
Approach to improving breast MR wait times



Clinical demand for specialised MR examinations such as breast MR has increased. Long wait times for MR examinations may increase patient anxiety and can contribute to delayed diagnosis. A quality improvement (QI) initiative enabled a large referral academic radiology department to address the long wait times for breast MR, while ensuring that patient care was not adversely affected, according to new research published online in the *Journal of the American College of Radiology*.

"Through a structured and supervised programme designed to increase the number of trained technologists working in the evenings and weekends, and careful removal of the requirement for physician monitoring, we achieved a substantial and safe reduction in patient wait time for breast MR," study authors write. "We were able to expand access to breast MR (101-day waiting period versus 5-day waiting period) while maintaining a high level of image quality (fixed major diagnostic impairment rate: 3%; prospective breast MR technical recall rate: 0.5%)."

Timely access to medical imaging is necessary to ensure optimum patient and referring provider satisfaction. Many patients undergoing breast MR either have breast cancer or are at high risk for breast cancer. Anxiety is common in this population. Specialised imaging modalities, such as breast MR, can be difficult to access. In addition, breast MR presents unique technical challenges. Specifically, it is critical to ensure homogeneous fat saturation across the breasts and axillae and to obtain correct positioning of the patient in the breast coil. If these factors are ignored or done incorrectly, it can decrease the sensitivity of breast MR for cancer detection.

This QI effort aimed to increase patient access to breast MR while maintaining diagnostic image quality. The host institutional review board approval was waived for this HIPAA-compliant QI initiative, which was conducted from December 2014 through March 2016. Breast MR wait times, scheduling grids, and staffing models were reviewed to identify root causes of elevated wait times. Breast MR wait times were tracked on a biweekly basis as root causes were identified and action plans were implemented. Patient recall rates for repeat MR imaging were tracked. A retrospective analysis of image quality was performed in a randomly selected sample (20 per month; total: 320 examinations). Wait time and image quality data were analysed with statistical process control charts and logistic regression.

In all, 798 breast MR examinations were performed during the study period. Monthly volume increased from 23 in December 2014 to 50 in March 2016 (range: 23-64). Wait time for a routine breast MRI fell from 101 days before implementation to 5 days at study completion. The technical recall rate was 0.5% (4 of 798); no recall was performed for a technologist-related error or scan quality concern. The proportion of examinations with minor (31% [99 of 320]) or major (3% [9 of 320]) image quality impairments did not significantly change during the study period ($P = .69-.70$).

"Key root causes we identified that contributed to the long wait times included concentrated technologist expertise and radiologist availability for examination monitoring. The stepwise and structured methods of expanding technologist expertise we employed may be applicable to other technologically demanding high-impact imaging examinations," the authors explain. "A structured checklist-driven technologist training plan coupled with side-by-side mentoring by experienced technologists were effective countermeasures for our initially long wait times."

This model may be useful for institutions seeking to transition newly implemented advanced diagnostic imaging examinations into routine clinical operation, according to the authors.

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Published on : Tue, 10 Apr 2018