

Focus On:

Interventional Radiology

- 3D-Fusion Imaging
- The New IR Suite
- Cutting-Edge Procedures

EVERGREEN Rounds

Specialty care highlights for physicians

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Multimodality 3D-Fusion Imaging

Interventional radiology (IR) combines cutting-edge digital imaging with therapeutic intervention. Evergreen's upgraded Interventional Radiology Suite, opened in summer 2009, offers this exciting technology for enhanced accuracy, a safer approach to high-risk locations and precision targeting of treatment.

"We're the only group on the Eastside with this new technology and the only group actively using this 3D-fusion technology to be safer and more accurate," says Geoffrey Ferguson, MD, co-director of Evergreen Interventional Radiology. "It also expands the number of potential candidates for a particular procedure since we can more safely reach a difficult target site." The technology allows the IR team to treat patients they couldn't treat before, such as those with complicated tumors who need highly detailed, precise imaging.

Multimodality 3D-fusion imaging is moving the field of interventional radiology into the era of real-time, 3D, image-guided, minimally invasive therapies. With this breakthrough technology, a digital fluoroscope is rotated around a patient to create a CT-like, 3D volume rendering of the targeted tissue. IR specialists can then visualize internal anatomy and perform minimally invasive procedures, from needle biopsies to cancer therapies such as radiofrequency ablation. "After choosing new technologies to maximize patient care in an evidence-based manner, we're evolving to become a surgical service with minimally invasive procedures," says Ferguson.

The same rotating digital fluoroscope can be used with contrast material to create a 3D model of a patient's vascular tree during a procedure, so IR specialists can see the entire branching system that leads to an organ or lesion, allowing them to place a stent in a difficult vascular location or follow a complex route to a cancer to be embolized. "In terms of complex vascular anatomy, this fusion technology gives us a unique sense of depth and position, so we can place a stent in a dicey location or follow a particular route to a cancer we want to embolize with a chemotherapy agent or particles," says Ferguson.

"We're in close collaboration with the equipment manufacturer, Philips Health Care, and this relationship allows us access to intellectual resources and leading-edge equipment and software upgrades," Ferguson says.

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IR at a Glance

IR offers real-time, 3D, multimodality image guidance for complex interventions and therapeutic procedures.

Advantages

- enhanced accuracy
- safer approach to high-risk locations
- precision targeting of lesions found on diagnostic scans

Cutting-Edge IR Procedures

- image-guided percutaneous and transvascular biopsies and tumor management
- transvascular therapeutic procedures such as stroke thrombolysis and arterial thrombolysis
- DVT management: mechanical and pharmacologic thrombolysis, retrievable IVC filter placement and pulmonary embolism management
- percutaneous nephrostomy and cholecystostomy
- placement of vascular ports, central venous catheters and hemodialysis catheters
- vertebral compression-fracture management: vertebroplasty and kyphoplasty
- management of symptomatic uterine fibroids using transvascular embolization
- image-guided deep-abscess drainage



Exceptional care close to home.

Featured in This Issue:



Geoffrey Ferguson, MD

Dr. Ferguson has been practicing at Evergreen Hospital Medical Center since 2000 and is the co-director of Evergreen Interventional Radiology along with Steve Chen, MD. He

trained in diagnostic radiology at the University of Washington and has been subspecialty certified in vascular and interventional radiology since 1995.

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Evergreen Hospital Medical Center is a community-based health care organization with more than 800 staff physicians in over 50 specialties serving residents in the Puget Sound region. Evergreen's clinical excellence and breadth of services are among the most comprehensive in the Pacific Northwest.

Multimodality 3D-Fusion Imaging, continued from front

Future features will include image guidance with an overlay of imported diagnostic imaging scans, allowing IR specialists to import a patient's previous scan from an external source to generate a 3D model. Then, with the patient on the table, they can do a new digital 3D scan and superimpose those two volumes – past and current – together. This fusion of multiple imaging technologies will project a previously detected lesion in real time over a patient's new scan for even more precise lesion targeting. ■

The High-Tech IR Suite

Although image-guided interventions are not unique to IR specialists, the procedures performed do cross many different organ systems and clinical disciplines. "We do a wide range of vascular procedures that cross disciplines among cardiology, vascular surgery and IR," says Ferguson. "All three of these subspecialties engage in endovascular therapies, such as placing stents, thrombolysis, treating a postpartum hemorrhage or GI bleed, and dissolving blood clots in acute strokes, DVT or pulmonary embolism."

"The new IR area can be seen as a combined inpatient and outpatient surgery center, with both IR and the cardiac cath lab here, and eight outpatient beds in all," says Ferguson. The IR program has four dedicated interventional radiologists from Radia, the radiology group associated with Evergreen, plus a physician's assistant trained in IR and cardiothoracic surgery. "The bulk of our procedures are minimally invasive enough to avoid admission, but we also take care of inpatients through the ER, ICU and hospital, doing emergency vascular procedures for a GI bleed or postpartum hemorrhage, massive stroke or pulmonary embolism," says Ferguson. Evergreen's IR program has a full-time patient care coordinator/RN with an Internet-linked phone to coordinate procedures and patient flow.

The Interventional Radiology Suite, in Evergreen Hospital Medical Center off the main lobby, is high-touch as well as high-tech. It was designed with soothing light fixtures on the ceiling, a wood-grain floor and ambient music to calm and relax patients.

Future plans include a new outpatient clinic for IR patients, since patients are currently worked up in the Cascade Cancer Center due to space constraints. "Our future goal is to schedule and work up patients preoperatively in a new environment that's of the same caliber and sophistication as the IR procedures themselves, hopefully by summer 2010," Ferguson says. ■

How To Refer

For routine interventional radiology procedures, please call Evergreen Diagnostic Imaging at 425.899.2831 or 425.899.1849.

For same-day or urgent IR care, or for an IR consultation, please call our patient care coordinator at 425.899.4361. ■

Distinguished Hospital Award

Evergreen Hospital Medical Center has received the 2010 Distinguished Hospital Award for Clinical Excellence from HealthGrades, the nation's leading provider of independent hospital ratings. Evergreen is one of only two hospitals in Washington state, and the only King County hospital, to earn this distinction. ■