

Physician Update

NEWS FOR PHYSICIANS FROM JOHNS HOPKINS MEDICINE

WINTER 2020



Johns Hopkins experts are building evidence-based imaging guidelines on the AgileMD platform.

Johns Hopkins Medicine Takes Lead on Appropriate Use Criteria

School of Medicine wins qualified provider-led entity status to develop advanced imaging criteria.

WHEN PATIENTS COME TO Johns Hopkins with hip pain, their care teams turn to guidelines embedded in the electronic medical record to ensure they recommend diagnostic imaging that adds value to the patient's care.

The criteria was developed by Johns Hopkins experts in orthopaedic radiology, orthopaedic surgery, rheumatology, emergency medicine, physical medicine and rehabilitation, neurosurgery, anesthesia, pain, and internal medicine, who combined their own knowledge and experience with evidence from scientific literature.

"It's a decision tree that provides advice to internists, emergency room providers and others who maybe don't see these cases every day," says **Lee Riley III**, a Johns Hopkins orthopaedic surgeon who helped develop imaging guidance for hip and spine issues. "It's just-in-time information, and I believe it's the future of medicine."

Those imaging guidelines, and others now in development at Johns Hopkins, will become available to other health care providers now that the Centers for Medicare & Medicaid Services (CMS) has named the Johns Hopkins University School of Medicine a "qualified provider-led entity," with authority to write Appropriate Use Criteria for imaging.

The new designation allows Johns Hopkins experts to create criteria that can guide physicians' use of diagnostic imaging tests in institutions that



Pamela Johnson



Lee Riley, III

license the AgileMD platform as their clinical decision support mechanism for the CMS program.

Johns Hopkins plans to make the criteria available to other institutions by January 2020, when CMS will require all health care professionals to consult clinical decision support tools when ordering advanced diagnostic imaging tests for Medicare patients.

The initial set of guidelines is designed for ambulatory and emergency medicine providers in the eight areas designated as priorities by CMS: chest pain, pulmonary embolism, neck pain, low back pain, shoulder pain, hip pain, headache and lung cancer.

Most of the emergency medicine guidelines have been launched at multiple hospitals, while others are being developed, says **Pamela Johnson**, vice chair of quality and safety for the Department of Radiology and Radiological Science and a physician lead for the Johns Hopkins Systemwide High Value

Care Committee. Providers will also receive reports summarizing the effectiveness of their ordering; the value analytics team is building dashboards to evaluate patient outcomes and fine-tune the guidance as needed.

The effort allows Johns Hopkins to build on the 70-plus evidence-based guidelines that the Johns Hopkins Hospital emergency medicine team has been developing since 2018 on the AgileMD platform.

"The CMS designation allows us to share and expand on a tool that our emergency medicine providers integrated into their workflow years ago, and optimize diagnostic management even beyond imaging decision-making," says Johnson. "Our goal is to deliver the best care according to the evidence for everything we do." ■

Appropriate Use At a Glance

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- Chest pain
- Pulmonary embolism
- Neck pain
- Low back pain
- Shoulder pain
- Hip pain
- Headache
- Lung cancer

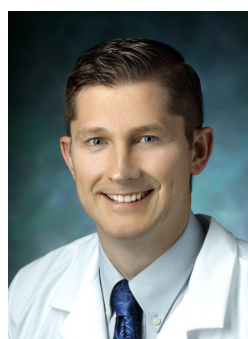
Learn more at bit.ly/hopkinsappropriateuse

Johns Hopkins First in U.S. to Use Radiofrequency Ablation to Treat Thyroid Nodules

Thyroid nodules are ubiquitous — an estimated 80 percent of Americans have these typically benign growths, says Johns Hopkins otolaryngologist-head and neck surgeon **Jonathon Russell**. But in a fraction of individuals, thyroid nodules expand to a size that becomes problematic, leading to troubles with swallowing or breathing, or changes in appearance that patients find unsightly.

