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THE JOHNS HOPKINS
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A Crucial Save Helps Bypass Amputation

Joe Taschner was just a few hours away from losing his right leg. A 55-year-old father of two from Northampton, Pa., he'd already undergone numerous surgeries because of his lifelong struggle with diabetes—including a kidney transplant and cataract surgery on both eyes in Pennsylvania, as well as a triple heart bypass performed at The Johns Hopkins Hospital in 2002. When he began having problems with circulation in his legs last spring, Taschner scheduled an appointment to see Thomas Reifsnyder, head of vascular surgery at Johns Hopkins Bayview Medical Center, about a possible bypass surgery in his leg. But before he made it to Baltimore, two of the toes on his right foot started turning black.

Taschner went to a nearby emergency room and urged the physicians there to contact Reifsnyder. Assured by a surgeon at the hospital that he had spoken with

Reifsnyder and could perform the same surgery, Taschner agreed to an operation. Over the next two days—once on Monday and again on Tuesday—the surgeon tried to bypass the blockage in Taschner's leg, but both operations failed.

"I could see it all over his face," Taschner recalls of the moment the surgeon came in for a postoperative inspection. "It didn't work."

The surgeon said the only remaining option was to amputate his lower right leg, advice that Taschner, his wife and his two daughters refused to accept.

Instead, Taschner insisted that the surgeon contact Reifsnyder, who scheduled him for a next-day appointment. During their first meeting at Bayview, Reifsnyder



After his leg bypass surgery, Joe Taschner is back on his feet and out of danger.

agreed to perform the leg bypass surgery, and 24 hours later, the two-hour operation was over. Taschner was able to return home after just three days.

"He fixed it all up," Taschner recalls. "The surgery worked perfectly, and it's still working perfectly." He remembers with admiration how Reifsnyder conducted his postoperative meetings, personally unwrapping his bandages, cleaning the surgical wound and removing his stitches, instead of handing the routine tasks over to a nurse or resident. "He said to me, 'That's my leg. From here on out, nobody touches it until I say so,'" Taschner recalls.

Now back at his job as a carpentry foreman on commercial construction sites, Taschner spends his free time building furniture or with his family. He's recovered from his near-brush with amputation, and he credits Reifsnyder with helping him maintain a high quality of life. "He's a fantastic surgeon and a fantastic person. I can't say enough about him. I owe him my leg." ■

For more information or to schedule an appointment, call 410-550-1629.

The Surgeon Speaks

"That limb can be saved."

Transplanting veins from one portion of a patient's legs or arms to another is not a new procedure. But it's proven the best method for getting around blocked arteries so that veins can carry blood to the lower legs and feet.

I see a lot of patients like Joe, whose diabetes ultimately led to limb-threatening circulation problems in his legs and feet. And, like Joe, many are told that their leg can't be fixed, so they have it removed unnecessarily. I can't say 100 percent of the time, but 95-plus percent of the time, that limb can be saved.

To fix his problem, I removed a portion of the greater saphenous vein—a large, essentially extra vein that runs inside the lower leg—and used it to create a new artery to bypass the blocked one. The new artery stretches from his knee to the middle of his foot, replacing the one that stopped working.

The two-hour operation went well, and we were able to send him home three days later. Best of all, we were able to send him home with his leg and foot intact. Often, even if we can save the leg, many in Joe's condition lose most or all of the affected foot. But we were able to preserve his, and it looks wonderful.

So far, the results remain positive, and we hope it will continue so. There is a 70 percent chance that his bypass will last for at least the next five years, and a 90 percent chance that he will be able to keep his foot for the same amount of time. Fortunately, the odds are even better than they look on paper. Most bypasses outlive the patients, and I hope Joe's will be no different. ■

— Thomas Reifsnyder



"He's a fantastic surgeon and a fantastic person. I can't say enough about him. I owe him my leg."



From Julie Freischlag
Director of Surgery

Strategically Planning Our Future

It is a favorite question of financial planners and career aptitude tests: Where do you hope to be in five years? And, just like job seekers and investors, the Department of Surgery must prepare to answer this question as well.

On Jan. 5, 2008, leaders from across the department will hold a strategic planning meeting to discuss everything from patient care to research and education. We'll examine different methods of seeking research money during this time of sparse NIH funding, and we'll talk about how we can share our achievements with the rest of Hopkins and the public. From those conversations and decisions, we hope to shape a strategic five-year plan that will determine the future of surgery at Hopkins and, we hope, cement our place as the best in the country.

