

Physician Update

NEWS FOR PHYSICIANS FROM JOHNS HOPKINS MEDICINE

SPRING 2014

Removing Embedded Inferior Vena Cava Filters

Until now, a patient with an inferior vena cava (IVC) filter that's become trapped in the vessel might have had no option for its removal and faced a lifetime of health risks and anticoagulant therapy. Finally, a few physicians, including Johns Hopkins interventional radiologists **Mark Lessne** and **Anobel Tamrazi**, are performing laser sheath tissue ablation to remove the adhesions that hold the IVC filter fast. This novel technique was introduced at Stanford University, where Tamrazi trained.

The usual patient receiving IVC filter is at high risk for venous thromboembolism and a poor candidate for anticoagulation therapy. In 2012, in the U.S., about 250,000 IVC filters were implanted—supposedly temporarily.

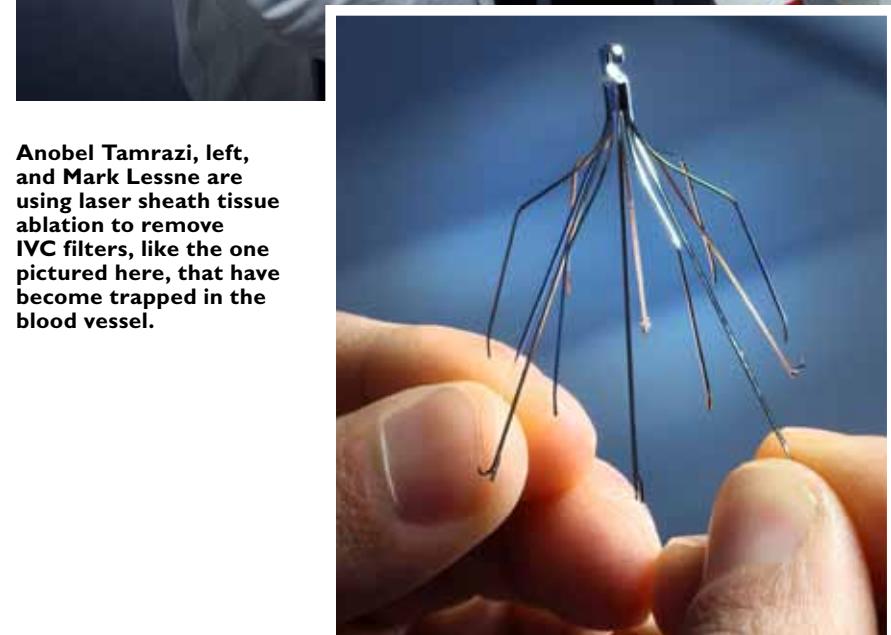
Ideally, these filters are removed when the risk of thromboembolism has passed. The FDA recommends that efforts to remove IVC filters be made as soon as possible, saying that, "If a patient has a retrievable IVC filter that should be removed based on his or her individual risk/benefit profile, the primary care physician and/or those providing ongoing patient care should refer the patient for IVC removal when feasible and clinically indicated."

The standard approach for retrieving an IVC filter is to snare it with a dedicated filter grasping device and ease it out through the jugular or femoral vein. "This can be easier said than done," says Lessne. "Connective tissue can grow into the filter and hold it tight." Although lodged IVC filters are not always problematic, they can fracture, migrate or penetrate the IVC or bowel, or cause acute IVC thrombosis or chronic IVC occlusion. Some patients want the filter removed so they can stop the anticoagulant medications that they're required to take.

The laser sheath tissue ablation technique is an option when the standard approach and progressively more aggressive tension fails, but can still be done minimally invasively through small skin nicks. "We know from the literature that 40 to 60 percent of retrievable filters cannot be removed by standard methods," says Tamrazi. "This is especially true of filters that have been in place for over a year."

With the patient under light sedation, Lessne and Tamrazi enter the vessel and ablate adhesions by means of photothermal energy from the laser sheath. Using measured tension, they guide the laser sheath progressively along the filter, free it and capture it for removal. The technique may also work on IVC filters of an earlier, permanent design.

"We want physicians in the community to know that the procedure is available. It may eliminate the risk of complications associated with long-term IVC implantation, and it eliminates the burden of filter-related lifelong anticoagulation," says Lessne. "We like hearing from patients that with the filter removed, their life has returned to normal."



