



Regional News

Clinical Practice Today

Duke Radiology “Sheds the Lead”

By Eric Seaborg



PHOTO CREDIT: Duke Health.

Routine use of lead shields designed to protect the gonads during pelvic and abdominal radiographs is joining the list of outdated medical practices.

This fall, Duke launched a system-wide program called “Shed the Lead” that aims to eliminate the use of shielding in alignment with updated recommendations from the National Council on Radiation Protection and Measurements, which cites accumulating evidence that the shields do not provide the benefits they were once thought to provide—and can even have some downsides.

“We do things much better than we did 50 or 60 years ago in terms of exposures. The technology has substantially advanced,” says Donald P. Frush, Duke radiology professor. Frush, who chaired the committee that authored the guideline also notes that the doses are much smaller than in the past—as much as 95% lower—and the gonads have a much lower potential risk of radiation exposure than previously thought. In fact, the gonads are not as sensitive to radiation as other parts of the abdomen—such as the bone marrow, stomach, and colon—that are not shielded.

Lead shields can have the unintended consequences of increasing the overall exposure to unshielded regions and reducing diagnostic information, Frush says. They can block the automatic exposure sensors, which are intended to shut off the x-ray exposure when they register the necessary dose received, resulting in a greater-than-intended dose to the surrounding, unshielded tissues.

In addition, the shields cannot protect against internal scatter of the x-rays, which accounts for a portion of the dose the gonads, especially the ovaries, can receive. Even when technologists carefully follow guidelines, the shields can be difficult to place correctly over the testes and ovaries, particularly in small children, and may cover parts of the x-ray examination that provide valuable diagnostic information.

Frush says that the change requires dialogue that includes education throughout the system, including for administrators, healthcare providers, and especially radiological technologists who routinely interact with patients. Patients and their caregivers also need to be part of the educational dialogue.

Technologists may face challenges in explaining the reasons for the changes in long-used shielding procedures. Information on recommended communication approaches are part of the rollout. Informed, shared decision-making between providers and patients will allow for exceptions when shielding is reasonable.

The American Association of Physicists in Medicine has posted answers online to FAQs for health care professionals and patients. Scan the QR code to the right to access the FAQs.



Emphasizing Preventive Care for ‘Heart Healthy’ Communities



Duke Heart is nationally recognized for its novel, pioneering therapies and for playing key roles in advancing the state of cardiac diagnostics and therapies and for playing key roles in

advancing the state of cardiac diagnostics and therapies through research. Treating any condition, common or complex, Duke brings together more subspecialists than any other program in the Carolinas, providing care to more than 650,000 patients annually.

“As part of Duke Heart’s ongoing expansion to Wake County and beyond, we want our community to know that we can care for their heart at any stage, from preventive to complex care and surgery,” says Manesh Patel, MD, chief of cardiology and clinical pharmacy. “Our goal is to improve and save lives for those affected by heart disease.”

Some of these expanded programs include:

- **Genetic Heart Disease:** Duke strives to identify genetic diseases and slow their progression through preventive care and advanced treatment for adult and pediatric patients. In addition, providers can refer family members for testing for similar inheritable conditions.
- **Cardiac Rehabilitation:** Patients who have experienced a heart attack or other heart problems can benefit from cardiac rehabilitation, which improves cardiovascular health and heart healthy habits. Duke recently opened a cardiac rehab at Duke Specialty Rehab Services Midtown in Raleigh, in addition to the clinic in Durham.

Duke Heart has also launched a home-based cardiac rehab program as an alternative to a 36-session in-person program. Patients who have completed the in-person program can also benefit from a mobile application, which provides access to self-guided instruction and support from Duke providers during office hours.

- **Cardiometabolic Clinic:** In this distinctive, multidisciplinary clinic, Duke specialists dedicated to working on the challenges of cardiometabolic disease collaborate to treat patients with multiple comorbidities, including diabetes, cardiovascular disease, and kidney and liver disease.
- **Heart Failure:** Duke’s Heart Failure Same-Day Access Clinic offers a convenient, same-day clinic option for patients with heart failure that helps avoid hospitalization. The clinic serves two primary patient populations: patients who are experiencing worsening heart failure symptoms and those who need an early post-discharge follow-up appointment.

Clinic Locations

Duke Specialty Rehab Services Midtown

5920 Sandy Forks Rd, Ste 200
Raleigh, NC 27609
Phone: 919-954-3174

Duke Cardiopulmonary Rehabilitation at Croasdaile

1821 Hillandale Rd, Ste 25B
Durham, NC 27705
Phone: 919-660-6673

Duke Cardiometabolic Prevention South Durham

234 Crooked Creek Pkwy, Ste 540
Durham, NC 27713
Phone: 919-367-1715

Duke Heart Failure Same-Day Access Clinic

40 Duke Medicine Cir, Clinic 2F/2G
Durham, NC 27710
Phone: 919-681-5816

Child and Adolescent Gender Clinic Expands in New Location

By Tim Pittman

Leaders of the Duke Child and Adolescent Gender Care Clinic, which celebrated its seventh anniversary in July, have identified a large number of patients reporting anxiety caused by COVID-related isolation.