But the responsibility for developing this plan cannot be left to departmental leaders alone. Our

surgeons, researchers and clinical and operating room staff are the ones in the trenches every day, doing what it takes to make us the best and witnessing what we need to be even better. They're the ones we need

To be the best, we cannot be afraid to listen to any honest assessment of Surgery at Johns Hopkins, good or bad.

to hear from—everyone from midlevel practitioners and non-OR staff to research fellows and surgeons. That's why, from now until January, each division will be meeting to devise its own five-year plan to present during the strategic planning meeting.

With that in mind, I encourage you to examine our department's history and note the ideas that have made this place remarkable. Likewise, don't hesitate to suggest areas that need improvement. To be the best, we cannot be afraid to listen to any honest assessment of surgery at Johns Hopkins, good or bad. When the meeting comes to order five months from now, I hope it will be to a full crowd, armed with ideas and eager to share them. ■

A Different Vein

Better technology and understanding gives this team great results.

Standing over the 47-year-old patient on her operating table, Jennifer Heller inserts a catheter into his leg, guided by vascular sonographer Alex Nodel and his ultrasound equipment. With the catheter, Heller heats up and closes off the purple and blue varicose veins that branch across the patient's inner calf and thigh. Once the main saphenous vein is shut, she inserts a thin light, called a transilluminator, to locate and remove the remaining bits of vein. Standing by her side, OR nurse José Nava holds the man's leg in place. Meanwhile, SICU nurse Christine Smith monitors the man's sedation level and vital signs. "This looks beautiful," Heller says, finishing up.

The procedure is completed in an hour, and by 1 p.m. the team is on its fourth and final operation of the day. It's an impressive number considering that this time last year, Heller was often conducting only four of the procedures per month. Before surgery can take place, patients must first be evaluated to determine whether their veins are malfunctioning and whether surgery can help. But recommending surgery wasn't the difficulty—getting patients to the operating room was. Before, says the vascular surgeon, varicose vein patients often waited weeks, sometimes months, for a room to become available. But the Johns Hopkins Bayview Vein Center has changed all of that.

For years, varicose veins seemed the neglected stepchild of vascular surgery, Heller says. After all, when compared to other vascular conditions such as aortic aneurysms, limb salvages and strokes, varicose veins seem decidedly less urgent. But, she explains, physicians are gradually recognizing the physical and emotional pain caused by varicose veins, also called venous reflux, and they're treating the disease accordingly.

Just as arteries carry blood away from the heart, veins direct the blood back again. Varicose veins occur when a malfunction causes blood to collect in the veins. If it goes untreated, the condition causes the veins to swell, eventually resulting in painful sores and ulcers on the leg. "It can be very debilitating,"



Vascular surgeon Jennifer Heller and her team in the Vein Center; (from left) Sherry Thorpe, Kelly Martin-Dailey, Sandy Pennacchia, Alex Nodel, José Nava and Christine Smith.

Heller explains. "The majority of my patients are school teachers and nurses and factory workers who spend so much time on their feet. Eventually they can barely stand up, and they all say the same thing: It really is unbearable."

Until about eight years ago, the primary surgery used for removing varicose veins was a painful procedure called vein stripping, which required large incisions in the groin and leg, and a lengthy recovery time. But in recent years, minimally invasive options have become available, offering the same

results with less pain and time. "People were suffering who didn't need to be," explains Nodel, a radiologist. "New surgery techniques allow us to do what we couldn't before."

Since the center opened in November 1966, the hospital has seen a 40 percent increase in the number of patients treated for varicose veins. "Before the center opened, I realized I was seeing more and more varicose vein patients in my practice," Heller recalls. "We just couldn't get all of these cases done in the main operating rooms. I

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Let's Meet: Stephen Cattaneo and Mehran Habibi

He may have only recently joined the full-time faculty, but **Stephen Cattaneo** has more than a decade of Hopkins experience. A thoracic surgeon at The Johns Hopkins Hospital, Cattaneo attended the Johns Hopkins School of Medicine, completed his general surgery residency at the Hospital and recently finished a cardiothoracic fellowship with the department.

"Hopkins just draws you in," says Cattaneo, whose father was also a cardiothoracic surgeon. "There are too many good things going on."

Cattaneo, who began operating in July, plans to conduct thoracic surgery outcomes research. His primary surgical interests include advanced thoracoscopic surgery, particularly thoracoscopic lobectomy. He's also seeking a master's degree in public health. "I want to develop a better ability to do clinical trials and outcomes research," he says. "This will give me a stronger background for that."



