



Medical Breast Clinical Care Series Online Course

Breast Cancer Screening	
	<p>Introduction to Breast Health <i>Sandhya Pruthi, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Provide national and international statistics on breast cancer rates and survival, including racial/ethnic differences. • Describe the scope of the medical breast practice: diagnostics, personalized risk assessment and risk management and diagnosis/long term care of the breast cancer patient. Impart to participants the critical nature of proper assessment, documentation and follow up. • Relate the evolution of the medical breast practice, the importance of standardized practice through NCCN committees and guidelines, focused CME activities and forums like this, shared templates and ongoing support and education.
	<p>Screening Guidelines – Average Risk <i>Melinda Wu, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Summarize the screening guidelines of various different organizations, highlighting the differences. Why the “debate” over screening mammography in women age 40-49? • Review the data on mortality reduction, sensitivity and specificity of screening mammography and the importance of including these statistics as well as incorporation of traditional risk factors and breast density in shared decision-making with patients. • Briefly discuss the importance of breast density, both as an independent risk factor for breast cancer, and in decreasing sensitivity, briefly describing modes of supplemental imaging for the average risk woman (both density and supplemental screening will be further developed later this section but should be mentioned here).
	<p>Screening Guidelines – High Risk <i>Holly Pederson, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Delineate identification of the “high-risk” patient, focusing on families with hereditary cancer syndromes, estimated risk using risk modeling and personalization/substratification of risk using genomic technology. • Briefly review guidelines for high-risk screening in North America, particularly eligibility for contrast-enhanced breast Magnetic Resonance Imaging (MRI) – ACS, NCCN, ACR, including recommendations for breast cancer survivors. • Discuss management of screening challenges – the intermediate risk patient, patients with Atypical Hyperplasia/LCIS and those with a history of mammographically occult cancers.
	<p>Disparities in Screening <i>Elizabeth (Liz) M. Valencia, M.D., J.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Reinforce the importance of early (by age 25-30) risk assessment and identification of high-risk individuals such that early detection and risk management are possible, particularly in Black women and those of Ashkenazi descent.



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	<ul style="list-style-type: none"> Describe barriers to screening, from lack of education amongst providers in identification of high-risk individuals and genetic referral patterns, costs and how social determinants of health affect screening decisions. Report on screening in average and high-risk women by race, focusing on potential areas for improvement, including access to and referral for supplemental screening modalities in minority populations.
	<p>Breast Density <i>Supriya Kulkarni, M.D., DMRD, DNB, ABR</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> Educate about breast density – what it means, how it is assessed, its implications as an independent risk factor and how it affects the sensitivity of screening mammography. Should a woman know her density in deciding about her screening strategy? Report on trends in the US and Canada in the use of supplemental screening, including data about patient and provider knowledge and attitudes about such screening, if possible. Describe breast texture analysis and radiomics and how this may add to breast cancer risk assessment.
	<p>Clinical Breast Examination and Self Breast Awareness <i>Melinda Wu, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> Illustrate a comprehensive self-breast exam (SBE) and clinical breast exam (CBE), acknowledging recommendations of current guidelines. Describe the components of a “clinical encounter” including the exam but also ongoing risk assessment and management and the importance of updating family history annually. Explain why guidelines have departed from recommending SBE and CBE. Is there data?
	<p>Supplemental Breast Imaging <i>Bhavika Patel, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> Summarize the recognizing the need for supplemental imaging including false negatives, the importance of breast density and legal implications. Describe and compare the different anatomic and functional modalities for supplemental imaging including DBT, whole breast ultrasound (WBUS), contrast-enhanced mammography (CEM), molecular breast imaging MRI (including eligibility criteria) and FAST or abbreviated MRI (AB-MRI), including trials examining the potential for use of AB-MRI in screening average risk women with dense tissue. Review the impact digital breast tomosynthesis (DBT) has had on sensitivity and specificity of screening mammography in average risk women.



