RENOVATED NEUROSURGEON JOINS HCMC AND U OF M STAFF

Uzma Samadani, MD, PhD, recently joined Hennepin County Medical Center (HCMC) as the Rockswold Kaplan Endowed Chair for Traumatic Brain Injury Research. She is also Associate Professor of Neurosurgery at the University of Minnesota.

Samadani splits her time between clinic and research. In addition, she spends one day a week each at the Minneapolis Veteran’s Hospital and teaching at the university. She sees a variety of neurosurgical patients.

“Trauma is exciting because you never know what will come in the door and you have a chance to dramatically change a patient’s outcome for the better,” she said. “But I also enjoy operating on tumors in the brain and spine.”

Samadani received her MD/PhD from the University of Illinois and completed neurosurgery residency training at the Hospital of the University of Pennsylvania. She also completed a Van Wagenen Fellowship in Goettingen, Germany.

Most recently Chief Neurosurgeon at Manhattan Veterans Hospital, Samadani also held academic appointments at New York University and New York University School of Medicine. She co-directed the Steven and Alexandra Cohen Center for Veteran Traumatic Brain Injury and Post Traumatic Stress at NYU Langone Medical Center.

The offer to come back to the Midwest was one that Samadani couldn’t refuse. “I have fivefold the access to trauma than I did in New York City,” she said. “The hospital made a huge commitment to helping me get my lab set up and get the resources I need to do the work I want to do.”

Her first surgery rotation at Cook County Hospital in Chicago showed her what a neurosurgeon could do. “I was completely blown away that a neurosurgeon’s intervention could have such immediately gratifying results for the patient,” she said. “Since then, I’ve been hooked.”

EXCELLENCE

Adding Insight to Injury

“Every eight seconds someone in the United States gets a serious blow to the head and we can’t even tell how badly they are hurt. Sometimes we can’t tell if they are hurt at all... A collaborator said to me... ‘why don’t you try tracking their eye movements?’”

Leaping on that suggestion, Samadani and her team wrote software that tracks eye movements as people follow action on a screen. A video camera records the movements.

“If one eye lagged behind the other, even for a fraction of a second, it could be tracked,” Samadani said in the video. The results shocked her. “It was clear that normal people moved their eyes differently than people who had swelling in their brains. Their eyes even indicated where in the brain the injury might have occurred.”

For Samadani, using the eyes as “a window to the brain” adds insight into brain injury.

Learn more: http://tedmed.com/talks/show?id=299432
HCMC recognized throughout country for traumatic brain injury care

Imagine this. Your elderly neighbor is cleaning leaves from his gutter. You see him fall from his ladder, striking his head on the sidewalk below. You call 911 immediately and he is transported to the emergency department of Hennepin County Medical Center (HCMC) in Minneapolis, Minn. Several trauma teams spring into action, including emergency room staff, surgery, and orthopedics. A neurosurgery resident is there when he arrives to initially assess brain and spine trauma.

This is business as usual for one of the busiest traumatic brain injury (TBI) centers in the upper Midwest. “The neurosurgical service does a comprehensive assessment and offers a variety of treatments based on the patient’s symptoms,” noted Uzma Samadani, MD, PhD, Rockswold Kaplan Chair for Traumatic Brain Injury Research at HCMC. “It’s the current state of the art.”

HCMC hones its TBI practice by staying at the cutting edge of patient care techniques. “We’re one of the very few major trauma facilities that routinely evaluates the latest innovations in severe traumatic brain injury,” said Chief of Neurosurgery Tom Bergman, MD. “We are also in the process of incorporating Dr. Samadani’s revolutionary eye tracking evaluation for concussion.”

One of the things that Bergman feels distinguishes HCMC’s traumatic brain injury care is the presence of U of M neurosurgical residents. “They are dedicated 24/7 and are with the patient from the very beginning,” Bergman said. “Having them as part of our team increases everyone’s ability to care for our brain-injured patients.”

Active research is another way that HCMC stays at the top of its game. “Our development of brain injury management is known throughout the country,” said Bergman. “The hardest part of TBI for anyone is that it’s difficult to diagnose because it’s difficult to measure,” added Samadani. “With our research, we’re hoping to change that because we’re developing objective measures, particularly with eye tracking.”

There may be difficulties treating TBI patients, but there are also rewards. “I love taking a severely injured, multi-trauma patient, working with them sometimes from six months to a year and then having them walk into the clinic and shake my hand,” Bergman said. “It makes it all worth it.”
Lab team keeps Samadani on top of things

When it comes to staffing her lab, “My strategy is to identify the best and brightest people who are motivated to work hard,” said Uzma Samadani, MD, PhD. “If you don’t surround yourself with young people who are much smarter than you, you run the risk of not staying current.”

Samadani’s fulltime lab team at Hennepin County Medical Center includes Abdullah Bin Zahid, MD, and David Balser, MD, who are working on outcomes after traumatic brain injury in veterans and preventing and treating chronic subdural hemorrhage. Lab Manager Vikalpa Dammavalam, BS, is working on eye tracking as a means to classify brain injuries. Volunteers also do important work in the lab. Sam Daly, BS, is a recent addition. Samadani asked him to make a list of all serum biomarkers considered indicative of brain injury, thinking he would come up with 50 or so. “He started looking through the literature and told me he was up to more than 200. I was blown away,” she said. “His efforts in multimodal brain injury classification are invaluable!”

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Minnesota Brain Injury Alliance premiere partner for those with TBI

Traumatic brain injury doesn’t discriminate. “It’s one of the very few chronic illnesses for which everyone is at risk, from babies to senior citizens,” said David King. He should know. King is Executive Director of the Roseville-based Minnesota Brain Injury Alliance (MNBIA), the largest organization of its kind in the nation. Its goal is to raise awareness about brain injury and enhance the quality of life for anyone in the state affected by it.

The nonprofit organization looks at its work through several lenses, including prevention, treatment, and advocacy. Most of their work involves navigation of some kind. “We help people navigate the system to see what’s available to them,” said King.

Here are a few of the ways they do that:

- Working with hospitals under a program called Resource Facilitation to help educate staff members about what’s available for their patients with brain injury
- Using a HIPAA-compliant external firm that monitors the Minnesota Department of Health’s TBI Registry to follow up with patients about six weeks after being discharged from the hospital and make sure they’re getting what they need
- Partnering with homeless shelters under a Bush Foundation Community Innovation grant to educate staff about TBI symptoms and services
- Providing case-management services to the state to ensure that about 800 people with TBI get the support and services they need to live as independently as possible.

“Our role is to stay in contact with our clients, to see what’s working and what’s not and make sure that either we provide a service or connect them with someone who can,” said King.

He loves his work. “You get to work with schools and athletes, senior citizens, the corrections system, the homeless,” King said. “These are very diverse populations that add variety to our work and keep it so interesting and rewarding.”