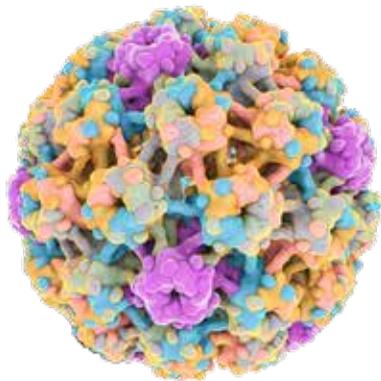
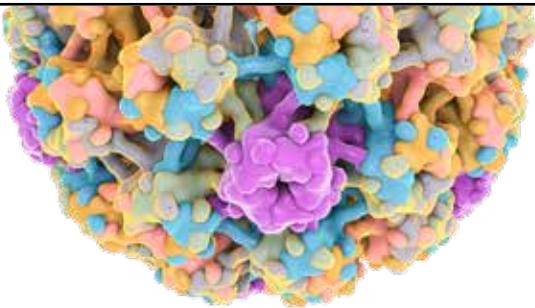




HeadWay

NEWS FOR PHYSICIANS FROM JOHNS HOPKINS OTOLARYNGOLOGY-HEAD AND NECK SURGERY



Predicting the Future for HPV-Related Cancers

For diseases that are chronic or can recur, such as human papilloma virus (HPV)-related head and neck cancers, doctors not only have to develop a plan for the present—how to treat a patient’s current condition—but also for the future. If only they could accurately predict whether a patient’s disease will be cured or if it might return, says otolaryngologist–head and neck surgeon **Carole Fakhry**, they could help patients make better decisions in the moment about how aggressively to treat or to monitor.

That’s why she and her colleagues are working on a variety of different methods to predict recurrence and long-term survival.

Fakhry explains that these cancers tend to strike those who are relatively young and otherwise healthy. Researchers have long known that those with HPV-related cancers tend to respond better to treatments compared with patients whose cancers aren’t linked to this virus. However, many cases may not warrant therapy as intense as the present standard of care, which can leave patients with life-long side effects.

Initial work by Fakhry and multidisciplinary colleagues suggests that measuring blood levels of antibody against HPV could help doctors risk-stratify patients. “It might eventually help us decide who needs

more aggressive treatment and who will do just as well with a less intense approach,” she says.

Fakhry and her colleagues are also developing a nomogram, a risk calculator that can accurately predict a patient’s survival using a variety of variables. Having a good idea of a patient’s chance of survival could affect the type of treatment they opt for in the future, Fakhry says.

The researchers are also interested in earlier identification of recurrent disease. “Even at the time of recurrence, which we thought was a dismal event, patients tend to have a better prognosis if they’re HPV-positive,” Fakhry says.

That prognosis likely improves even more if doctors are able to catch recurrences early when surgery can be performed, she adds. In the

(continued on back cover)

Johns Hopkins researchers are developing a risk calculator that can predict survival in patients with HPV-related cancers. Above, microscopic rendering of human papilloma virus.



"WE'RE IN A VERY DIFFERENT PLACE THAN WE WERE EVEN THREE YEARS AGO, WHEN ALL WE KNEW WAS THAT AN HPV-POSITIVE PATIENT DID BETTER THAN AN HPV-NEGATIVE ONE.

—CAROLE FAKHRY

Advising the White House on Hearing Loss

Otolaryngologist-head and neck surgeon **Frank Lin**'s research connecting hearing loss with conditions such as dementia and brain atrophy led to his presidential advisory post.

While he was growing up, Lin was well aware of the negative impact that hearing loss had on his grandmother's life, an observation that steered his path into the specialty in which he now practices. Helping the individual patients he sees in the clinic to hear better has never been enough. Lin says that to really have an impact on this problem, he would need to show that the consequences of hearing loss are so blatant, and that treatment is so beneficial, that policymakers who could make a difference on a broader magnitude couldn't help but notice.