“Several years ago, the choice on how to respond to benign thyroid nodules was binary: either perform surgery or not,” Russell says. “Because these growths typically aren’t life-threatening, many patients chose to live with them rather than deal with the recovery and scars of surgery.”

But recently, says Russell and his colleague thyroid surgeon **Ralph Tufano**, Johns Hopkins began offering a third option: radiofrequency ablation (RFA). The technique destroys unwanted tissue using heat generated from medium frequency alternating current and is offered at just a handful of centers in the U.S. for this indication.



Jonathon Russell

RFA has been used for decades to treat conditions affecting the heart, liver, and other areas. But its use in the neck has been limited due to the close proximity of vulnerable anatomical structures, such as nerves critical for swallowing and speaking, explains Tufano. With better technology and more refined techniques,

he adds, RFA has become a popular way to treat benign thyroid nodules elsewhere in the world. Johns Hopkins’ leadership in “scarless” techniques to treat thyroid and parathyroid nodules and cancers made it a fit to be a pioneer for RFA in the U.S.

Russell, Tufano, and their colleagues use ultrasound guidance to insert the RFA probe into a nodule, creating a pattern of damage that’s visible under imaging. Depending on the size of the nodule, this procedure takes as little as 30 minutes to complete, Russell says. Over the next several weeks and months, the damaged tissue shrinks and disappears, leaving patients with markedly reduced nodule size and related symptoms.

Because RFA is minimally invasive and extremely targeted, says Tufano, there are no scars and patients can avoid the long-term consequences of surgery, such as the need to take thyroid hormones for life.

Right now, he adds, the procedure is limited to benign nodules, in which patients have at least two confirmed biopsies showing no malignancy. But eventually, RFA may be an option for patients with small cancerous tumors. In time, Russell says, he and Tufano plan to also offer this procedure under local anesthesia, performing it right in the clinic.

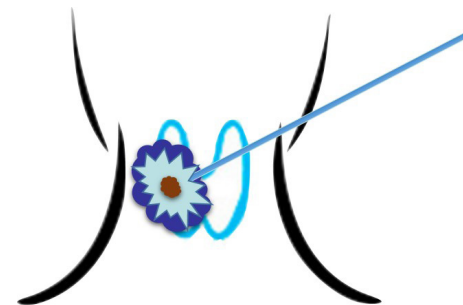
“Patients whom we’ve already treated with RFA tell us that it’s a relief to avoid surgery and avoid the need for thyroid hormone while still being able to reduce their thyroid nodules’ size and relieve their symptoms,” Tufano says. “We’re pleased to offer them another option.” ■

To discuss a case or to refer a patient, call 443-997-6467.



“BECAUSE RFA IS MINIMALLY INVASIVE AND EXTREMELY TARGETED, PATIENTS CAN AVOID THE LONG-TERM CONSEQUENCES OF SURGERY.”

—RALPH TUFANO



Represented in illustration: Johns Hopkins experts use ultrasound guidance to insert a radiofrequency ablation probe into a benign thyroid nodule, creating a pattern of damage that’s visible under imaging. Depending on the size of the nodule, this procedure takes as little as 30 minutes to complete.

SURGERY

Johns Hopkins Opens One of the Largest Ambulatory Surgery Centers in Maryland

The majority of surgeries that take place at The Johns Hopkins Hospital are outpatient procedures, totaling nearly 25,000 operations a year. Now, many such procedures can be performed at Johns Hopkins Health Care & Surgery Center — Green Spring Station. The new facility includes one of the largest surgery centers of its kind in Maryland.

The 110,000-square-foot, three-story building offers a wealth of surgical services, says **John Hundt**, chief administrative officer of surgery. These include minimally invasive general surgery, breast surgery, endocrine surgery and pediatric general surgery. Many of these services are being offered for the first time on the Green Spring Station campus, a six-building health care and surgery facility located in Baltimore County, Maryland.

“We have the same quality of services that we provide at The Johns Hopkins Hospital

with added convenience for many patients,” Hundt says.