Anobel Tamrazi, left, and Mark Lessne are using laser sheath tissue ablation to remove IVC filters, like the one pictured here, that have become trapped in the blood vessel.



Management of inflammatory bowel disease in pregnant women is a multidisciplinary affair, says Brindusa Truta.

Inflammatory Bowel Disease and Pregnancy

Many women with inflammatory bowel disease (IBD) believe they can't start a family. In reality, careful planning can allow them a perfectly normal pregnancy and childbirth.

Gastroenterologist **Brindusa Truta** says patients often worry that their IBD will make it difficult to conceive or that the medication they take could either prevent pregnancy or endanger the fetus.

Truta, who specializes in treating the disease in women, says there are several keys to a healthy pregnancy. The first is getting the condition into remission.

Before conception, the biologic medications adalimumab and infliximab can help manage exactly that. After conception and under the careful watch of the physician, women can usually remain on the regimen during the first and second trimesters.

"We've found that, if you're still in remission by the third trimester, stopping the medication doesn't cause a flare-up," Truta says. "There's a theory that during pregnancy, immunotolerance occurs."

Because adalimumab and infliximab are tumor necrosis factor inhibitors, they shut off the autoimmune attack of IBD, restoring order to the colon and small intestine. Although a relatively new treatment for the disease, they've been used to treat

rheumatologic and other conditions for 20 years and are not associated with teratogenicity.

"When the disease is well controlled through medications and proper care," says Truta, "it's most likely that pregnancy outcomes are going to be similar to those in the general population."

Truta's other key to healthy pregnancy in women with IBD is recognizing that care is a team effort.

She stresses that controlling the disease involves more than just a gastroenterologist. "It can't be done effectively by only one provider," she says. "You need a family practitioner and a high-risk gynecologist to be involved."

Women with IBD may also face issues around body image, Truta says. "It's private and it's intimate and it's not easy to talk about. I like to encourage them to discuss it, because there are things we can offer to help."

Finally, Truta works with patients to teach them how to manage their IBD. "Spending an hour educating patients means they will know when to call you," she says. "They know not to discontinue their medication and won't end up coming to you in crisis." ■

Information: 410-502-3147

The Science of Hope

When people experience tragedy, sometimes the last thing they want to hear is advice about "keeping their chin up." How does a person keep a positive attitude in the face of, say, a debilitating brain injury?

It turns out, however, that the phrase "stay positive" is more than just a cheerful colloquialism. There's science behind those words—evidence that hopefulness can promote a quicker, fuller recovery.

"One of the things I look at is how the attributes that patients bring to the table—resiliency, spirituality, hope—facilitate recovery," says **Kate Kortte**, a neuropsychologist in the Department of Physical Medicine and Rehabilitation. "What we've found is that maintaining a positive attitude really does help with outcomes and life satisfaction."

In her research, Kortte has examined patients across the spectrum—traumatic brain injury, stroke, brain tumor—and consistently found that those patients who succeeded in keeping a good attitude did better in their recovery. "We take a broad approach by tracking everything that goes on with these folks throughout the rehab and recovery process," Kortte says. "Some of my studies have examined their level of engagement in rehabilitation interventions. Then we look three months after discharge at how satisfied

they are with life and how much assistance they needed to function. Folks who were more hopeful throughout their recovery and had a more positive attitude needed less assistance later on."

Of course, it's one thing to advise someone to remain hopeful. Facilitating that kind of positive attitude is a different proposition. In the Outpatient NeuroRehabilitation Program at Johns Hopkins, "Our psychologists aim to help patients adapt and adjust to the illnesses and injuries that prevent them from doing what they want in daily life," Kortte says. "These patients need interventions focused on bolstering positive attitudes so they can achieve these goals. We want them to maintain the hopeful view that life is worth living because, if they keep at it, they're going to be able to re-engage in the things that once gave them hope and satisfaction."



Kate Kortte helps patients like Marshall Mickelsen adapt to the illnesses that prevent them from living full lives. One of her proven tenets: Hope aids recovery.

Hope and positivity, Kortte says, help patients make better decisions and keep sight of far-reaching goals. A positive attitude also helps them follow the recommendations of physicians and therapists. "Our psychologists are focused on helping patients realize that there is something better to come," Kortte says. "Our team is there to help them learn to adapt and adjust, and to recover to the fullest extent possible."