He's accomplishing this goal on a grand scale. In the past two years, Lin was invited to co-chair a workshop on

hearing loss and aging at the National Academies of Sciences, Engineering, and Medicine that led to a formal consensus study on the affordability and accessibility of hearing care for adults. Then, last year, he was asked to advise the President's Council of Advisors on Science and Technology (PCAST) at the White House, a group that gives advice directly to the president, on hearing loss matters. His work influenced PCAST's recent recommendation to propose new regulations to make hearing aids more accessible to the general public.

Lin's path to advising the White House began with basic epidemiology research that he started in 2010 when he became a faculty member at Johns Hopkins. Through a series of studies, he connected hearing loss with a diverse set of consequences, including dementia and brain atrophy.

"For many people, this line of



Frank Lin advises a council informing the U.S. president on hearing loss matters.

research would just continue to be pursued," he says. "For me, though, this wouldn't be too satisfying, since what we really care about is whether treating hearing loss can make a difference."

Over the last three years, Lin has worked on launching the ACHIEVE study (Aging, Cognition, and Hearing Evaluation in Elders) study, an offshoot of the Atherosclerosis Risk in Communities - Neurocognitive Study, which will investigate if treating hearing loss reduces the risk of cognitive decline and dementia in older adults.

With promising early results, Lin says that he's not interested in waiting around until the study's conclusion to make hearing help more accessible to older adults. In 2015, he co-founded AccessHEARS with otolaryngology resident **Carrie Nieman**, a nonprofit that's distributing personal sound amplification products at no cost to older adults in Maryland using trained

community health workers to provide accessible and affordable hearing care.

To ultimately effect change, however, Lin needed to go to the top—hence his governmental work with the Institute of Medicine and PCAST.

He notes that working at all of these levels has been fun but challenging. In any given day, he says, he's constantly switching tracks to speak "different languages"—conversations with fellow scientists, White House staff members, and AccessHEARS colleagues flow back-to-back. But it's ultimately worth it to achieve his goal of improving the lives of older adults by improving their hearing.

"When you can work at the interface of different areas," Lin says, "you can really make a difference." ■

To refer a patient, call
443-997-6467



"WHEN YOU CAN WORK AT THE INTERFACE OF DIFFERENT AREAS YOU CAN REALLY MAKE A DIFFERENCE."

—FRANK LIN

Completely Scarless Thyroidectomies

There's no question that thyroidectomies can save function and lives. This technique has a long, safe history of removing both benign masses that threaten voice and breathing, and cancerous tumors whose spread can turn deadly. However, traditional thyroidectomies through a transcervical approach come with an unwanted addition that sometimes makes patients think twice about moving forward: a large, highly visible scar at the front of the neck.

That's why Johns Hopkins recently began offering a new procedure for thyroidectomies and parathyroidectomies in select patients that allows resection with no visible scarring, say otolaryngologists-head and neck surgeons **Jonathon Russell** and **Ralph Tufano**. The team has now performed several of these surgeries—continually

refining their technique to make this procedure more efficient.

"People don't want this operation to define their lives," says Russell, who joined Johns Hopkins' Department of Otolaryngology-Head and Neck Surgery faculty in July. "We have the opportunity to intervene and take care of these patients without the average person knowing that they had surgery at all."

Tufano explains that scarless thyroidectomies, performed through a transoral approach, got their start in Southeast Asia, where neck scarring is often stigmatized. "It's an anathema," he says, "so patients can be reluctant to have thyroid or parathyroid tumors removed—even if it's lifesaving."

Surgeons there have worked for decades on developing approaches that minimize scarring. One such approach is transaxial, through the armpit. While

this technique leaves a scar that's not as visible, Tufano says, the path surgeons must take increases the risk of side effects such as permanent arm weakness. Another technique that minimizes visible scarring involves using an approach similar to a facelift. But because this technique can only access one side of the thyroid, it can be significantly more invasive than a traditional thyroidectomy if patients need the entire gland removed.