Though he was born and educated in Iran, **Mehran Habibi** is firmly rooted in American medicine. "I always wanted to come to the U.S.," Habibi says. "It's on the forefront of medical advancement."

After finishing medical school at the Azad University of Tehran in 1996, Habibi completed his surgical internship at the Hospital of the University of Pennsylvania and his general surgical residency at St. Luke's Hospital in Bethlehem, Pa. He recently finished his surgical oncology fellowship at Virginia Commonwealth University Hospital and signed on in July at Johns Hopkins Bayview Medical Center.

Habibi's clinical interests include thyroid, breast and minimally invasive colorectal surgeries. In the lab, he's pursuing research into a possible cancer vaccine. "As a surgeon, my goal when I operate on cancer is to cure it, though sometimes I can't," Habibi says. "When I can't cure it, I go to the lab and work toward a cure." ■

Preventing Neurological Problems Far from Cardiac Surgery

Fifteen years ago, William Baumgartner and his crew in the cardiac research lab realized that it was time to shift gears. After more than a decade of work on how best to preserve organs for transplant, “we had developed reasonable methods of protecting the heart,” says the chief of cardiac surgery. “What we didn’t have was a good handle on the whole mechanism of neurological injury in patients undergoing cardiac surgery.”

During heart surgery, there is usually a risk of neurocognitive consequences. Consider, for instance, patients who experience an aneurysm in the main artery connected to blood vessels in the head. To repair the aneurysm, Baumgartner explains, a surgeon must induce hypothermic circulatory arrest, a technique that involves cooling the patient to a temperature so low that blood flow to the brain is halted and the patient remains in a suspended

state, giving the surgeon a bloodless operating field in which to work.

Though hypothermic circulatory arrest procedures are common in cardiac surgery, they’re also risky. Surgeons have only about 45 to 60 minutes before ischemia—decreased blood supply to the brain—begins to take its toll, causing neurocognitive injuries such as stroke, memory loss and poor motor function.

To maximize his project’s potential, Baumgartner needed to add some neurological expertise to the mix. And so began a long-time partnership between his lab and neurologist Michael Johnston and the Department of Pediatric Neurology. Throughout 15 years of collaboration, the cardiac surgery lab



William Baumgartner (inset) and his crew in the cardiac research lab, Jeff Brawn, left, Melissa Jones and Eric Weiss.



has received continuous NIH funding, including a rare and prestigious Javits Merit Award.

Their research has successfully mapped at least one pathway between cardiac surgery and neurological problems.

Baumgartner and his team took a special interest in injury to the brain’s NMDA receptor, which plays a major role in learning and memory. The NMDA receptor processes glutamate, a neurotransmitter that helps brain cells, or neurons, communicate with one another. In ischemic injury, however, glutamate accumulates in the spaces

between those cells, overstimulating the NMDA receptor and setting off a chain of events that ultimately kills the neurons.

Next, the research team, which now includes Hopkins genomics experts and colleagues at the University of Florida, hopes to find a possible pharmaceutical treatment for cardiac surgery-related neurological problems. “We don’t have a drug that we can say, without a doubt, makes a difference,” Baumgartner says. “But we think we have some suspects.” One possibility is a seizure medication called Valproate. But, he says, it could be a while before a definitive finding is made. For now, the

lab is concentrating on renewing its NIH grant and providing hands-on experience to cardiac surgeons-in-training.

“In research you just have to be patient,” he says. “Sometimes it just happens later rather than sooner.” Along the way, Baumgartner adds, he hopes to provide new knowledge to the field and a valuable educational experience for everyone involved, from the undergrad to the research fellow. “If there’s a story here, it’s all about collaboration,” he says.

“I don’t have a Ph.D. I just have an interest in discovery, which is true about anyone here at Hopkins. It’s part of the culture.” ■

“If there’s a story here, it’s all about collaboration.”

On the Job

Deborah Baker, Director of the Advanced Practice Program for Surgery

Since 2001, when she signed on to oversee Surgery’s midlevel practice program—representing nurse practitioners and physicians assistants throughout the department—Deborah Baker has watched the group’s numbers swell from seven to 42 NPs and PAs, as well as 10 specialty nurses. A Johns Hopkins-trained nurse practitioner, Baker has also fostered the success of the two-year-old P.A. residency program, offering administrative and curriculum support and occasionally her services as a teacher.

How did NPs and PAs become so important at Hopkins?

