



# THE JOHNS HOPKINS *Cutting* Edge



A PUBLICATION FOR  
FRIENDS AND COLLEAGUES  
OF THE JOHNS HOPKINS  
DEPARTMENT OF SURGERY

March 2006

Volume 3, Number 1

## Linda Powell's Ordeal

Anyone in Linda Powell's place would have been fretful. Her husband had been seriously ill with a blood disease for more than a year. "His blood counts would go way down and he'd have to have transfusions," says the 65-year-old resident of Alexandria, Va. "It was just a very stressful thing."

So it was hardly far-fetched to assume that Linda Powell might

have some physical manifestations from her jangled nerves. In her case, she developed acid reflux and reported to her internist that food felt like it was getting stuck

"I cannot say enough good things about Johns Hopkins and how lucky we feel that we are so close."

in her chest. When medication didn't help, her doctor ordered an endoscopy. And that's when the tumor on her esophagus showed up.

Lightning had struck the Powells twice. "It was such a shock," she says.

According to the American Cancer Society, more than 14,500 Americans this year will be diagnosed with cancer of the esophagus, the muscular tube that connects the throat with the stomach. The exact causes are unknown, although smoking and alcohol use are slight risk factors. The disease is three to four times more common among men. Linda Powell was an unusual case.

When Powell was diagnosed in February 2005, she was found to have a stage III cancer: Cancerous cells had spread to the outermost layer of the esophagus. Her local oncologist, Winston Ueno, put her in touch with Stephen Yang, Hopkins' chief thoracic surgeon. Working in concert, the two physicians first put Powell on a course of chemotherapy and radiation therapy.

She had a hard time with the treatment ("it was a bear"), made all the more difficult because her husband, Carleton, was at the same time hospitalized for six weeks at Hopkins. The Powells' two daughters alternated caring for their parents.

The treatment seemed to work. By the time she went into surgery on May 31, Powell's cancer was downgraded to stage I. Yang performed a transhiatal esophagectomy, making three small incisions in the neck, the chest and the belly to avoid damaging Powell's windpipe. Inside, Yang found only microscopic cancer left. Plus, all her lymph nodes were clean.

Although she developed a mild pneumonia after surgery and had to have a chest tube inserted, "everything was a great success," says Powell. What stays with her most from the time was the attitude of Yang and his staff. "I got to know many of the residents and lots of wonderful nurses.



Linda Powell is wearing a new look since she lost her hair (which had been below her waist for 50 years) during her treatment for esophageal cancer. Her community physician in Alexandria, Va., worked together with Hopkins' Steve Yang.

Everybody I worked with was so positive. I have the highest regard for Dr. Yang as a professional and as a lovely gentleman with a marvelous sense of humor. It really helped to make things better. I cannot say enough good things about Johns Hopkins and how lucky we feel that we are so close."

Yang says his patient's long-term outlook is good. Although

their lives aren't totally back to normal (Carleton still comes to Hopkins once a week), the Powells are "contemplating getting our passports updated so that maybe this time next year we might be on a nice trip somewhere, with the blessings of all doctors concerned. It would be perfectly blissful. Because my husband is a very attractive fellow." ■

### The Surgeon Speaks

Personally, I feel the cancers we deal with in thoracic surgery every day—lung and esophageal cancer—get



neglected. Everyone talks about breast and ovarian cancer. But lung cancer, in particular, is the No. 1 cancer killer in women. This was brought home recently with the untimely death of Dana Reeve. So let's not forget the other parts of the body that women share with men.

Linda Powell didn't have a lot of typical symptoms for esophageal cancer. For four months, things were sticking in her esophagus, but she was still able to eat. She wasn't misdiagnosed. Usually people take stuff over the counter, then you put them on antacids, but the symptoms persist.

The main message about esophageal cancer is that if the symptoms persist, then this should be worked up more aggressively. Unfortunately, it's one of the things that gets diagnosed late because by the time people have trouble swallowing, the esophagus is already narrowed and there's advanced disease. Still, Mrs. Powell's case proves advanced cancers don't have to be a death sentence.

She was put on a very complicated protocol. After the chemotherapy and radiation is done, we do a lot of studies to make sure the patient is still a good surgical candidate. We only have a four- to six-week window to do the operation. In her case, we worked well with her community oncologist and she had a very nice response.

