

# Portable CT Scanner Advances

By Angie Best-Boss

Recent advances in CT scanner technologies have increased versatility and developed the ability to bring them closer to the patient. For example, the miniCAT by Xoran takes less than a minute to scan and provides clear resolution, less radiation and significantly higher patient compliance than traditional CT scans. Products like the miniCAT allow private practices to scan, diagnose and begin a treatment plan during the first visit. This ability to provide immediate results facilitates faster treatment and healing, as well as allows the office to directly receive reimbursables.

One product in particular that has made its way into several ICUs and ORs and has shown to not only save lives, but may also reduce costs, is the CereTom from NeuroLogica. Traditionally, in an ICU or ER setting, sending a patient for a CT scan can take up to four professionals off the ward for up to 90 minutes. The CereTom portable CT scanner is lightweight, mounted on wheels and can easily be moved to where it's needed.

"We bring the device to ICUs to scan people without removing them from their life support," notes Eric Bailey, President

and CEO of NeuroLogica. "We can also bring it into the operating room. You can't just bring a patient down to radiology in the middle of a surgery."

Children's Hospital & Research Center Oakland is the first pediatric hospital on the West Coast to have and use the portable CereTom CT scanner. Patients at Children's Hospital & Research Center Oakland no longer have to be moved out of the intensive care unit or operating room to get a CT scan. Each year, Children's Hospital & Research Center Oakland treats nearly 300 children with serious head injuries and performs more than 350 neurosurgical procedures that could require an immediate CT scan.

At Children's Hospital & Research Center Oakland, the CereTom is most useful in the neonatal ICU (NICU). "We bring our portable scanner right into the NICU room, put the [infants] on a kind of diving board, if you will, and we scan them right there in a matter of 30 to 60 seconds," said Peter Sun, M.D., Children's Hospital & Research Center Oakland Neurosurgery Medical Director. Having to transport patients for tests can be dangerous. The rate of adverse incidents specifically related to moving pa-



PHOTO BY TOM LEVY, COURTESY OF CHILDREN'S HOSPITAL & RESEARCH CENTER OAKLAND

**A scan of an infant is conducted at Children's Hospital Oakland. Although designed for CT scanning of the head, in select cases the CereTom CT scanner may be used to examine extremities or do full body scans of small infants in emergency situations.**

tients for CT scans is an astonishing 71%. The most critical concern is that a patient will become unstable outside of the ICU, where appropriate care cannot be immediately provided.

A recent study published in *Radiology Management* evaluated the economic and clinical benefits of using portable head/neck CT imaging in the ICU. Performed at the Cleveland Clinic in Mayfield Heights, OH, over a four-month period, the study confirmed significant advantages for caregivers and patients.

The average length of time from request to results for a traditional CT scan was just under an hour. With the portable scanner, the average wait was only 18 minutes. Having the ability to image patients at their point of care in ICU is already showing dramatic results, including more rapid clinical decision making as well as reducing the risks of transporting patients. Not having the added expense of having four or five staff tied down for an hour also saves the hospital \$162,000 annually.

Another benefit to the hospital and patients is that it frees up the conventional scanner for more outpatients scans. At \$309 profit per scan, an additional 394 scans were performed during the four months of the study. Not only does the clinic bring in additional revenue, but more patients have access to care in a timely manner. The study concluded that the calculated break-even point on investment is 6.9 months, and the total economic benefit for five years is \$2,619,290. ■

Continued from Page 15

even the responsible exercise of clinical judgment unless the outcome is perfect. No physician believes good clinical practice is possible without good clinical judgment, and no one wants to practice purely defensive medicine. Nonetheless, in the current medicolegal environment, anything other than the earliest possible diagnosis of breast cancer may produce yet another malpractice claim. Weighed against a diagnosis of cancer, retrospective arguments concerning cost, patient anxiety or low probability may not be satisfactory defenses.

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## advertisers' index

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RGI Insurance Services.....	3
Ron Centerwall .....	9
Santa Clara Drug.....	Inside Front Cover
SunStar Media .....	Inside Front Cover
Technology Credit Union .....	2