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### Early Breast Cancer: Improve your ability to find it

**Introduction:** About 1 in 8 US women (about 12.4%) will develop invasive breast cancer over the course of her lifetime. In 2018, an estimated 266,120 new cases of invasive breast cancer are expected to be diagnosed in women in the US, along with 63,960 new cases of non-invasive (*in situ*) breast cancer. Detection of early invasive breast cancer is important, as patient survival is high when the cancer is 2 cm or smaller. Radiologists' mission is to be able to detect breast cancer when it is very small, which is important in reducing breast cancer mortality. Women with invasive cancers of 1cm or smaller have a 95% chance of survival at 10 years, while those with invasive cancers 1–2 cm and 2–5 cm in size have, respectively, 85% and 60% survival at 10 years. There are many factors that govern the radiologists' ability to detect breast cancer including their experience, number of hours per week reading screening mammogram, quality of imaging, availability of comparison, quality of the prior mammograms, distraction in the workplace, dedication to breast imaging, retrospective evaluation of the newly discovered cancers, awareness of the ACR updated regulations, and availability of the new technology such as tomosynthesis and high-resolution ultrasound. Properly managed breast imaging center is of similar importance to the aforementioned factors. Comprehensive breast cancer center staff should be aware that their ultimate goal is to help finding breast cancer and managing the diagnosed cancers, which requires a qualified leadership, a team spirit, dedication of each team member to what they do; from being careful how receptionists talk to the patient on the phone, how technologists get the best mammographic views, how a trained MR technologist can get the best MRI image possible to what is the exact job description of the nurse should be.

**Outline:** In this review I will discuss: (a) Good quality mammogram (b) The different techniques to improve detailed screening mammogram evaluation and ways to improve the radiologist's ability for early detection (c) The cancer behavior on imaging and how it can be deceptive to some less experienced mammographers (d) Hanging protocols (e) Evaluation of circular lesions, asymmetries, developing asymmetries, triangulation, areas of special attention (f) Mammographic abnormal patterns (g) Golden rules in evaluation of screening mammogram (h) Lymph nodes (i) Distractors (j) Radiologist- clinician interaction.

### Biography

Hussien is an American board certified radiologist. He has graduated from Cairo University Medical School. He also had his radiology residency in Egypt. He finished a four years of radiology fellowships in the University of Rochester in Neuroradiology, Body imaging and women's imaging. He practiced women's imaging for about 5 years, four of them at the University of Rochester. During which he was able to successfully make a great change in breast cancer detection rate in one of the affiliated locations in the town of Canandaigua. He then moved to SUNY Upstate Medical University for a wider scope of neuroradiology practice and research.

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