Hopkins is the leader in the care of esophageal cancer in the state of Maryland and in the surrounding states. As a result, my team and I operate on 75 to 100 esophageal cancers a year. ■

— Stephen Yang



From Julie Freischlag  
Director of Surgery

## The ABCs of Clinic

When I was a resident, we practiced the ABCs of clinic, which stood for “Anywhere But Clinic.” Most patient care took place in hospital—work-ups, diagnostic tests and interventions. Now, much of this activity takes place in an outpatient setting. Length of stay for surgical patients is less than five days on average.

It wasn’t until after I arrived at Hopkins three years ago that I learned we had no outpatient clinic run by surgery. The system in place seemed to me to work like a rent-a-clinic. Most surgeons would piggyback onto the Department of Medicine’s corresponding clinics, bringing their own nurse practitioners or physician assistants with them.

I’ve spent the past two years negotiating for space for a new clinic. With thanks to John Hundt, administrator of surgery, and Chip Davis, executive director of ambulatory services, the divisions of surgical oncology, transplant, vascular, cardiac, thoracic and general surgery will be taking up residence in September on the eighth floor of the Outpatient Center.

The 14,000-square-foot space will be the one place patients can call if they need a question answered about their proposed surgery or have a post operative problem. It will be the place where some small procedures, like endoscopy and sclerotherapy, are performed, and eventually where patients get pre-op assessments by perioperative care. A team of experts at posting and scheduling will reside there. Surgical nurses will be on hand and residents will use this space as well.

At the same time, faculty from Johns Hopkins Bayview Medical Center, under the guidance of surgery chief Dana Andersen, will be increasing our surgical clinic presence at Green Spring Station and White Marsh. We want everyone to be able to see a Hopkins surgeon easily at many sites.

I look upon this move as a practice run for the cardiovascular and critical care tower, scheduled to open in 2009. It will be an opportunity to centralize our services. As a result, we should be able to see more patients more efficiently. It will be a progressive change for all of us, one I am sure that our team will carry off with enthusiasm and grace. ■

# Teaching Tomorrow’s Surgeons

Individual doctors need to become team doctors.

What skills do young physicians in training require to be considered competent these days? There is knowledge, of course, and devotion to patients. But there also is a new emphasis on teamwork.

Surgeons are no strangers to the concept, working as they do in life-and-death arenas like operating rooms and intensive care units. Still, bodies like the Accreditation Council for Graduate Medical Education and the Association of American Medical Colleges have pointed to the things that make up a good team player—interpersonal skills, professionalism, mentoring—as important to a physician’s success. The 80-hour workweek for residents also has put teamwork in the spotlight.

With these trends in mind, Surgeon in Chief Julie Freischlag created the new role of director of surgical education about 18 months ago and put Pamela Lipsett, co-director of the surgical intensive care unit, in charge.

“My whole concept for a major shift in education is to change [residents] from individuals to teams,” says Lipsett. “Data suggests, at least in the ICU and OR, that when you work as a team, you learn better, you’re more efficient, you make fewer mistakes and people are happier.”

Lipsett created six teams for the department’s 57 residents and named them for the former surgery chiefs. There is a Halsted, Finney, Lewis, Blalock, Zuidema and Cameron team. The groups are longitudinal, meaning there is someone from each year on every team. They are led by three people: a chief resident, a representative from nurse management (“They have a different perspective,” says Lipsett) and a newly created assistant program director who is a member of the faculty.

Although the teams don’t become official until July 1, Lipsett already has them divided up and working on projects together. Each group has been assigned a paper to analyze and determine whether or not it should be incorporated into daily practice. “It empowers them to learn how to evaluate the scientific literature, to not take everything at face value.”

Other projects have a more practical bent.



Pamela Lipsett (seated at center), director of surgical education, conducting rounds on the SICU.

One group is examining communication and signing out patients between shifts. Another is looking at how nursing can best identify the proper person on call. “It sounds like it should be straightforward,” says Lipsett, “but it’s not so easy in practice given that people don’t always leave at exactly the same time.”

In other words, teamwork extends well beyond the operating room. “I want the chief residents to learn leadership, to learn to deal with problems themselves rather than farm them out or not identify and rectify them,” Lipsett continues. One of the disadvantages of monthly rotations is that problem behaviors can be swept under the rug because “you only have to put up with [them] for a month. But when you have to work together as a team, you’re going to solve [them]. Or a weak-performing member will be brought up by the team, and, with that, the team gets better. When you have to work together all the time, you solve prob-

lems in a better way.”