Information: 410-502-5357

For Mild TBI: An Eye on the Sleepy

Most patients with mild traumatic brain injury (mTBI) recover. They may experience headache and difficulties with sleeping, memory or thinking, for example, but in a fortunate 70 to 80 percent, "Those signs that they've had a brain injury go away," says psychiatrist **Vani Rao**, who directs the Department of Psychiatry's Brain Injury Clinic.

Yet for patients who don't snap back, life can take a nosedive. "Perhaps 20 percent continue to suffer neuropsychiatric symptoms," says Rao. The anxiety, depression or wayward cognition—even when the latter is subtle—dismantle day-to-day function.

Now Rao and colleagues are researching how to improve the outlook for all mTBI patients. Recently, they made a significant step—an answer to what Rao calls "the million-dollar question," namely, who, exactly, will recover? And it appears to

lie in noting the sleep difficulties that begin soon after mTBI's causal injury.

"We see a lot of patients with mTBI who struggle with falling asleep or maintaining it, or daytime sleepiness interferes with their work," she says. Other clinicians back up Rao's observations. And earlier, her team confirmed this in a study of roughly 50 patients seen within three months of their injury.

In the recent work, Rao and Johns Hopkins colleagues, including Una McCann and Michael Smith, showed that these early sleep disturbances can predict who's still likely to have increased anxiety, depression and/or apathy a year later. The results held both for mild and more severe TBI.

What underlies this poor sleep? Rao can't say for sure. It may be pain from bodily injuries. "Or perhaps painkillers or other medication is at fault," she adds. "Mostly, though, we suspect subtle neuronal injury to the brain."

After the initial injury, a cascade of changes take place—most not picked up by usual brain scans or standard cognitive testing.

These changes precede the sleep symptoms. An earlier study by Rao enrolled seven people within a week of their traumatic event. They underwent a two-day sleep study with a polysomnogram of their responses. Those who would later be diagnosed with TBI had sleep patterns that were far from normal.

"So sleep changes can help diagnose mTBI," Rao explains, "as well as predict its outcome."

"Our next step is to see if treating sleep problems early on lessens or even prevents psychiatric symptoms and the distress they bring. That would be a real find, because we know how to treat sleep problems." ■



Problem sleep could be an early marker for lasting mood and other psychiatric problems of mild TBI, Vani Rao believes.

Information: 410-550-2288

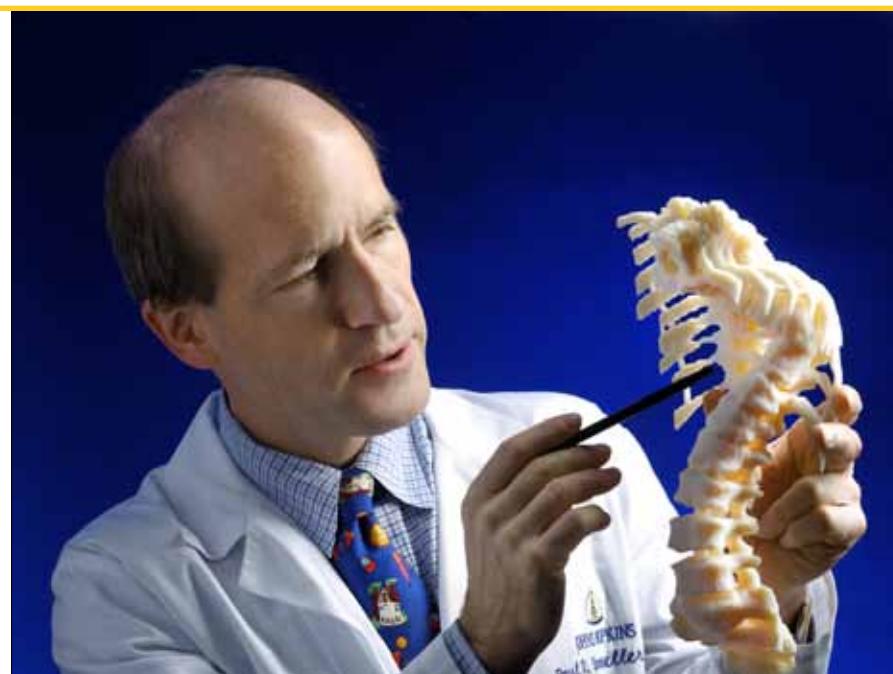
ORTHOPAEDICS

Getting Ahead of the Curve: A Fresh Take on Scoliosis

MOST SCHOOLS ARE NO LONGER performing routine scoliosis screenings on students, but that doesn't mean that the condition is any less prevalent. "There are just as many cases of idiopathic scoliosis as ever," says **Paul Sponseller**, director of the Division of Pediatric Orthopaedic Surgery at The Johns Hopkins Hospital.

