ONI launches high-field MRI scanner for extremity imaging

September 27, 2000

The first dedicated MRI high-field extremity scanner has been cleared by the FDA. The system, called OrthOne, runs at 1 tesla yet can be sited in a 10 x 10-ft. room. Developed by ONI, a privately held, three-year-old company based in North Andover, MA,

The first dedicated MRI high-field extremity scanner has been cleared by the FDA. The system, called OrthOne, runs at 1 tesla yet can be sited in a 10 x 10-ft. room.

Developed by ONI, a privately held, three-year-old company based in North Andover, MA, OrthOne looks like a cylindrical mini-scanner mounted inside a pedestal. The 28-cm bore is wide enough for an arm or a leg. A reclining chair swivels the patient into position.

The high-field design supports a broad range of pulse sequences, including spin-echo, fast spin-echo, and 2-D and 3-D gradient echo. The increased signal-to-noise ratio from the 1-tesla superconducting magnet provides a substantial improvement in image quality over competing extremity scanners and low-field open scanners, which have field strengths of less than 0.5 tesla.

“The image quality at low field is substantially poorer, especially for joint imaging, than at higher field,” said Dr. John Crues III, medical director of Los Angeles-based RadNet Management, which owns 38 freestanding outpatient centers. “ONI has a high-field magnet, and the images are high-field quality.”

OrthOne will be installed in November at the company’s flagship center, Tower Imaging-Wilshire in Beverly Hills, CA. Four other sites are scheduled to receive the dedicated extremity scanner before the end of the year, according to company president and CEO Robert Kwolyk. With a list price of $425,000, the new system is about half the price of a general-purpose low-field open scanner. Some components built into the new product are obtained from suppliers; others are being built in-house, according to Kwolyk. Units will be assembled in the company’s North Andover facility. Kwolyk expects production to be at full strength by the early part of 2001. In the meantime, ONI is increasing its staff to support sales, service, and distribution in the U.S., while hoping to line up distributors to support efforts overseas.

The small footprint and light weight (less than 1400 pounds) should make siting a snap. The magnet features passive shielding. Helium boil-off is minimized, so the unit requires refills no more than twice annually. Data processing is accomplished with a dual Pentium III computing platform run on Windows NT.

“You can walk up to the machine and scan a patient without any difficulty,” said Dr. Michael Brant-Zawadzki, head of the ONI medical advisory board and a radiologist at Hoag Memorial Hospital in Newport Beach, CA, where a unit is scheduled for delivery later this year. “The user interface is remarkably straightforward.”

The FDA decision was issued just days prior to the Current Issues of MRI in Orthopedics and Sports Medicine Symposium held Aug. 23-26 in San Francisco. The timing afforded ONI a chance to showcase the unit to a major segment of its prospective client base. Most extremity scanners are sold to outpatient clinics specializing in sports medicine or orthopedics. The 1-tesla field strength could also attract the interest of radiologists who so far have shunned low-field extremity scanners. Kwolyk plans to market OrthOne as a supplement to an existing whole-body scanner and as a replacement for a second, underutilized, whole-body unit.

“Musculoskeletal radiologists have been telling us that they need the field strength to resolve small details of anatomy,” Kwolyk said. “Having a higher power system helps address that. It improves confidence when interpreting images.”

In addition to image quality, the high field also supports rapid data acquisition, which should translate into quick patient scans and high patient throughput. Clinical experience is limited on the system, however.

Three weeks after the August San Francisco meeting, which served as the U.S. launch of OrthOne, the system was introduced in Europe at the International Skeletal Society meeting in Barcelona. The next major opportunity for market exposure will be in November at the RSNA meeting.

Disclosures:
Source URL:
http://www.physicianspractice.com/articles/oni-launches-high-field-mri-scanner-extremity-imaging