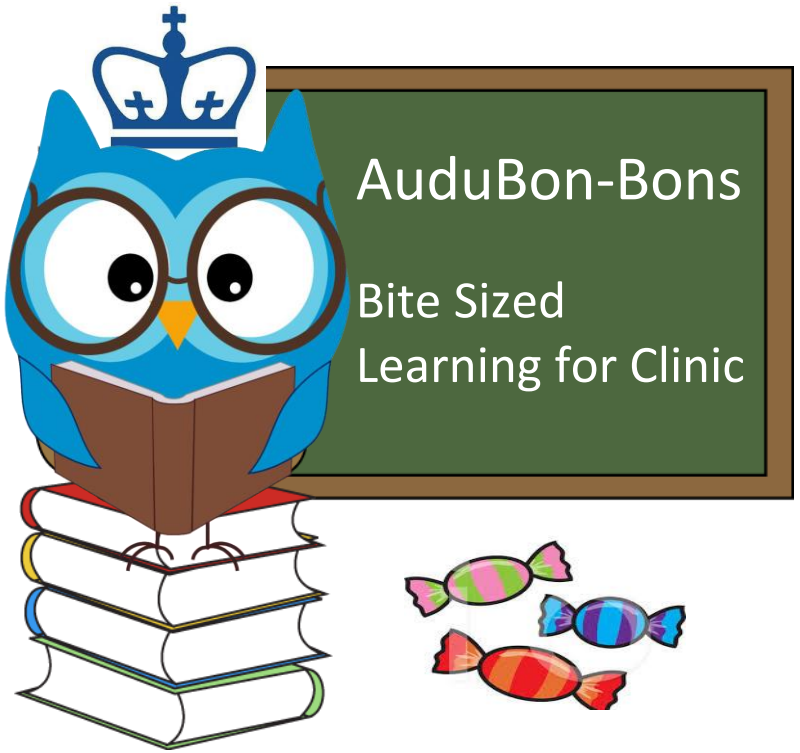
# BREAST CANCER RISK ASSESSMENT




Week 59

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Reading Assignment:

- ACOG PB #179: Breast Cancer Risk Assessment and Screening in Average-Risk Women
- Gail risk assessment tool (https://bcrisktool.cancer.gov/)

# LEARNING OBJECTIVES 

- Understand how to risk stratify patients for breast cancer screening
- Examine the tools available for breast cancer risk stratification
- Review breast cancer screening guidelines in average risk women

# CASE VIGNETTE

- A 42 yo G4 P3013 woman presents for a well woman visit.

# FOCUSED HISTORY

**HPI:** She has no complaints. Reports normal monthly menses, last 3 weeks ago, lasting 4 days with moderate bleeding. She is sexually active with one partner, denies dyspareunia. Denies inter-menstrual bleeding, abnormal discharge, pelvic pain. ROS otherwise negative.

- **OBHx:** 2 FT NSVD's, 1 LTCS+BTL for NRFHT, bottle fed all children, first birth at age 22
- **GynHx**: Denies STIs, abnormal paps, fibroids, cysts; age of menarche 11, nml cycles
- **PMH:** Denies
- **PSH:** LTCS+BTL
- **FH:** Denies
- **SH:** Soc EtOH (3-4 drinks/wk), denies tob/drug use; works as a librarian. Lives with husband and 3 kids and is safe at home
- **Meds**: Occ Tylenol for headaches
- **All**: NKDA

# PERTINENT PHYSICAL EXAM FINDINGS

***Vital Signs:*** *120/80, P 88, RR 16, O2 98%, T 37.0*

- **Gen**: NAD
- **HEENT**: Clear oropharynx
- **Chest**: CTAB
- **Thyroid:** No thyromegaly
- **CVS**: RRR
- **Breast:** **Examined in two positions, no visible masses, skin retraction, or dimpling. No palpable masses or LAD. No nipple discharge**
- **Abd**: Soft, NT, well healed pfannenstiel
- **Pelvic:** Normal external genitalia, physiologic discharge, no cervical lesions, no blood in vault, no CMT, AV, mobile uterus, no palpable adnexal masses
- **Ext**: WWP

# HEALTH CARE MAINTENANCE

What **preventative screening exams/treatments** will you assess/offer?

