

**Clinical Update**Compliments of  
John Muir Health

# Physician News

**SERVICE LINE SPOTLIGHT:**

## Medical Imaging Department Adds 128 Slice CT Scanner in Concord

With the new year comes some new technology for Medical Imaging at John Muir Health. Starting in January, all patients requesting an outpatient CT exam at Concord will be directed to a new state-of-the-art 128-slice CT scanner. This unit from Siemens is one of the most advanced CT scanners in the entire Bay Area.

The new technology will give patients a much faster scan at a much lower radiation dose. According to Steve Goldstein, Director of Medical Imaging, the new scanner replaces an older-technology machine that was in service for two decades. Though all CT scanners are currently low-dose, the new one offers additional benefits (see box).

**PLEASE NOTE:** The phone number for CT services, (925) 952-2701, will remain the same for you, your office, and your patients. When obtaining an authorization, your office will need to use the JMCC Tax I.D. #68-0396600.

As of January 2016, the Contra Costa Imaging Center (CCIC) will be discontinuing its CT service and will continue to offer its MRI service. Patients and physician orders that request CCIC will be automatically redirected to the hospital's Medical Imaging Department.

JMHPN caught up with Kirk So, MD, Chair of the Department of Medical Imaging, and Steve Goldstein to hear more about the new unit and imaging for John Muir Health patients.

***JMHPN: Why is the new scanner such an important technical upgrade to imaging at John Muir Health? How does it enhance diagnosis?***

**Dr. So:** The new 128-slice CT scanner represents technology that keeps us at the forefront of advanced imaging and non-invasive diagnosis. The new scanner doubles the amount of detectors previously available, allowing for more rapid and precisely detailed images of patients' anatomy and disease. The speed of the scanner is especially helpful for the advanced imaging that we offer. During coronary CT angiography, for example, the rapid scanning helps reduce artifacts from the patient's heart rate, reducing the need for medications and improving accuracy when heart rates go up. It also helps with CT perfusion imaging for our acute stroke patients, who can have difficulty holding still for the scan. Diagnostic accuracy is improved for both these patient groups.

***JMHPN: What does this mean for our patients?***

**Dr. So:** The new scanner offers them myriad benefits. As mentioned above, scan times are quicker. This is more comfortable for all and safer for our critically

ill patients, minimizing time in the scanner. Radiation doses are also further lowered. For patients undergoing CT-guided biopsies, the scanner also provides near real time imaging, allowing for quicker biopsies.

**JMHPN: What makes you most proud about this upgrade?**

**Steve Goldstein:** I'm very proud to work for John Muir Health, an organization that has a true focus on patient safety and patient satisfaction. Here in the Medical Imaging Department, we are so pleased to offer this advanced CT service. It's very gratifying to see the pleasant reactions on the part of our radiologists and CT technologists as they recognize the tremendous capabilities of this scanner. Our patients will also be very happy to know that many of the CT scans are over in just a matter of seconds.

**JMHPN: What is an example of how this might improve treatment?**

**Dr. So:** We just started running cardiac patients, and the exams have more detail with less artifact than previous studies. I just read a case where a patient's heart rate went up in the middle of the exam to a level that would have obscured the coronary arteries on a slower scanner, but with the new 128-slice scanner we were able to accurately detect several areas of significant narrowing of the coronary arteries and help provide information critical to the best management of this patient's disease.

**JMHPN: What will be most challenging for your department in the future?**

**Steve Goldstein:** One of our biggest challenges is meeting the current high demand for medical imaging services. We are focused on our department's appointment accessibility and are working to increase our capacity in areas such as MRI, Mammography, and CT services.

**JMHPN: Do you have any patient stories you'd like to share?**

**Steve Goldstein:** Many examinations in Medical Imaging can take upwards of an hour. We have already seen how positively patients respond when they realize their exam is over almost as fast as it took them to lie down on the CT table.

For more information on the new scanner or Medical Imaging, please call Steve Goldstein at (925) 674- 2234 or email [steve.goldstein@johnmuirhealth.com](mailto:steve.goldstein@johnmuirhealth.com).

Below are some of the superior features of the new 128 slice CT scanner:

- Stellar Detector - The first integrated detector allows for 30-40% reduction in radiation dose. The stellar detector also provides 0.5mm thin slices which allow for improved plaque differentiation in cardiac imaging
- Ultra-fast acquisitions -The software provides significantly reduced scan times which means shorter breath holds for patients and better image quality by reducing motion artifacts.
- SAFIRE - Sinogram Affirmed Iterative Reconstruction (SAFIRE) is the first rawdata based iterative reconstruction software. SAFIRE can help users reduce dose by up to 60% while maintaining clinically relevant recon speeds of 20 images per second
- 78cm Gantry aperture - Allows imaging of even the largest patients and provides a more patient friendly scanning environment
- 500 lb table capacity - With the highest table weight capacity of its class, the scanner can handle your largest patients.
- 100 kW Generator - Large x-ray generator capacity allows for high quality imaging of even the most challenging bariatric patients.



CT Clinical Coordinator Felipe Bagasbas and Kirk So, MD, explain the details of the coronary CTA scan to a "patient".



At left, the two review images.

Photos: Dell Frias