The new system also will offer advantages to incoming residents. “It’s a way to make new people feel taken care of within a smaller group structure, to have some mentors they can get to know closely.”

Lipsett thinks that even the down sides of teamwork—say, for instance, you don’t like all your team members—can have hidden advantages. “The good side is you learn how to deal with people you don’t like, and learning how to manage that in a professional way at an early age will improve everyone’s behavior,” she says.

Lipsett, who won the Professors Teaching Award last year and has twice been given the University Teaching Award by medical students, learns “way more than one thing every day” from her trainees. “For me, my impression on the world will not be made through children. It will be made through the residents who go on to make their own discoveries and ways in the world.” ■

## Let’s Meet: Ashish Shah and J. Timothy Sherwood

Chest surgeons Ash Shah and Tim Sherwood are at different points in their lives—Sherwood is married with three young sons; Shah is getting married in June to a Hopkins nurse anesthetist—but the new faculty members share a love of taking care of patients in critical situations. Both arrived at Hopkins last July, Shah from Duke University Medical Center and Sherwood from the University of Colorado Health Sciences Center.

Shah, a cardiac surgeon whose specialty is lung transplantation, majored in biomedical engineering in college (Duke), a choice that still serves him well, he says. Since his arrival, his division is performing about four lung transplants a month, a significant increase from several years ago. That’s partly explained by an aggressive approach to using expanded-criteria donors, as well as a new organ allocation system no longer based on waiting time but on the severity of illness—sicker patients get higher priority. Also, by teaming up with transplant coordinators, nurses, his OR team and anesthesia group, he has built more efficiencies into the Hopkins system.

Not that the division intends to increase volume for its own sake. “The idea is to do a reasonable volume to make a substantive contribution to the field.” Shah is investigating ways to ameliorate injury in transplanted lungs.

Sherwood, an economics and biochemistry major (Cornell), spent a year at Hopkins in internal medicine before choosing thoracic surgery. He works with Shah on lung transplants but spends most of his time in general thoracic surgery treating benign and malignant lung and esophageal problems.



Tim Sherwood

His forte is “dealing with complex, high-risk patients and figuring out the best way to treat their thoracic surgery problems,” he says. “For example, giving somebody chemotherapy before surgery to enhance the odds of getting a complete resection, or performing a limited resection to preserve lung function.”

He also enjoys getting to know his patients. “They need to develop trust in their surgeon. You can’t expect them to believe everything you say.”

His research interest is minimizing trauma during surgery in the elderly. “I think the days of giant incisions are over,” he says. “People can’t tolerate them and we need to adapt.” ■



Ash Shah

# Secrets of the Zebrafish

**F**or a bit of tissue less than a foot long, the pancreas is a marvelously smart and complicated organ. It's best appreciated when something goes wrong with it: when its capacity for producing insulin goes haywire and causes diabetes, or when its exocrine cells, which make enzymes important in digestion, mutate and lead to the organ's particularly lethal cancer.

One of the ways that scientists at Hopkins are studying what goes awry in the human pancreas is to study how it first develops in animals. "A lot of things that go wrong in cancer just mirror what happened earlier on in development in a normal situation," explains developmental geneticist Michael Parsons. In March 2004, Parsons was hired as an assistant professor in the Department of Surgery, bringing with him an extensive back-

One of Parson's most interesting projects focuses on rejuvenating the endocrine cells that produce insulin.

ground in zebrafish genetics.

Zebrafish make such good models that they are studied everywhere, from high school classrooms to more than 300 developmental and genetics laboratories around the world. One fish can produce up to 400 embryos a day, and the embryos go from a single cell to having all organs in place in two days. Furthermore, the fish can be bred every two weeks.

"The cell biology of the

zebrafish is very similar to a human," says Parsons, "much closer than a lot of people would think. The same proteins are doing the same kind of functions and the structures are very similar."

In fact, by overexpressing the human genes that get mutated in the course of human cancer, zebrafish investigators can create malignant tumors in fish that pathologists instantly recognize.

