. "We were happy and relieved to know we could stay at Inova. It was the best place for our baby to be born."

CARE UNDER ONE ROOF

Learn more about
pediatric services at Inova
at inova.org/pediatrics.



STEM CELL MILESTONE

Transplant program at Inova Fairfax Hospital celebrates 25 years

The Fairfax Stem Cell Transplant Program, a collaboration between Virginia Cancer Specialists and Inova Fairfax Hospital, recently celebrated its 25th anniversary. The program pioneered some of the first stem cell transplants in the mid-Atlantic region and has provided these lifesaving procedures to more than 800 patients.

“The Silver Anniversary celebration for our Fairfax Stem Cell Transplant Program marks a quarter-century of success in providing lifesaving procedures to patients with cancers and blood diseases once considered incurable,” says Dipti Patel-Donnelly, MD, Co-Director of the Fairfax Stem Cell Transplant Program.

The program, which began in 1989, is the only transplant program in the Northern Virginia area accredited by the Foundation for the Accreditation of Cellular Therapy, the recognized gold standard across the industry.

Virginia Cancer Specialists, an affiliate of The US Oncology Network, provides patients access to technology, physician collaboration, clinical research and the most advanced cancer treatments. It has nine locations in Northern Virginia.



New Services IN GAINESVILLE

Inova Primary Care and Specialty Center is now conveniently located at 13575 Heathcote Boulevard, Gainesville, VA. The new center includes primary care, general surgery, neurology, neurosurgery, orthopedics and sports medicine practices, along with the Inova Vein and Vascular and Inova Imaging Centers. For more information, visit inova.org/gainesville-medical.

INOVA MEDICAL GROUP

Family practice physicians offer ongoing and preventative care here. To make an appointment, call **571.248.4620**.

INOVA ORTHOPEDICS AND SPORTS MEDICINE

This practice offers a wide range of orthopedic specialty services, from arthroscopic surgery, sports injuries and hip, knee and shoulder joint replacements to complex orthopedic fractures. To make an appointment, call **703.205.2626**.

INOVA MEDICAL GROUP SURGERY

This group offers a wide range of surgery treatments utilizing the latest surgical protocols and techniques. To make an appointment, call **703.531.2246**.

INOVA MEDICAL GROUP NEUROLOGY

Neurologists here offer diagnostic, treatment and research services for neurological and related disorders. To make an appointment, call **703.391.4140**.

INOVA MEDICAL GROUP NEUROSURGERY

An elite team of surgeons here specializes in minimally invasive neurosurgical techniques on the brain, spine and other nervous system disorders. To make an appointment, call **703.970.2670**.

INOVA IMAGING CENTER

This new diagnostic center offers diagnostic X-ray, ultrasound and women’s imaging studies, including digital 3-D mammography. To make an appointment, call **703.468.2600**.

INOVA VEIN AND VASCULAR CENTER

This outpatient treatment center provides diagnostic and vascular procedures including varicose and spider vein treatments. To make an appointment, call **703.468.2600**.



COME JOIN US!

(Stay Tuned for Details)

What: Youth Sports Safety Symposium

When: Saturday, July 26

Who: Parents, coaches and trainers. Activities will be held for kids.

Why: Learn about youth sports safety, including concussions and orthopedic injuries.

INFORMATION

Visit inova.org/youthsports or scan the QR code HERE to find out more.



STOMACH PAIN S

Advanced Endoscopy Center serves patients with leading technology

Inova Fairfax Hospital's Advanced Endoscopy Center offers a wide array of services to diagnose and treat gastrointestinal issues. "Inova Fairfax Hospital has elite services enabling us to diagnose and treat diseases with the flexible endoscope," says Behzad Kalaghchi, MD, Medical Director of the Inova Fairfax Hospital Advanced Endoscopy Center. "We use the most successful non-surgical treatment options available. Patients benefit enormously from the minimally invasive approach that endoscopy affords. The avoidance of more invasive procedures also results in substantial healthcare cost savings."

The center provides a wide range of specialized diagnostic and treatment modalities and options not commonly provided in the medical community. Diagnosis, staging, treatment or palliation of gastrointestinal cancers, and management of benign or malignant pancreato-biliary conditions are a major part of the center's services. Generally, patients with these types of complex problems are referred by other gastroenterologists, oncologists, surgeons or primary care providers to the center.