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Breast Diagnostic Evaluation	
	<p>Evaluation of a Breast Mass <i>Christine L. Klassen, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Describe the clinical determinants of a “breast mass”. Is there dimpling over the mass or is the breast misshapen? Dispel the myths – typically, a mass does not become “fixed” until later in the disease process; tender masses are not always benign; clinically one cannot determine a cystic from a solid mass; young women get breast cancer too – do not dismiss them, and finally, if the imaging is negative, still consider surgical referral. • Review the life cycle of the breast and masses – specifically, typical ages to form fibroadenomas, cysts and breast cancers. • Educate about breast masses during pregnancy and lactation; growth and subsequent regression of fibroadenomas, galactocele, lactational adenomas, abscesses and pregnancy associated breast cancer.
	<p>Evaluation of Nipple Discharge and Other Nipple Abnormalities <i>Holly Pederson, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Describe the scope of the problem, the difference between pathologic and physiologic nipple discharge, and the most common causes for pathologic discharge. • Provide a practical approach to work-up and management, including indications for surgical referral. • Delineate the clinical utility for different tests – glandular blood tests for thyroid and prolactin are ordered in patients with galactorrhea; nipple smear cytology is rarely helpful; how are MRI and ductography used? • Outline evaluation of the abnormal nipple – excoriation or redness, retraction, flattening, and distinguishing nipple flaking from areolar flaking.
	<p>Evaluation and Management of Breast Pain <i>Lauren F. Cornell, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Review the scope of the issue, and the importance of distinguishing focal from diffuse pain and distinguishing concern about breast cancer from pain for which intervention is desired. • Describe the paucity of the literature in this area and describe possible strategies for management, recognizing the lack of evidence-based recommendations. • Outline medical management, from FDA approved medication to tamoxifen, to over-the-counter supplements to supportive bras and caffeine cessation.



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	<p>Evaluation of the Red Breast <i>Brooke Hofbauer, M.D., CCFP</i></p> <p>Objectives:</p> <ul style="list-style-type: none">• Assess course of onset, associated pain, and presence of other features such as fever, itching, peau d'orange, and a palpable mass (in separating infection from dermatitis to the rare presentation of inflammatory breast cancer).• Describe uncommon causes that one will encounter – dependent edema from decompensated congestive heart failure, morphea, and psoriasis.• Outline the appropriate work up, management and the importance of follow up.
	<p>Evaluation of Gynecomastia <i>Lauren F. Cornell, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none">• Describe clinical and mammographic findings, and common demographic.• Provide a practical approach to evaluation including laboratory studies and review of contributory medications.• Outline options for treatment from switching medications, to prescribing medication, to cosmetic surgery.
	<p>Diagnostic Procedures <i>Asha A. Bhatt, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none">• Explain the difference between screening and diagnostic imaging, including when and how to order diagnostic imaging.• Educate about the added utility of tangential views, magnification views, diagnostic tomosynthesis, focused breast ultrasound, ductography and MRI in assessing clinical and mammographically detected abnormalities. (Images and tomo videos are always great.)• Reinforce workup of pathologic nipple discharge (which has been covered once)
	<p>Image-Guided Breast Biopsies <i>Laura Dean, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none">• Explain indications for stereotactic biopsies, ultrasound-guided core biopsies, MRI-guided biopsies, recommendation for surgical punch biopsies or surgical excisional or incisional biopsies.• Describe how the different biopsies are performed including needle size and number of passes.• Categorize which benign histologies identified on core biopsy should be evaluated by a breast surgeon in consideration of excision? How should one follow unexcised ALH or LCIS?



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	<p>Breast Care in Transgender Patients <i>Juliana (Jewel) M. Kling, M.D., M.P.H.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Review and differentiate between important terminology • Discuss health concerns, misconceptions and disparities and their impact on transgender people • Detail recommendations for breast cancer screening in transgender people including limitations affecting these recommendations • Describe humanistic strategies to create a welcoming and inclusive environment
<p>Case Studies: Screening & Diagnosis Moderator: <i>Holly Pederson, M.D.</i> Panel: <i>Sandhya Pruthi, M.D., Laura Dean, M.D, Brooke Hofbauer, M.D., Mary M. Mrdutt, M.D., Heidi A. Apsey, NP-C</i></p>	
<p>Breast Cancer Risk Assessment & Genetics</p>	
	<p>Breast Cancer Risk Factors – Non-modifiable <i>Dawn M. Mussallem, D.O.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Describe how endogenous hormones affect risk – early menarche, late menopause and circulating estrogen levels (and are these all truly non-modifiable?) • Reinforce the importance of taking an extended family history at intake, ideally prior to age 30, and updating it annually recognizing the influences of age at diagnosis of affected members, race, ethnicity and family size in risk assessment. Breast and other breast cancer-related cancers should be assessed. • Explain the influence that breast density has on risk. Is this modifiable?
	<p>Risk Estimation Tools <i>Ruth Heisey, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Review models that can be used to identify individuals appropriate for genetic counseling. • Demonstrate use of the most common breast cancer risk models used in clinical practice, the BCRAT and Tyrer-Cuzick models, highlighting limitations with each. • Outline how 5-year, 10-year and lifetime risk estimates can be used in risk management per USPSTF, ASCO, NCCN, and ACR recommendations both for enhanced surveillance and chemoprevention.
	<p>Genetics 101 – Assessment <i>Holly Pederson, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Provide a high-level overview of the incidence and function of gene changes predisposing to hereditary cancer syndromes, and carrier identification strategies. • Discuss highly penetrant genes, moderately penetrant genes and SNPs, with suggested general pillars of risk management. • Touch on the differences between germline and somatic tumor testing and implications.