Sponseller says that testing for scoliosis at school, which consists of a simple visual screening that is not as accurate as an X-ray, picks up too many children, many of whom only have small spinal deviations and are sent for X-rays and treatment that are not needed. "Most states have stopped requiring school screenings, so it's now incumbent upon pediatricians to do the testing," he adds.

While Sponseller has found that the decline in school screenings has not



had a major effect on his practice, there are a few patients who come to see him later than they should. Spinal curves can progress greatly during a growth spurt, and because teenagers tend to be very private, a dangerously delayed diagnosis could ensue. "If the curve is picked up too late," says Sponseller, "it may be bigger and the surgery riskier."

Fortunately for those patients, Sponseller is no stranger to the risky or rare. He treats children from all over the world with spinal deformities, like scoliosis, kyphosis and spondylolisthesis, as well as other, rarer disorders, like clubfoot, Perthes disease, Marfan syndrome and bladder

exstrophy. Sponseller performs more than 550 surgeries a year, almost a quarter of them for scoliosis.

Despite intensive genetic research, he says, scoliosis' cause remains unknown. "Once we understand the basic cause of the curvature, early medical or physical intervention may hold promise," he says. Less invasive means may involve better bracing and correction without fusion—two methods Sponseller and colleagues are working to perfect. The team has also developed better surgical approaches, including the use of improved anchors (screws) and techniques to make the bone deformity more correctable. For

Paul Sponseller treats children from all over the world with spinal deformities and rare disorders. Of the more than 550 surgeries he performs each year, almost a quarter of them are for scoliosis.

example, they have developed a better means of pelvic fixation, called sacral alar iliac fixation, which is stronger and more low-profile and versatile than other fixation techniques.

One nonsurgical method that doesn't seem to work is exercise. "The biggest misconception about scoliosis among patients is that exercises will help keep scoliosis from progressing," says Sponseller. "In fact, there's no evidence that they do." On the other hand, not all cases of scoliosis worsen with time. "Expertise is needed to determine which cases will worsen and need treatment versus those that will not," says Sponseller.

A DNA test that claims to help doctors determine whether a spinal curve will worsen involves a saliva sample that gives a score from 0 to 200. A low score means a curve is unlikely to worsen, while a high score means the curve may become severe, requiring treatment in the near future. Still, the test is not as precise as Sponseller would like. "I hope further refinements are coming," he says, "but they are expensive to develop." ■

Information: 410-955-3137

Mark Your Calendar**Fourth Annual Spine Workshop**

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Baltimore, MD

**29th Annual Pediatrics for the Practitioner:
Update 2014**

September 18–19, 2014
Johns Hopkins School of Medicine
Turner Auditorium
Baltimore, MD

**The Third Annual Hopkins Arrhythmia
Symposium**

September 27, 2014
Chevy Chase Bank Conference Center
The Johns Hopkins Hospital
Baltimore, MD

**14th Annual Current Topics in
Gastrointestinal and Liver Pathology**

October 11–12, 2014
Chevy Chase Bank Conference Center
The Johns Hopkins Hospital
Baltimore, MD

18th Update in Hematologic Malignancies

October 24, 2014
Sidney Kimmel Cancer Center Bldg II
The Johns Hopkins Hospital
Baltimore, MD

For more information or to register, call

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Calendar.aspx](http://www.hopkinscme.edu/Calendar.aspx).

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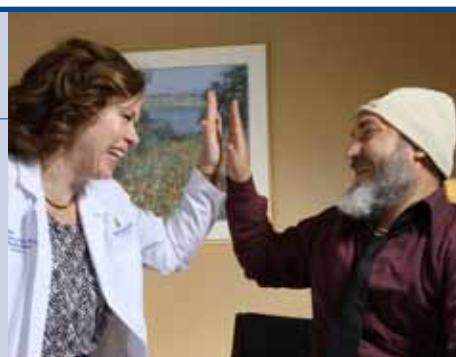
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