In order to treat and diagnose these issues, the healthcare professionals at Inova Fairfax Hospital's Advanced

Endoscopy Center have access to a state-of-the-art endoscopy lab and cutting-edge technology. "We regularly update our endoscopic lab with newer lines of equipment and services for optimal management of each condition that we treat," says Dr. Kalaghchi.

The newest equipment and services includes electrohydraulic lithotripsy, which aids in the destruction of larger, more difficult-to-treat bile stones; and balloon enteroscopy, to provide visualization of the deeper portions of the small bowel.

Endoscopic ultrasonography (EUS) is an integral part of the center. This modality allows for continuous imaging and observation for a spectrum of EUS-guided interventions, including drainage of the pancreas and gallbladder and other fluid collections; access to the pancreatic and biliary systems; celiac plexus interventions; and ablative therapies.

All of this is made possible through Inova Fairfax Hospital's dedication to high-quality service and well-trained healthcare professionals across the spectrum.

"We have a monthly multidisciplinary conference incorporating all the related specialties and resources available to discuss complex cases," says Dr. Kalaghchi. "We are very passionate about our work



An upper gastrointestinal endoscopy uses a lighted endoscope to see inside the upper GI tract.

and the service we provide to patients. We emphasize personalized patient care that is delivered through our physicians' commitment to excellence and endoscopic expertise."

GET HELP

If you have frequent or long-standing heartburn, talk to your physician. For a referral to an advanced endoscopist specializing in this treatment, call **1.855.My.Inova** or visit **inova.org/healthcare-services/endoscopy/index.jsp**.

STOPPING

Inova Fairfax Hospital offers a wide array of epilepsy services

SEIZURES

Epilepsy services have expanded at Inova Fairfax Hospital. “We have surgical services available including implanting brain electrodes to evaluate and record seizures, and we have procedures to reduce or eliminate seizures as well,” says James Leiphart, MD, PhD, FACS, FAANS, Director of Epilepsy Surgery and Co-Director of Epilepsy Services for Inova Fairfax Hospital.

“That’s the big advance that we’re moving forward with,” says Dr. Leiphart. “[We have] more of a surgical program, as well as what we already had, which is years and years of experience in patient monitoring and treatment.”

This availability of surgical procedures makes a huge difference for the 20 percent of epilepsy sufferers who do not respond to medicine-based treatments. Additionally, Inova Fairfax Hospital is able to better serve these sufferers of epilepsy with its dedicated staff that includes two epilepsy surgeons.

“We have recruited a great team of neurosurgeons in the past year,” says Mohankumar Kurukumbi, MD, Assistant



Director of Epilepsy Services for Inova Fairfax Hospital. “Having two well-trained epilepsy surgeons available all the time will make access to high-quality treatment easier. Here we can get things done faster, and with better results.”

Dr. Leiphart is one of the recently hired surgeons. He has helped oversee these additions to the epilepsy program. “I was hired by Inova to spearhead the surgical side of the program,” says Leiphart. “I’m 100 percent focused on the program at Fairfax, which is an advantage.”

In addition to the new focus on surgical offerings, Inova Fairfax Hospital has also increased its number of monitored beds. These beds are used for evaluating patients with epilepsy to determine the type of epilepsy and whether the patient is a candidate for surgery.

EPILEPSY AID

Learn more about epilepsy testing and treatment at inova.org/neuroscience.

The Technology of Treatment

Technology is an important part of the epilepsy services provided by the surgeons and professionals at Inova Fairfax Hospital. Staying on the cutting edge allows the Inova Fairfax Hospital staff to offer the latest in epilepsy treatments. Here are just two of the technologies they use.

Vagus Nerve Stimulation (VNS) – This is an outpatient procedure that involves implanting an electrode into the patient’s chest. “When the patient senses a seizure, the patient can swipe a magnet on the electrode on his chest and it can stop the seizure,” says Mohankumar Kurukumbi,



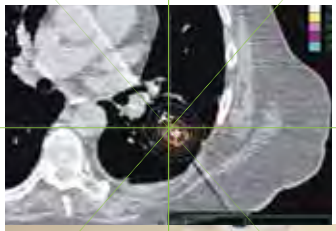
MD, Assistant Director of Epilepsy Services at Inova Fairfax Hospital.