The transparent fish embryos which develop outside



The zebrafish in Michael Parsons' lab get the royal treatment. "The water is kept insanely clean," he says. It circulates so fast that the tanks get changed four times a day. And the lab grows its own brine shrimp. "It doesn't smell so hot, I can tell you. But they love it."

the mother's body make it possible for Parsons to conduct large-scale screening that would be impossible in mice. Using fluorescent markers, the lab can see how both the endocrine and exocrine pancreas develop in the fish. "The endocrine, or islet, cells actually form first," he says. "Then exocrine cells move across the embryo to find and wrap themselves around the endocrine component, making a very simple pancreas in the embryonic system."

One of Parson's most interesting projects focuses on rejuvenating the endocrine cells that produce insulin. He first

kills off the insulin-producing cells by adding drugs to the fish's water. Once the drug is removed, however, the endocrine cells are regenerated and reappear.

"Ideally, we would like to look at unknown small molecules to see which ones are available to increase the number of islets that come back," says Parsons. "And because any drug that increases regeneration of the islet would be very useful in juvenile diabetes, this has great importance for diabetes research."

Down the road, Parsons also would like to show in greater

detail the workings of the adult zebrafish pancreas. "We're able to kill islet cells and they come back in an embryonic situation. The question is, can we do that in a juvenile fish, in an adult fish?"

Still and all, a fish is just a fish. "You need to take [the work] into a mammalian scenario before people get excited about possible therapies in humans," Parsons says. "But with the zebrafish as a quick and fast genetic system, hopefully you can find a few candidates and then be moving to recognized models that already exist in the mouse." ■

## On the Job

### Patricia DeBerry and Suzette Walker-Allotey, Patient Service Coordinators, Liver Transplant

*When Surgery Director Julie Freischlag announced the Core Values Prize last fall, she called for nominations of employees who exemplified the department's values: integrity, teamwork, trust, communication and respect. She received quite a few essays and chose the following story. The recipients split a \$500 prize.*

Pat DeBerry might not know how to drive, but she knows something about how to get from Point A to Point B when it comes to helping her patients.

On Sunday, Nov. 6, 2005, DeBerry and her co-worker, Suzette Walker-Allotey, both patient service coordinators, learned that a liver was available for transplant for one of their patients. He was a young man from New England whom both women had

known through their church when the patient had previously lived in Baltimore.

DeBerry wanted to help with the last leg of the family's trip from BWI Airport to Hopkins Hospital. An ambulance would be too expensive, and DeBerry worried that a cab would be too slow; there was a Ravens game downtown that afternoon. So she called the Anne Arundel County and Baltimore City police departments to request an escort for

the patient.

With DeBerry in the lead police cruiser providing directions, Walker-Allotey followed behind, family in tow. Streets had been closed in the city and the family "felt like they were in a presidential motorcade," says Cynthia Cohen, lead transplant coordinator. "They made it in 20 minutes."

Cohen, who nominated the



two women, says that kind of service is normal for DeBerry and Walker-Allotey. "They go above and beyond, scheduling the patient, making sure all the testing is done and getting the

blood work done to be listed. They bend over backwards to make sure every patient's visit goes smoothly."

DeBerry says of her adventure, "In my mind, it was such a little thing. I was simply doing my job, and it is such an awesome privilege to work with Dr. [Warren] Maley and the liver team and to represent Hopkins Surgery." Most important, she says, is that "this young man, who had been sick for 15 years, now has a new life. He and his parents are so appreciative and impressed with the work here at Hopkins." ■

# Ode to Soy

Aaron Tabor was heading for a career in reconstructive plastic surgery when his life took an unexpected turn. His mother, who was going through menopause and suffering terrible side effects from her prescription hormones, asked her son, then a third-year medical student at Hopkins, to recommend a natural alternative. "I said, Mom, I'm at the most mainstream hospital in the world. You need to go back to your doctor," says Tabor.

But she persisted and he grew curious. He found an Australian study showing that soy could alleviate menopausal symptoms. His mother couldn't tolerate the taste or the amount of soy she had to consume. So they literally started formulating a soy shake in her North Carolina kitchen. "We found by using the heart of the soy bean, it naturally concentrates the soy antioxidants. We ended up with a shake, and eventually a bar, that was equivalent to six cups of soy milk and tasted great. You could get the traditional Asian diet with just one serving and not endure a pound of tofu."