Research suggests that procedures at ambulatory surgery centers can be performed at a lesser cost, often providing significant savings for insurance companies and patients who pay co-insurance. “It’s a good value for patients and payers alike,” Hundt says.

Research also shows that surgeries at ambulatory surgery centers like Pavilion III are as safe as those within traditional hospitals — data that’s compelled many providers to gradually phase out reimbursement for certain procedures at hospitals in favor of these facilities.

Additionally, the new clinical space improves the hospital’s ability to take on more complex cases. With more outpatient surgeries taking place off campus, operating rooms at the hospital will have greater capacity to take on neurosurgeries, cardiac surgeries and solid organ



The newest facility at Johns Hopkins Green Spring Station is home to expanded medical services and a variety of surgical procedures.

transplants, among other procedures.

Because Johns Hopkins Health Care & Surgery Center — Green Spring Station houses a host of providers from across medical disciplines, including primary care, the campus offers a true continuum of care, Hundt says. Patients may be able to receive referrals for outpatient procedures on the same campus where they receive their primary and other care. ■

Endoscopic Spine Surgery: Rare Minimally Invasive Approach Now Available at Johns Hopkins

Surgeons in the Johns Hopkins Department of Orthopaedic Surgery's spine division are now providing minimally invasive endoscopic surgery, which is used frequently in other specialties but is uncommon in spine surgery. **Sang Lee**, assistant professor of orthopaedic surgery and director of complex cervical spine and spine tumor surgery, is leading implementation of this approach, which the department began to offer over the last several months.

"Endoscopic spine surgery has been historically more common in Asia and is recently gaining popularity in the United States. However, it is mainly performed by private surgeons, not academic practices," Lee says. He hopes to popularize endoscopic spine surgery among academic practices in the U.S. because of its many benefits. "It is the least invasive surgery and uses an incision of less than 1 centimeter," Lee says. "Outcomes are similar to traditional open surgeries, but there are quicker recovery rates, shorter hospitalization times, and it is the better option cosmetically." Endoscopic surgery is used to treat less complicated spine conditions such as disc herniation and spinal stenosis, and can be performed in an outpatient setting.

Incorporating this technique will also provide valuable learning opportunities for surgeons in the spine division's residency program. "There is a steep learning curve of at least 20 initial cases. It requires a steadier hand," says Lee. Surgeons training in endoscopic surgery participate in cadaver training courses to refine

their techniques. Initially, the endoscopic approach may take one to two hours longer than more invasive procedures. However, the skills required are similar to those needed for open surgery. "I explain to students that you need to be able to see every anatomical characteristic in your mind's eye," Lee says. "When you see a patient in the clinic, you should be able to picture the spinal cord, nerve roots, vessels, and all the critical structures."

Lee is excited by the opportunities available in the spine division, which he says have expanded greatly in the past two years. He is eager to help Johns Hopkins become a leader in endoscopic spine surgery among academic institutions, and to provide an option with less tissue damage, less blood loss, and shorter hospitalization and recovery. ■

To discuss a case or to refer a patient, call 443-997-9330.



"Outcomes are similar to traditional open surgeries, but there are quicker recovery rates, shorter hospitalization times, and it is the better option cosmetically."

—SANG LEE

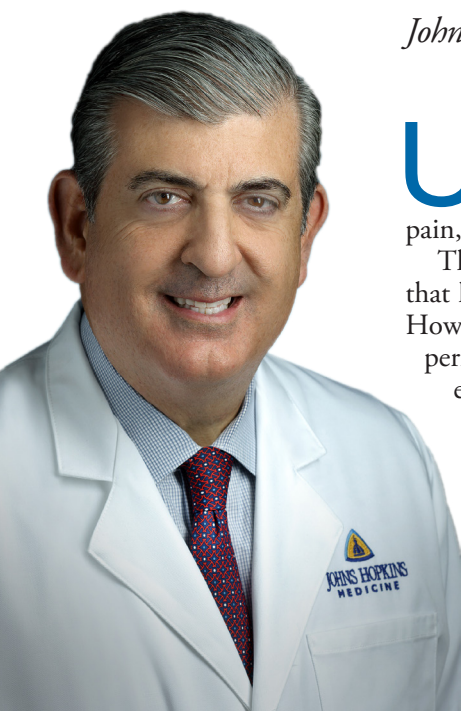
DIRECTOR OF COMPLEX CERVICAL SPINE AND SPINE TUMOR SURGERY



This endoscopic discectomy procedure uses a transforaminal approach with access through the flank. The incision is less than 1 centimeter long.