NeuroPace – Inova Fairfax Hospital doctors are in talks to bring this recently FDA-approved device for recording and blocking seizures through stimulation

Vagus Nerve Stimulation enables a patient to swipe a magnet on an electrode in his chest to stop a seizure.

to the hospital. The Epilepsy Center was recently recognized as a Level 4 center by the International League Against Epilepsy. This, according to Dr. Kurukumbi, will “open the door” for NeuroPace technology at the hospital.

PRECISION



The CyberKnife allows a surgeon to deliver high doses of radiation with precision to a cancer site.



nearby tissue. Supported by a flexible robotic arm, the specialized machine administers high-energy X-rays to cancer sites located anywhere in the body, including the brain, head and neck, spine, lung, prostate, liver, pancreas and breast. CyberKnife therapy targets cancer cells at any stage and may be performed as a stand-alone treatment or alongside traditional surgery, chemotherapy or conventional radiation therapy.

"It's a very exciting opportunity for us in that we're able to offer the most cutting-edge technology to deliver high doses of radiation to anywhere within the body in the most precise fashion available," says Dr. Bajaj.

Unlike traditional radiosurgery, which may involve multiple treatments over the course of several weeks, CyberKnife therapy can be completed in just one to five days. Since the outpatient procedure is pain-free, anesthesia is not necessary.

One of the biggest advantages of the CyberKnife system is its use of

Radiosurgical tool fights cancer non-invasively

Picture a highly effective cancer treatment that is non-surgical, painless and requires zero downtime. Called the

CyberKnife® Robotic Radiosurgery System, this powerful treatment option is now available at Inova Fairfax Hospital for patients who prefer a non-invasive alternative to cancer surgery, or who have previously been ineligible for other treatments.

"The CyberKnife is a robotic radiation delivery platform that essentially allows the radiation oncologist, in conjunction with a team of other providers, to deliver very precise radiation in very high doses to any location within the body," says Gopal Bajaj, MD, Chairman of Radiation Oncology at Inova Fairfax Hospital. "It's an excellent, completely non-invasive option for patients with tumors that are either not amenable to surgery

or for patients who are otherwise not candidates for surgery."

LEADING-EDGE THERAPY

The CyberKnife system delivers beams of radiation from numerous angles to precisely target a tumor without affecting

Bringing It All Together

If your doctor recommends CyberKnife treatment, CyberKnife Coordinator Elizabeth Heneghan, BSN, CLIN III, CBCN, is there to help you every step of the way, from your first consultation through treatment and follow-up.



CyberKnife Coordinator Elizabeth Heneghan, BSN, CLIN III, CBCN

With more than 20 years of nursing experience, including five years within the radiation oncology

department at Inova Fairfax Hospital, Heneghan provides

patients with the expertise and compassionate care they need to achieve the best possible outcomes.

"This is an amazing opportunity," says Heneghan. "To be able to follow these patients from the start of their adventure to the follow-up, and just the bonds that I get to have with them, I feel very privileged to have this job."

Having earned a certificate in radiation oncology and her

certification as a breast care nurse, Heneghan is happy to contribute her expertise and experience to the Inova Fairfax radiation oncology team.

"I've worked in a lot of specialties all over the world and I've never worked with a better group of physicians or patients than I have here," says Heneghan. "I love coming to work every day."

Heneghan can be reached at **703.776.8225** or at **elizabeth.heneghan@inova.org**.

TECHNOLOGY

image-guided software to track the exact location of a tumor even as the patient moves or breathes. Whereas conventional radiosurgery often requires the patient to be stabilized by an uncomfortable, sometimes invasive frame, the CyberKnife's gentler approach adjusts for patient movement with tremendous precision, allowing the patient to breathe normally and remain comfortable during treatment.

SEAMLESS PROCESS

Prior to therapy, the medical team will develop an individualized treatment plan for the patient. In some cases, preparing for treatment may involve placement of tiny gold markers called fiducials near the tumor to guide the CyberKnife system during treatment. The medical team will also create an MRI and a CT or PET scan to gather precise information about the patient's tumor.

During treatment, the patient relaxes on a cushioned table. Monitored by the medical team, the CyberKnife system revolves around the patient, delivering radiation to the tumor. Each treatment session lasts 30 to 90 minutes. Patients typically resume their normal activities immediately following treatment with no recovery time necessary.