By this point, he had graduated from medical school and never bothered applying for an



Aaron Tabor and his mother, Suzanne, who used to make peanut brittle to make ends meet when her children were small. "My mom is an amazing cook," he says. "That's why our products taste so good."

internship—he had 16 employees working for his company, Revival Soy, in his parents' basement. Today Tabor, 36, is CEO and medical research director of the company, which does \$20 million in sales per year.

Recently he gave Hopkins a \$75,000 gift to fund a one-year Johns Hopkins Revival Soy

Breast Cancer Fellowship under the direction of surgical oncologist Ted Tsangaris. He has been supporting programs created by Lillie Shockney, administrative director of Hopkins' Breast Center,

for several years now.

Tabor proudly points out that Revival has been involved in nearly 30 clinical trials, including

a \$1 million project funded by the National Institutes of Health. Many of the projects, including studies of the effect of soy on cholesterol, memory and menopause, are conducted at his alma mater.

"We view this [gift] as just the first of many things we want to do with Hopkins," says Tabor, "because Hopkins has opened up so many doors for me. My education at Hopkins was a true gift from God." ■

*Physicians can request patient samples of Revival Soy at Soy.com.*

*To make a gift to the Department of Surgery, contact Boi Carpenter-Mellady at 410-516-5483 or bmellady@jhmi.edu. To no longer receive information about supporting the department, contact her using the information above.*

"We view this [gift] as just the first of many things we want to do with Hopkins."

## FACULTY NEWS

Cardiac surgeon **Vincent L. Gott** received the Earl Bakken Scientific Achievement Award, a lifetime achievement award from the Society of Thoracic Surgeons ■ **Steven Leach** received a \$750,000 grant from the Lustgarten Foundation for Pancreatic Cancer Research to pursue high-throughput screening for new pancreatic cancer drugs using his zebrafish model system ■ **Thomas Reifsnnyder**, formerly of Western Pennsylvania Hospital, has become chief of vascular surgery at Bayview Medical Center ■ **Michele Shermak**, chief of plastic surgery at Bayview Medical Center, has been named associate editor of *Plastic Surgery News*, the monthly publication of the American Society of Plastic Surgeons. She also has been elected to the society's judicial council. ■ **Miguel Tan**, from the University of Minnesota, has joined the transplant division ■ **Chiming Wei**, director of the cardiothoracic-renal molecular research program, recently received the Peking University Excellent Alumni award and also was elected president of the American Academy of Nanomedicine. He is editor in chief of *Nanomedicine* and the *Journal of Cardiothoracic-Renal Research*.

## WEATHER EMERGENCIES

On a dark and stormy night is it better to have more trauma surgeons at the ready? Do trauma patient outcomes correspond to weather? Those are the kinds of questions that Hopkins' Center for Surgical Trials and Outcomes Research is asking in a cooperative project with the London School of Economics.

"Trauma surgery requires vast numbers of people and resources to stand perpetually ready at great inconvenience and expense," writes Hopkins medical student **Jordan Swanson**, who is on a leave of absence in London and working on the project. On the other hand, a multi-casualty event can overwhelm the system. "Matching supply with demand can be a problem. We're hoping to make that demand more predictable."

The project is being undertaken by Hopkins faculty **David Chang** and **Martin Makary** and Leonard Smith of the London School of Economics, who studies how forecasts and economics interface.

## UPCOMING LECTURES

**March 23:** Rienhoff Lecture. **Ronald W. Busuttill, M.D., Ph.D.**, surgeon in chief, UCLA Medical Center. "Two Decades of Liver Transplantation at UCLA," 7 a.m., Tilghman Auditorium.

**April 5 & 6:** **Jonathan Towne, M.D.**, chief of vascular surgery, Medical College of Wisconsin. "American Board of Surgery," 6 p.m., Baltimore Academy of Surgery (4/5/06). "Distal Bypass/Limb Salvage Surgery," 7 a.m., Grand Rounds (4/6/06).

**April 18:** Johns Hopkins–Massachusetts General Hospital Visiting Professor Lectureship. **Mehmet Haberal, M.D.**, president, Baskent University, Ankara, Turkey. Grand Rounds, 7 a.m.

JOHNS HOPKINS MEDICINE

THE *CuttingEdge*

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*The Cutting Edge* is published quarterly by Johns Hopkins Medicine Marketing and Communications.

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