VISION 2033 Corner

In the first issue of Inside Neurosurgery (http://tinyurl.com/ou6kn8n), we shared our vision and mission with you, which is collectively known as Vision 2033. Under that banner, we also have five strategic areas of focus listed above (Safety, Education, Engagement, Excellence and Discovery).

Engagement is a good area on which to shine some light, as this newsletter is an example of how we’re bringing that strategy to life. We engage with the public in a number of ways, including speaking to various community groups throughout the year, participating in the Minnesota State Fair, and communicating with online audiences via Facebook and Twitter. We were also recently featured in the Minneapolis Star Tribune (see page 4).

Professionally, we present research findings to and conduct courses for our colleagues during neurosurgical organization meetings held throughout the world. We have also authored numerous articles published in neurosurgical journals.

Next issue: Safety.

Visual Excellence

DEPARTMENT EXPANDS ITS EXPERTISE IN DEEP BRAIN STIMULATION AS IT WELCOMES NEW TEAM MEMBER

Michael C. Park M.D., Ph.D., will join the Department of Neurosurgery on December 30, 2014, as an assistant professor and MnDRIVE* Neuromodulation Scholar. “Dr. Park will help us make advances in areas where deep brain stimulation may be helpful, including treating psychiatric conditions such as depression and obsessive compulsive disorder, and the experimental work being done with addiction,” said Professor and Department Head Stephen Haines, M.D. “He is also expert in invasive neurosurgical pain management.”

Deep brain stimulation, a surgical therapy for brain conditions such as Parkinson’s Disease, dystonia, and essential tremor, modulates brain activity to treat certain symptoms.

Using his background in biology, medicine and electrical engineering, Park will work with other University departments such as Neurology and Biomedical Engineering, to help create new devices that increase therapeutic options for patients with brain conditions.

Park looks forward to building on his previous research in brain imaging, using resources in the U’s Center for Magnetic Resonance Research. Specifically, he will investigate the way the brain is structured by looking at the brain’s folding patterns and shape. “In engineering, form follows function,” Park said. “There is a structural reason things look the way they do. I want to see if it’s possible to make sense out of the way the brain is structured.”

Prior to accepting his position at the University of Minnesota, Park was assistant professor and director of Functional Neurosurgery and Pain in the Department of Neurological Surgery at the University of Louisville School of Medicine in Kentucky.

*MnDRIVE is a partnership with the U of M and industry designed to help find solutions to the state’s biggest problems, focus areas include: brain conditions, manufacturing systems, global food ventures, and the environment. Go to: http://mndrive.umn.edu/
ART HELPS TRIGEMINAL NEURALGIA SUFFERER DEAL WITH THE PAINFUL CONDITION

Prior to surgery at the U of M, which helped relieve her trigeminal neuralgia (TN), Beth Gale, an elementary school art teacher in Shakopee, Minn., discovered a unique way to help her deal with the condition's painful attacks.

Gale realized that when she was creating art, she was more relaxed and not in pain. She wondered if that might help others with the condition. As a result, she enrolled in a graduate-level art therapy program.

Place to put feelings
"I realized that my own 'art therapy' helped me work through the process of accepting the condition," she said. "It gave me a place to put my feelings and frustrations. Talk therapists are great, but when you have TN, talking can set off an attack. In art therapy, you can still get your feelings out. You don't have to choose between talking or pain."

One of her class projects was to design a mask. One side portrayed what people could see, the other side portrayed the student's feelings. On Gale's mask, the outer side shows her wearing a scarf to protect her face when she was outside (trigeminal neuralgia attacks can be triggered by wind). The flip side of the mask is split in two. One side illustrates Gale having an attack, the other illustrates freedom from the attacks.

This is what it looks like
"The mask was scary for some of my classmates to see," Gale said. "It looked like I was going into major depression. I told them, 'This is what it looks like when your voice is taken away. When you can't hug your child. When your circle gets smaller.'" Trigeminal neuralgia sufferers often feel isolated because it's hard for their family and friends to understand the new restrictions placed on their lives.

In addition to teaching, Gale wants to eventually become licensed to use art therapy with people who have trigeminal neuralgia, helping them divert their attention away from the pain and into their artwork. "I love to support this community," she said. "Wherever that takes me."

