

Researchers develop new and efficient breast biopsy technique

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Researchers have developed a new breast biopsy technique that could lead to decreased procedure times and reduced patient discomfort and morbidity, according to a study performed at Roberts Research Institute, the University of Western Ontario and London Health Sciences Centre, London, ON, Canada. The new technique uses a mechanical arm to guide the needle for the biopsy and has a braking system to allow for accurate placement of the needle and to avoid needle motion.

Breast biopsy procedures, using both methods, were performed on phantoms during the study. "Our results showed that biopsy success rates were greater when using our new guidance system," said Aaron Fenster, MD, lead author of the study. "We also showed that experienced and inexperienced radiologists performed a biopsy significantly faster when using our needle guidance system," said Dr. Fenster. The success rate using the needle guidance system was 95.9% compared to a success rate of 91.3% using the freehand technique. Using the freehand technique, experienced radiologists had a procedure time of approximately 31 seconds. Using the needle guidance system, experienced radiologists had a procedure time of approximately 10 seconds.

"Techniques for improving biopsy procedures are needed to make the procedures more efficient and reduce the variability due to physician experience and size of the target lesion. Breast biopsy using the developed needle guidance system is feasible and I believe it will enable physicians to diagnose early-stage carcinomas more efficiently and accurately, thus decreasing patient morbidity," said Dr. Fenster.

"The system we designed is a prototype and is required to be redesigned for routine clinical use. Tests with human subjects are planned for the fall of 2009," he said.

More information: This study appears in the June issue of the *American Journal of Roentgenology*.

Source: American Roentgen Ray Society

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