Years ago, it was considered a bonus for surgeons to have an NP or a PA working with them. Now, with tighter schedules and more patients, we’re no longer a bonus for any surgical division. Plus, with the new work-hour restrictions on residents, we’ve become a necessary part of the team, and surgeons today have a better understanding of what NPs and PAs do than ever before.

Why is it so important for advanced care practitioners to operate under the umbrella of a formal program?

Now more than ever, PAs and NPs are working together, which hasn’t always been the case. And while our practices

are very similar, there’s still so much we can learn from each other. For instance, PAs tend to be more technically oriented, while NPs focus heavily on patient education.

People like being part of a larger group because it means they have someone they can turn to and who can intervene on their behalf when they’re having problems. People in both roles tend to be very dedicated to their patients, so



much so that they’ll often work longer hours than they should. I advocate for them so that they avoid 60- and 80-hour work weeks, or receive appropriate compensation. I also examine whether their unit needs an additional person.

Is it difficult to balance your administrative role in the NP-PA program with your clinical duties?

It’s hard, but it’s also very necessary. It’s so important that I understand what providers and patients are dealing with. If I’m not involved clinically I don’t know what their issues are. Plus, I’m needed. ■

Brothers Score Big for the CTC

After a stroke shut down Kelly Finan's kidneys when she was 16, her doctor warned her that she'd probably need a liver transplant by the time she was 25. By 2005, the now 23-year-old Maryland resident was not only on dialysis, but on the transplant waiting list. Finally, as she laid in critical condition in the ICU, a Maryland man named Daniel Romano stepped forward and offered his kidney. As word spread throughout her family, her twin cousins, Andrew and Sean Hayden, were stunned. "They just couldn't believe someone would give up their kidney to a stranger," said their father, Jeff Hayden. "They thought that was just incredible."

They also wanted a concrete way to express their gratitude, and when their 14th birthday rolled around in October 2006, they decided to donate money they received—\$100 each—to Kelly's doctors at The Johns Hopkins Comprehensive Transplant Center. Then, they turned to their classmates.

Each year, Sean and Andrew's school, St. Joseph's Catholic in Herndon, Va., teams up for "Helping Hoops," a charity basketball tournament against one of its nearby rivals, St. Theresa's. All the proceeds go to a charity chosen alternately by the two

schools' student councils. This year it was St. Joseph's turn, and Andrew and Sean, who both serve on the student council—Andrew as class president—convinced their school's leaders and classmates to choose the transplant center as this year's recipient.

"There are just so many people out there who need kidneys, but people who aren't personally affected by this might never think about it," Andrew says. "This was the best way we could think of to help people like Kelly."

Together, the two schools sponsored pep rallies and sold spirit gear and pom-poms. Five hundred people attended the tournament in March, and during the game, the crowd passed around a donation bucket.

They raised \$4,105—more than any other class

before them. During the game, Andrew addressed the crowd, and challenged everyone in attendance to become an organ donor and designate their wishes on their driver's licenses.

On Aug. 3, standing in the hallway of the Ross Research Building outside of transplant surgeon Robert Montgomery's office, Sean and Andrew presented a check to Montgomery, who performed Finan's transplant, to benefit his research and the Johns Hopkins Comprehensive Transplant Center.

"Donations like these are so important right



Transplant surgeon Robert Montgomery, brothers Andrew and Sean Hayden, Kelly Finan, transplant surgeon Andrew Cameron and Daniel Warren, co-director of the transplant lab.

now, because there's not as much money available from the government for research," Montgomery told the boys and their family that day. "We've had to look to private donations to keep our enterprise going. This is perfect timing, and we really thank you." ■

To make a gift to the Department of Surgery, contact Kathleen Hertkorn at 410-516-0296 or kprice8@jhmi.edu. To no longer receive information about supporting the department, contact her using the information above.

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thought that if we built a dedicated vein center, more patients would come and we'd gain expertise in the art of taking care of them."

Funded by the Johns Hopkins Bayview Medical Center and the Johns Hopkins Department of Surgery, the center has its own

anesthesiologist, radiologist, OR nurse and fully equipped operating room, allowing Heller to schedule surgeries without worrying about space or staff availability. Best of all, the center provides patients with continuous care by offering a centralized location to turn to should they have any questions. "That's what makes it

so special for the patients and for us," says Kelly Martin-Dailey, Heller's assistant. "You don't find that just anywhere. Our patients are thrilled." ■

For more information or to schedule an appointment, call 410-550-4335.

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