EPA1a-BR Worksheet

Title	Identifying and managing abnormalities on screening examinations - EPA1a: Mammography
Description of Activity	A radiologist involved in breast imaging must be able to identify abnormalities on screening examinations while adhering to MQSA standards and determine the next steps in patient management. The key function which define this EPA in regards breast screening examinations include: ❏ Lists indications for each screening modality[1,12,13] ❏ Understand technique, patient positioning, standard imaging views and study protocol[1,17,19 20,21] ❏ Differentiate technically adequate and inadequate studies[1] ❏ Differentiate benign findings from those that warrant additional work-up[6,9,21] ❏ Identify imaging artifacts and explain methods for correction[4,13] ❏ Identify the normal and abnormal appearance of the breast after surgical procedures (reduction, augmentation, implants, breast conserving therapy, or mastectomy)[B,D,E,16] ❏ Demonstrate the correct use of the BI-RADS lexicon terminology pertinent to the examination including assessment/management categories[A,1,6,9] ❏ Report and communicate results with the patient, referring physician (including primary physician, oncologist, surgeon), and staff when indicated[F,11] The key functions in regards to screening mammography include: ● Explain ACR/SBI screening mammography guidelines and how they vary from USPSTF (starting age, interval, etc, why different recommendations, general statistics)[2,3,12] ● Recognize the 4 breast density parenchymal patterns[C,7,8,18,22] ● Describe essential components of mammogram report ● Identifying findings that warrant additional work-up (masses, calcifications, architectural distortion, asymmetries, focal asymmetries, global asymmetry, developing asymmetry, and abnormal lymph nodes.)[6,9,10,21,23] ● Explain additional imaging needed in the diagnostic setting[3,5,21] ● Identify the normal and abnormal appearance of the breast after surgical procedures (augmentation- reduction, lift, implants; breast conserving therapy)[D,E,16] ● Identify artifacts on mammography and determine how to correct[4,13] ● *Counsel patients and referring physicians about supplemental

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Breast **R**adiology **E**ntrustable **A**ctivity **S**upervision **T**ool

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	screening modalities (US, MRI)[F,G,12] ● Understand the basic requirements of the Mammography Quality Standards Act and Program (MQSA) as it pertains to screening mammography[14,15] ● *Calculate basic screening mammography audit metrics including recall rate, positive predictive value 1 (PPV1), and cancer detection rate[14,15] ● Understand QA/QC requirements of analog and digital mammography[4] Superscript indicate resources below which address the key function **Context:** Outpatient imaging center **Targeted transition point:** Depending on the institution - First month for screening mammography, second month for ultrasound, third month for MRI. Items marked * may be more suitable for by month 3 of mini-fellowship or fellowship for some programs
Mapping to Domains of Competence	X Patient Care X Medical Knowledge X Systems-Based Practice X Practice-Based Learning and Improvement X Professionalism X Interpersonal and Communication Skills
Competencies within each domain critical to entrustment decisions	PC1: Reporting PC2: Clinical Consultation PC3: Image Interpretation MK1: Diagnostic Knowledge MK2: Physics MK4: Imaging Technology and Image Acquisition SBP6: Radiation Safety SBP8: Informatics P2: Accountability/Conscientiousness P3: Self-Awareness and Help Seeking ICS1: Patient- and Family-Centered Communication ICS2: Interprofessional and Team Communication
Suggested Resources (A) Article (B) Book Chapter (D) Document (S) Slides (W) Widget - interactive powerpoint (V) Video	All A. A Pictorial Review of Changes in BI-RADS 5th Edition (A) B. Update on Imaging of the Postsurgical Breast (A) C. Hormonal Effects on Breast Density, Fibroglandular Tissue, and Background Parenchymal Enhancement (A) D. Imaging of Breast Implant-associated Complications and Pathologic Conditions: Breast Imaging (A) E. Breast Reconstruction: Review of Surgical Methods and Spectrum of Imaging Findings (A) F. Maximizing Value Through Innovations in Radiologist-Driven Communications in Breast Imaging (A)

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	G. Training and Standards for Performance, Interpretation, and Structured Reporting for Supplemental Breast Cancer Screening (A) Mammography 1. Screening Mammography - Presentation (V) 2. Screening and Diagnostic DBT SBI White Paper (A) 3. ACR Practice Guideline for Screening and Diagnostic Mammography (A) 4. Optimizing Digital Mammographic Image Quality for Full-Field Digital Detectors: Artifacts Encountered during the QC Process (A) 5. Digital Breast Tomosynthesis in the Diagnostic Setting: Indications and Clinical Applications (A) 6. Developing Asymmetries at Mammography: A Multimodality Approach to Assessment and Management (A) 7. Mammographic Breast Density: Impact on Breast Cancer Risk and Implications for Screening (A) 8. Breast Density: Clinical Implications and Assessment Methods (A) 9. Interpreting One-View Mammographic Findings: Minimizing Callbacks While Maximizing Cancer Detection (A) 10. Mammographic Signs of Systemic Disease (A) 11. Communication in Breast Imaging: Lessons Learned at Diagnostic Evaluation (A) 12. ACR Appropriateness Criteria Breast Cancer Screening (A) 13. Digital breast tomosynthesis: Image acquisition principles and artifacts (A) 14. National Performance Benchmarks for Modern Screening Digital Mammography: Update from the Breast Cancer Surveillance Consortium (A) 15. Audits, Benchmarks and Performance: What You Need to Know (S) 16. Implants on Breast Mammogram Widget (W) 17. Breast Anatomy Quiz (W) 18. Breast Density Quiz (W) 19. CC Breast Anatomy Interactive tool (W) 20. MLO Breast Anatomy Interactive tool (W) 21. Screening Mammography Need to Know Quick Review Document (D) 22. Breast Density ACR Brochure (D) 23. Introduction to Mammography (V)
Required knowledge, skills, attitude and behavior, and experience	Knowledge ● Knowledge of imaging abnormalities on mammography ● Knowledge of correct BI-RADS terminology to describe imaging findings. ● Knowledge of markers of image quality. Skills ● Skill in identifying abnormalities on mammography screening exams. ● Skill in discussing results of imaging exams with patients, referring

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	physicians, and staff Attitude and Behavior ● Professional communication of screening exam results with patients, referring physicians, and staff. Experience ● Screening mammography: 250-400 screening mammograms
Assessment Information sources to assess progress and ground summative entrustment decision	Knowledge Assessment: In process of creation Review of interpretation of screening mammography with gradual decline in recall rate over time, if available (for example: 1st month: <50%; 2nd month: 30-50%; 3rd month: <30%) 5-10 informal Case-based discussions per modality with attending radiologist
Entrustment level of supervision to be reached at which stage of training	*Imaging studies should always be overread by an attending physician Residents: Indirect supervision (level 3) prior to graduation - ability to identify at least 50% of the abnormalities identified by the attending radiologist Mini-fellows: Distant supervision (level 4) prior to graduation - ability to identify 50-75% of the abnormalities identified by the attending radiologist Fellows: Trust to perform unsupervised (level 5) or to supervise others (level 6) prior to graduation (ability to identify 75-100% of abnormalities identified by the attending radiologist and ability to teach concepts to residents)
Expiration	1 year after graduation

*Modified from the work of Olle ten Cate

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