Pediatric endocrinologists and gender care specialists say that closings due to COVID made it difficult for young patients and their families to find gender-focused clinical care. Some clinics reduced hours as a response to COVID, limiting options for individuals and families seeking care.

Additionally, school closings worsened feelings of isolation. Being away from friends and classmates in school settings can exacerbate mental health challenges for some patients, specialists say. The clinical team, which encourages candid communication in a safe, comfortable setting, has been counseling more young patients who report feelings of isolation as a result of COVID.

A recent expansion to a new clinic has led to shorter appointment wait times, Duke specialists say. In addition to pediatric endocrinologists, the multidisciplinary team includes a child and family clinical psychologist, a pediatric urologist, a clinical psychologist who specializes in eating disorders, and a social worker who plays a key role in working with families during the initial appointment.

Distinctive Services Offered

- Access to the Duke Voice Clinic for vocal training
- Counseling from nutritionists to help with eating disorders
- Physical therapy to help children as they prepare for physical changes following surgery; some patients, for example, want to add muscle and improve strength
- Access to a gynecological team to help with menstrual management or family planning

- Psychological counselling
- Identification of and help with access to community partners who can help with transitions
- Dermatological services to help patients treat acne or eliminate unwanted hair
- Plastic surgery

Care Can be Challenging to Find

Although young people under 18 can legally access reproductive health care without parental permission, gender care is not recognized as reproductive health care in North Carolina. As a result of this classification, specialists say they cannot reach all individuals who need care. Families with children under age 18 usually approach their pediatricians, who commonly refer many patients to the Duke clinic.

To improve patient education about gender issues, the clinic hosts an evening Zoom session each month. Many parents become more aware of gender issues after engaging with the clinic, which brings expertise from 20 years of research to help guide patients and families.

To refer a patient to the Duke Child and Adolescent Gender Care Center, call 919-275-3853.

Expanding the Reach of Precision Cancer Medicine

By Julie Poucher Harbin



Oncologists today have a wider range of anti-cancer drugs to reach for, many of which target the molecular alterations believed to contribute to the cancer's development.

Comprehensive genomic profiling, also known as next-generation sequencing (NGS), is used to identify these molecular alterations, and can be used to precisely diagnose cancer type in rare or complex cases. Duke Cancer Institute (DCI) oncologists partner with Duke University Health System Clinical Labs and private diagnostics companies to test patients at diagnosis and/or after the cancer grows or spreads. Although this varies across cancer types, targeted therapies that can save patients from needing toxic chemotherapy are becoming increasingly available at multiple points in a patient's cancer treatment, from first-line standard of care to subsequent treatment after progression on conventional therapies.

Test results are entered into a molecular registry of tumors known as Frameshift MRT. This centralized informatics tool, developed at Duke, helps oncologists identify if anything in their patient's mutational profile, even extremely rare targets, can be treated with existing targeted therapies or immunotherapies.

As of August 2022, data from more than 9,000 tumor molecular testing reports, 8,000 patients, and 60 cancer types, as well as more than 5,700 hereditary testing reports are maintained in the Frameshift MRT database. Mutations that can potentially be addressed with drug therapy have been found in more than half of endometrial, non-small cell lung, urothelial, breast, gastroesophageal, prostate, and bile duct cancer patients who have undergone NGS testing at Duke, as well as in 43% of colorectal and ovarian and 22% of pancreatic cancer patients.

Access to NGS testing, the integration of test results into Frameshift MRT and support from the DCI's

Molecular Tumor Board, a multidisciplinary group that provides recommendations for complex cases, is being extended, clinic by clinic, to Duke Cancer Network (DCN) community care sites in rural North Carolina.

Earlier this year, Gibson Cancer Center (Lumberton, NC) and Scotland Cancer Treatment Center (Laurinburg, NC) became the first DCN sites to connect to these resources. Johnston Hematology/Oncology (Smithfield, NC) was recently added, and a fourth DCN affiliate, Maria Parham Cancer Center (Henderson, NC), will soon join.

The tumor molecular and outcomes data captured for individual patients in Frameshift MRT also helps drive lab studies and clinical research promoting better treatments for all cancer patients. Duke investigators also use the data to assess differences in NGS testing use among cancer patients by race and cancer type and to examine key sociodemographic, healthcare access-related, and clinical drivers of potential disparities.

"Molecular analysis of tumor samples from a diversity of patients is crucial to equitable translation of cancer medicine," says Steven Patierno, PhD, deputy director of DCI and principal investigator to a National Cancer Institute grant on cancer disparities.



PHOTO CREDIT: cdo_tto/istock