Nearly a decade ago, Tufano fortuitously met a German colleague who had begun studying a transoral technique. Soon after, Tufano and other



To Refer Urgent Oto Patients

Please email urgentaccessoto@jhmi.edu. Urgent patients are those who need to be seen within the next five days due to medical condition. Our call center and clinic managers check this email several times a day.

Comprehensive Treatment of Laryngotracheal Stenosis

One night in October 2013, when Kinzie Landers was 14 years old, her parents rushed her to the local emergency room near their home in Texas as she was sliding into a coma. Unaware that their daughter had type 1 diabetes, her parents listened helplessly as doctors explained that they'd need to intubate her. She was minutes away from losing the ability to breathe on her own.

"It was a lifesaving moment for which we're forever grateful," her mother, Shelly Landers, says.

But, Shelly adds, that single intervention led to future complications that Kinzie and her family never imagined. Months later, she'd developed so much scar tissue within her trachea that she struggled to breathe. Her airway was so swollen, remembers her mother, that doctors told her it was the diameter of a coffee straw.

After barely staying abreast of this problem with a series of balloon dilations, Kinzie and her family moved to Maryland in June 2015. That's when they made the decision to visit the Johns Hopkins Complex Airway Clinic, directed by otolaryngologist-head and neck surgeon **Alexander Hillel**.

Hillel, along with colleagues including thoracic surgeon **Richard Battafarano** and interventional pulmonologists **David Feller-Kopman**, **Lonny Yarmus** and **Hans Lee**, started the monthly clinic in May 2014 to treat patients with laryngotracheal stenosis. This narrowing of the airway from scarring—typically from intubation, but sometimes from autoimmune diseases or an idiopathic

cause—often requires the expertise of multiple clinicians due to the severity and extent of scar tissue. To ease the burden on patients and their families, as well as provide better, more coordinated care, the team meets with patients to provide group exams and decide on a course of treatment.

A patient's treatment plan might be as conservative as simple monitoring, explains Hillel, or it might extend to balloon dilations or endoscopically excising the scar tissue and placing a stent within the airway to keep it open as it heals.

For some patients with particularly challenging cases, the only curative options for permanently restoring airflow are laryngotracheoplasty or cricotracheal resection. With Kinzie's recurring problems, Hillel told her parents, she was an excellent candidate for a resection. In March 2016, Hillel and his colleagues performed this procedure. Several weeks later, after removing her tracheostomy, Kinzie was able to breathe and speak easily again for the first time in years.

"We've gone through watching her struggle to breathe from walking across the living room to the bathroom to seeing her become able-bodied again and have a life," Shelly says. "It's been like switching on a light."

Seeing patients like Kinzie thrive, says Hillel, is the greatest reward from his work: "The ability to restore a person's ability to breathe and allow them to live again is why we do what we do." ■

To refer a patient, call 443-997-6467

THIS CONDITION OFTEN REQUIRES MULTIPLE CLINICIANS DUE TO THE SEVERITY OF SCAR TISSUE.



Richard Battafarano, Alexander Hillel and Andrew Lerner are on the multidisciplinary team that staffs the Johns Hopkins Complex Airway Clinic, offering comprehensive diagnosis and treatment for patients with laryngotracheal stenosis.

"THIS REALLY GETS US EXCITED ABOUT MOVING FORWARD, EVALUATING OUR RESULTS AND REFINING OUR APPROACH."

—RALPH TUFANO

Johns Hopkins colleagues began the first cadaveric studies of this in the US. Through an incision in front of the mandible but behind the lip, they journey through the soft tissues of the neck, inflating it with carbon dioxide to create a working space. Once the thyroid is exposed, they then insert endoscopic or robotic instrumentation to perform the thyroidectomy.

Russell notes that efforts of surgeons thus far have shown there's no difference in the safety profile of this procedure compared with transcervical thyroidectomies. And once the oral incision heals, he adds, no visible scar remains.