"It's a lot less invasive and the outcomes are wonderful," notes CyberKnife Coordinator Elizabeth Heneghan, BSN, CLIN III, CBCN, of the technology.

EXPERTS ON YOUR SIDE

The radiation oncology team at Inova Fairfax Hospital provides radiation therapy to more patients than any other facility in the Washington, DC, region. The team brings together highly trained specialists from multiple disciplines who work in concert to deliver the best care to each individual patient. Specialists on the

team include radiation oncologists, neurosurgeons, thoracic surgeons, surgical oncologists, radiation therapists, physicists, dosimetrists and radiosurgical nurses. Heneghan, who helps patients schedule appointments, facilitates communication among specialists and provides educational information, coordinates the treatment process.

"The CyberKnife is an amazing tool, but the really great thing about it is that it's in the hands of the best multidisciplinary team of oncologists and radiation oncologists and surgeons in the DC metropolitan area," says Dr. Bajaj. "That's what really sets us apart."

PERSONALIZED CARE

To find out if CyberKnife treatment is right for you, call **703.776.8225** or visit inova.org/cyberknife.



Inova Fairfax Hospital's CyberKnife team (L-R): Joseph Lee, MD, PhD; Stella Hetelekidis, MD; Nilesh Vyas, MD; James Ecklund, MD; Glenn Tonnesen, MD; Allen Waziri, MD; Samir Kanani, MD; Gopal Bajaj, MD; Ashish Chawla, MD; and Ben Nguyen, MD.

Inova is a not-for-profit healthcare system located in Northern Virginia in the Washington, DC, metropolitan area, serving over 2 million people with over 1,700 licensed beds. It consists of five hospitals including the area's only Level 1 Trauma Center and Level 3 Neonatal Intensive Care Unit. Inova encompasses many health services including the internationally recognized Inova Heart and Vascular Institute, Inova Translational Medicine Institute on genomics, Inova Neuroscience Institute and Inova Children's Hospital. Inova's mission is to improve the health of the diverse community it serves through excellence in patient care, education and research. More information about Inova is at inova.org.

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**8110 Gatehouse Road
Falls Church, VA 22042**

inova.org

IHS-052-IFH



WELCOME, NEW PROVIDERS!

Here are new healthcare professionals who have joined the Inova Fairfax Hospital medical staff in recent months:

NAME	DEPT/SECTION	NAME	DEPT/SECTION
Kathleen M. Ammann, MD	Pathology	Richard Ki Kim, MD	Psychiatry
James A. Armstrong, MD	Neurosciences	Brian M. Kirmse, MD	Pediatrics
Allan A. Azarion, MD	Neurosciences	Yan Liu, MD	Pathology
Asad E. Chaudhry, MD	Medicine	Sheri Ann Lofton, MD	Family Practice
Ravinder Chawla, MD	Medicine	Ashlei W. Lowery, MD	Medicine
Mi Hei Cho, MD	Pediatrics	Caroline S. Moazzam, MD	Orthopaedic Surgery
Stephen C. Clement, MD	Medicine	Denise T. Mohess, MBBS	Medicine
Vincent F. Coviello, DDS	Surgery	Leon E. Moores, MD	Neurosciences
John M. Csokmay III, MD	Obstetrics and Gynecology	Vijaya L. Nallamotheu, MD	Psychiatry
Elizabeth H. DeOreo, MD	Psychiatry	Susan O'Donoghue, MD	Medicine
Ivica Ducic, MD, PhD	Surgery	Hiral K. Patel, MD	Surgery
Theodore M. Friedman, MD	Pathology	Christopher M. Putman, MD	Radiology
Elizabeth Garcia-Lopez de Victoria, MD	Neurosciences	Larry J. Quate, MD	Medicine
Linda George, MD	Pediatrics	Lawrence H. Roberts, MD	Surgery
Arun K. Grover, MD	Medicine	Liam P. Ryan, MD	Surgery
Suraiya K. Haider, MD	Pediatrics	Ramesh Singh, MD	Surgery
James A. Henry, MD	Pathology	James W. Slack, MD	Surgery
Russell R. Houk, MD	Pathology	David M. Treff, DDS	Surgery
Afia A. Hussain, MD	Psychiatry	Divyang J. Trivedi, MD	Medicine
		Srikrishna Vemana, MD	Medicine

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