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	<p>Hereditary Breast, Ovarian and Pancreatic Cancer <i>Allison W. Kurian, M.D., M.Sc.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Provide a deeper and more specific approach to understanding tumor suppressor gene function with BRCA1, BRCA2 (and PALB2?) and how PARP inhibitors act selectively on the vulnerability of these cells. • Outline management strategies for highly penetrant genes with specific suggestions for communication of risk and options in an effective but non-directive manner. • Discuss special situations such as the importance of correct interpretation of circulating TP53 variants, management of CDH1 in families without gastric cancer, and RRM following ovarian cancer in BRCA carriers
	<p>Single Nucleotide Polymorphisms and Polygenic Risk <i>Holly Pederson, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Describe how single nucleotide polymorphisms (SNPS) were discovered, how polygenic risk scores (PRS) have been validated and potential directions for further validation in non-European populations. • Discuss potential clinical uses for PRS – substratification of risk in both gene carriers and non-gene carriers, estimation of contralateral breast cancer risk in newly diagnosed patients, decision making in high risk patients and identification of low risk patients. • Review validation studies integrating PRS with traditional risk modeling (Tyrer-Cuzick and BOADICEA)
	<p>Guidelines and Position Statements: Genetics, Counseling and More! <i>Juliana (Jewel) M. Kling, M.D., M.P.H.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Compare and contrast guidelines for when to refer for genetic counseling <ul style="list-style-type: none"> • USPSTF, NCCN and ASBrS • Discuss criteria consistent with Lynch syndrome with an emphasis on colon or endometrial cancer < age 50 • Examine general recommendations for care with different genes associated with an elevated breast cancer risk (e.g. when to offer MRI screening, risk reducing medications, etc...)
Management of High-Risk Patients	
	<p>Atypical Hyperplasia <i>Mary M. Mrdutt, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Describe atypical hyperplasia in terms of clinical or radiological presentation • Define risk associated with atypical hyperplasia • Briefly discuss management strategies including the role of high-risk screening imaging, risk reduction strategies (*pharmacotherapy will be covered in detail in a separate talk)



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	<p>Lobular Carcinoma In Situ <i>David W. Lim, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Define and describe lobular carcinoma in situ (LCIS), the risk associated with LCIS, and how it differs from ductal carcinoma in situ • Discuss management strategies for LCIS • Briefly discuss risk-reduction strategies as they apply to LCIS including lifestyle recommendations and enhanced screening considerations (*pharmacotherapy will be covered in detail in a separate talk)
	<p>Preventive Medication <i>Sandhya Pruthi, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Review the evidence for risk reducing preventative pharmacotherapy and the different options available • Review risks and benefits for risk reducing pharmacotherapy • Define the populations who benefit from risk reducing medication • Review how to prescribe and monitor patients who are on preventive medication to decrease risk of breast cancer
	<p>Enhanced Surveillance Imaging – A Deeper Dive <i>Ellen Warner, M.D., FRCPC, FACP, M.Sc.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Review the evidence for enhanced surveillance screening imaging • Discuss the different modalities used in high-risk screening - (digital mammography, digital breast tomosynthesis and MRI), sensitivity and specificity of each and possible risks/benefits. • Discuss best practices as to which patient populations should participate in enhanced screening imaging, recommended interval for screening, and what to do during pregnancy/breastfeeding
	<p>Risk Reduction – Bilateral Prophylactic Mastectomy <i>Zahraa AlHilli, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Review the evidence for bilateral prophylactic mastectomy • Define the patient population that should be considered for bilateral prophylactic mastectomy • Educate participants on the surgical process, risks, and benefits, including common post-operative considerations that patients may experience
	<p>Risk Reduction – Bilateral Salpingo-Oophorectomy <i>Mariam AlHilli, M.D.</i></p> <p>Objectives:</p> <ul style="list-style-type: none"> • Review the evidence for bilateral salpingo-oophorectomy • Define the patient population that should be considered for bilateral salpingo-oophorectomy



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	<ul style="list-style-type: none">Educate participants on the surgical process, risks, and benefits, including common post-operative considerations that patients may experience
	Lifestyle Modification and Primary Breast Cancer Prevention <i>Dawn M. Mussallem, D.O.</i>
	Objectives: <ul style="list-style-type: none">Define modifiable breast cancer risk factorsReview lifestyle considerations (diet, exercise, alcohol etc) in breast cancer risk management and their effect on breast cancer risk.Describe a practical approach to clinical counselling around primary breast cancer prevention
Case Studies: Risk Assessment, Genetics, Management of High-Risk Patients <i>Moderator: Melinda Wu, M.D.</i> <i>Panel: Holly Pederson, M.D., Juliana (Jewel) M. Kling, M.D., M.P.H., David W. Lim, M.D., Aletta Poll, M.Sc., Sandhya Pruthi, M.D.</i>	