Full story: http://tinyurl.com/ndmug3r
On January 23, 2014, Donnell Haas went to work at Securian Financial Group in downtown St. Paul, Minn. When she tried to log in to her computer, she couldn’t remember passwords that she used every day. What Haas hadn’t realized was that she’d had a mild stroke the night before. The next day, she was taken to a hospital where doctors confirmed that she had had a stroke. It would take weeks, however, to find out why.

Thanks to persistent advocacy by her mother, Natalie Steffen, Haas was eventually told that she had a rare neurological disorder called moyamoya syndrome. Moyamoya is a disease in which certain arteries in the brain are constricted. Blood flow is blocked by the constriction and also by blood clots. Sufferers frequently have repeated strokes or cerebral hemorrhages.

On to the U of M
Surgery was Haas’ only option and her doctor transferred her to the U of M. She was assigned to the team of neurosurgeon Andrew Grande, M.D. “It was very frightening, but Dr. Grande patiently explained everything,” said Steffen. Grande recommended that Haas have two surgeries — one right away on the side where the stroke occurred and a second on the other side later on.

Haas successfully got through both surgeries, although the first was the more difficult. The second surgery was “going to be a breeze,” said Grande. He was right. Haas awoke able to recall her children’s names and to move her arms and legs.

“We’re pretty high on the U and all of Donnell’s doctors there,” said Steffen. “It’s comforting to know how they work together with one another. For someone with her complications [she has diabetes and blood pressure issues], we’d be running all over the place to get her needs met in another system.”

Steffen also tipped her hat to Haas’ primary care physician. “Things work best when healthcare providers’ first priority is their patient’s best interests, regardless of where that patient is being treated,” she said. “It was obvious that all these providers were doing their best for Donnell.”

Full story: http://tinyurl.com/o4ukpq5
About moyamoya: http://tinyurl.com/mynuk6u
OUR WISH FOR YOU

Everyone here at the U of M Department of Neurosurgery wishes all of our readers and their families the very best in 2015. Our hope is that you have a healthy, happy, safe and prosperous New Year.

We are grateful for your attention and will strive to provide information that is useful to you and yours and gives you some insight into how we serve our patients, conduct our research, and live our Vision.

Please let us know if there is anything specific that you would like to know by sending an email to julso001@umn.edu.

Warmest regards,

The U of M Neurosurgery Team

A recent Minneapolis Star Tribune article provided fascinating insight into the ups and downs of learning how to become a neurosurgeon at the U of M. If you missed it, here’s where you can read it: http://tinyurl.com/oalnjv6.

You can subscribe to the electronic version of this newsletter by calling 612-626-8786 or emailing julso001@umn.edu.

Discovery

EVIDENCE-BASED MEDICINE APPLICATIONS CAN BE APPLIED TO WELL ESTABLISHED INTERVENTIONS

You wouldn't have any reason to doubt that using a parachute when jumping out of a plane could help prevent death, right?

While some things may seem obvious, when it comes to science and medicine, doctors use many kinds of evidence when making health care decisions. Known within the medical community as evidence-based medicine (EBM), one of its primary goals is to improve overall decisions by the individual physicians and care team.

In a recent study published in Neurosurgery, Stephen J. Haines, M.D., co-author and Head of the Department of Neurosurgery at the University of Minnesota, used the example of the parachute and demonstrated that applying valid EBM analytic techniques could show that the parachute is, indeed, very effective in preventing death when one jumps out of an airplane.

But what happens when you apply the same logic to a standard medical procedure?

"We were able to find a neurosurgical example of an intervention approximately as effective as the parachute," said Haines. "It turns out that surgical removal of an expanding epidural hematoma in a patient who is deteriorating from it is, in fact, almost equally as effective as a parachute in preventing death."

An epidural hematoma is a form of traumatic brain injury that occurs due to a hemorrhage between the skull and lining of the brain and is usually associated with a skull fracture. Most cases require rapid evaluation and potential surgical intervention.

Haines believes that this demonstrates that even long-established treatments like an epidural hematoma that were never subjected to modern validation techniques (they became common medical practice years before) can be effectively evaluated with EBM techniques.

Full story: http://tinyurl.com/nassgxxt
Study: http://tinyurl.com/kpccue