A Treatment Breakthrough for Certain Patients with Spina Bifida

Johns Hopkins neurosurgeons provide new option to avoid ongoing detethering operations.



Up to half of children with spina bifida defects that are repaired shortly after birth develop tethering. This puts them at risk for later symptoms including back and leg pain, weakness, and bowel and bladder dysfunction.

The traditional fix for these problems is an operation that loosens the spinal cord from the tissue that confines it. However, as a child grows, this detethering surgery must be performed repeatedly, causing a buildup of scar tissue that eventually causes its own set of concerns.

"This was the best option we could offer patients," explains Johns Hopkins pediatric neurosurgeon **Mari Groves**. "But every time we go in, we create more problems."

Recently, Groves and her colleague **Nicholas Theodore**, director of Johns Hopkins' Neurosurgical Spine Center, teamed up to offer patients a completely new approach: an operation

that circumvents the tether completely and decreases tension on the spinal cord by shortening the spinal column instead.

Neurosurgeons have long performed procedures that inadvertently shorten the spinal column, such as partially or fully removing vertebrae when a cancerous tumor arises within the bone. However, to use this type of procedure for spinal cord tethering is new and extremely rare, says Theodore, practiced by just a handful of academic medical centers across the country. Of these, Johns Hopkins has the largest series of patients, with many such procedures performed here over the past few years.

"This is a significant departure in how we've traditionally treated these patients, but for the first time, it has the potential to be curative," Theodore says. "It's really exciting to be able to offer this new option." ■

To discuss a case or to refer a patient, call 410-955-7337.

Nicholas Theodore, director of Johns Hopkins' Neurosurgical Spine Center.

YOUR VITAL LINKS

Johns Hopkins Medicine offers the following resources for you and your patients.

Hopkins Access Line (HAL)

Your 24/7 connection with Johns Hopkins faculty physicians in any specialty.

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☎ +1-410-955-9444 (Baltimore area/International calls)

Online Referral Directory

Find a Johns Hopkins physician by name, specialty and more.

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Clinical Trials

trials.johnshopkins.edu

CME Programs

hopkinscme.cloud-cme.com

410-955-2959

cmenet@jhmi.edu

Johns Hopkins CareLink

A web-based portal for real-time access to your patients' medical records; notification of your patients' visits, admissions and discharges; and secure messaging with Johns Hopkins specialists.

hopkinsmedicine.org/carelink

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Download the Johns Hopkins Doctor Referral App

This new app provides a simple way for health care providers to connect with and refer patients to physicians across Johns Hopkins Medicine in the departments of neurosurgery, orthopaedics, surgery and urology. Registration required.

Visit bit.ly/hopkinsapp

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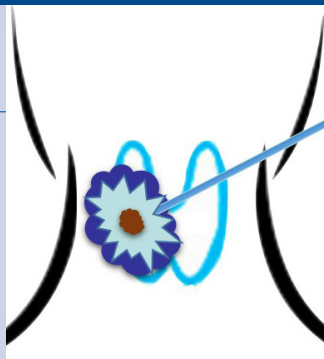
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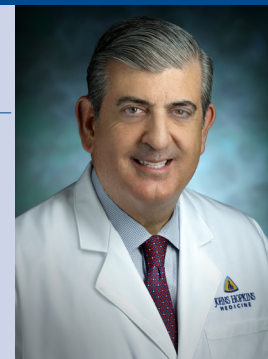
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