Currently, the procedure is restricted to a limited subset of thyroidectomy and parathyroidectomy patients, Tufano explains. For example, qualifications include having a mass no greater than 4 cm in diameter that is of either benign or indeterminate pathology. However, as he, Russell, and other surgeons learn more about this technique, the population to whom it's offered could expand.

"This really gets us excited," Tufano says, "about moving forward, evaluating our results, and refining our approach." ■

To refer a patient, call 443-997-6467



Before (left) and after patient underwent the scarless thyroidectomy at Johns Hopkins

Please include the following patient information:

- Name
- Date of birth
- Medical problem
- Patient's contact information
- Physician office contact information

Predicting the Future for HPV-Related Cancers *(continued from front cover)*

current system, however, patients who are HPV-positive and -negative receive the same limited surveillance protocol: basic clinical exams.

To improve their ability to catch recurrences in the HPV-positive population, Fakhry and her colleagues are developing a blood- or saliva-based test that has the potential to discover the presence of returning disease before it's clinically apparent. Their early work shows that after a patient's initial cancer is treated, markers of HPV decrease. If this measure begins to increase again, their findings suggest that the cancer could be on its way back, which could potentially give doctors an early alert to search for recurrent disease.

"We're in a very different place than we were even three years ago, when all we knew was that an HPV-positive patient did better than an HPV-negative one," Fakhry says. "Now we can make predictions within the HPV-positive population, opening new doors for our patients' care." ■

To refer a patient, call 443-997-6467

Explore Our Online Resource for Physicians: **Clinical Connection**



Connect with Johns Hopkins health care professionals sharing insights on the latest clinical innovations and advances in patient care.

Scan the QR code or visit www.hopkinsmedicine.org/clinicalconnection.

While you're there, sign up for the Clinical Connection e-newsletter.

HeadWay

Johns Hopkins Medicine
901 S. Bond St., Suite 550
Baltimore, Maryland 21231

This newsletter is published for the Department of Otolaryngology–Head and Neck Surgery by Johns Hopkins Medicine Marketing and Communications.

Department of Otolaryngology–Head and Neck Surgery
David W. Eisele, M.D., F.A.C.S., Andelot Professor and Director

Marketing and Communications

Dalal Haldeman, Ph.D., M.B.A., senior vice president
Justin Kovalsky, managing editor
Christen Brownlee, writer
Lori Kirkpatrick, designer
Keith Weller, photographer

For questions or comments, contact:
jkovals1@jhmi.edu or 410-614-5044

© 2016 The Johns Hopkins University and
The Johns Hopkins Health System Corporation.

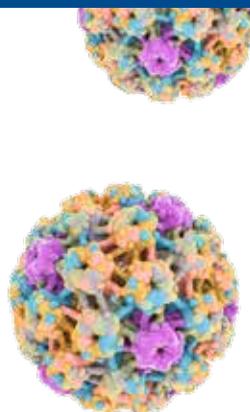
Non-Profit Org
U.S. Postage
PAID
Permit No. 5415
Baltimore, MD

HeadWay

NEWS FOR PHYSICIANS FROM JOHNS HOPKINS
OTOLARYNGOLOGY–HEAD AND NECK SURGERY

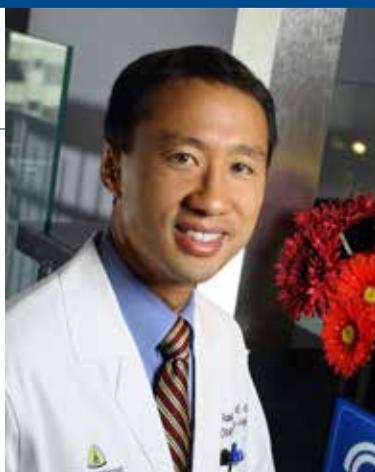


Inside



1

Predicting the Future for HPV-Related Cancers



2

Advising the White House on Hearing Loss



3

Comprehensive Treatment of Laryngotracheal Stenosis