- **Pap:** 11/2018: NILM/HPV negative. Due for repeat 11/2023
- **Mammo:** Never performed
- **Colonoscopy:** Begin at age 50
- **DEXA scan:** Age 65
- **Flu:** Received 11/2019
- **Gardasil series**: Received 2 doses, will accept 3rd dose today
- **HIV test:** Negative, last performed 2014 with last pregnancy

# BREAST CANCER

- **12%** lifetime risk of breast cancer for women in US
- **3.5 million** women living with breast cancer in US
- 5 year survival is **90%**

- **Risk factors:**
  - **Female sex***
  - **Advancing age***
  - Family history of breast, ovarian, or other hereditary cancer
  - Early menarche/ late menopause
  - No history of breastfeeding

  - Nulliparity
  - Higher BMI
  - Tobacco/etoh use
  - Prior exposure to high-dose therapeutic chest irradiation in young women (10-30 yo)
  - Dense breasts on mammo
  - Combined HRT

# BREAST CANCER SCREENING

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

- **Goal:** *to detect preclinical disease in healthy, asymptomatic patients to prevent adverse outcomes, improve survival, and avoid the need for more intensive treatments* – ACOG

- There is discrepancy among the major societies in terms of recommendations for breast cancer screening

# BREAST CANCER RISK STRATIFICATION

## How do you assess a patient's individual risk for breast cancer?

- Obtain **patient history** including:
  - Reproductive risk factors, prior mammography/ biopsy results, personal ionizing radiation exposure and family history of cancers

- Validated assessment tools:
  - **Gail tool** (NIH: National Cancer Institute)
    - Predicts 5 year risk, and lifetime risk to age 90
    - 8 question tool
    - Limited to women 35 or older, and those with family history of paternal breast cancer or non-breast cancers
    - Validated for white women, black/African American women, Hispanic women and for Asian and Pacific Islander women in the United States
    - Not useful for women with BRCA mutations or prior breast cancer
  - **IBIS model** may be more accurate for assessing breast cancer risk based on family history
  - **High risk patients** (lifetime risk >20%) have separate set of screening guidelines

NIH NATIONAL CANCER INSTITUTE

IBIS (International Breast Cancer Intervention Study)
Online Tyrer-Cuzick Model Breast Cancer Risk Evaluation Tool

# Breast Cancer Risk Stratification Increased Risk

- How can you assess patient's risk if they do not meet eligibility for Gail model?

*https://bcrisktool.cancer.gov/about.html#mainAboutTitle

## Other Risk Assessment Tools

Other risk assessment tools are more appropriate for women who have a history of certain medical conditions. Below is a list of alternative resources for women with a medical history of:

**Breast Cancer or Lobular Carcinoma in Situ (LCIS) or Ductal Carcinoma in Situ (DCIS)**

- Women with a history of breast cancer have risks of recurrence that depend on the type of breast cancer, its stage at diagnosis, and treatment. A cancer doctor can provide guidance on future risks for breast cancer survivors.
- Women with a history of DCIS have risk of invasive breast cancer that depends on type of treatment for DCIS; a cancer doctor can provide information on this risk.
- Women with a history of LCIS can use the IBIS Breast Cancer Risk Evaluation Tool to estimate the risk of invasive breast cancer or DCIS. A cancer doctor can also provide information on the risk.

**Treatment with Radiation to the Chest**

- Women who received radiation for the treatment of Hodgkin lymphoma have higher than average risk of breast cancer. These risks are discussed in the scientific manuscript Travis, L.B et al. (*J Natl Cancer Inst* 2005; 97:1428-37).

**A Known Mutation in Either the *BRCA1* or *BRCA2* Gene**

- Women with a known mutation in either the *BRCA1* or *BRCA2* gene can use the BOADICEA model to estimate their breast cancer risk.

**Other Rare Breast Cancer-Causing Syndromes, such as Li-Fraumeni Syndrome**

- Women with a known or suspected inherited breast cancer-causing syndrome should consult a specialist in medical genetics.

*https://bcrisktool.cancer.gov/about.html#mainAboutTitle

**Table 1.** Recommendations for Breast Cancer Screening in Average-Risk Women

| | Obstetricians and Gynecologists | U.S. Preventive Services Task Force | American Cancer Society | National Comprehensive Cancer Network |
|---|---|---|---|---|
| Clinical breast examina | May be offered* every 1–3 years for women aged 25–39 years and annually for women 40 years and older. | sufficient evidence o recommend for r against.† | Does not recommend‡ | Recommend every 1–3 years for women aged 25–39 years. Recommend annually for women 40 years and older. |
| Mammography initiation age | Offer starting at age 40 years.§<br>Initiate at ages 40–49 years after counseling, if patient desires.<br>Recommend by no later than age 50 years if patient has not already initiated. | ecommend at age 0 years.‖<br>ge 40–49 years: The ecision to start screen- g mammography in omen before age 50 ears should be an indi- idual one.¶ | Offer at ages 40–45 years.¶<br>Recommend at age 45 years.# | Recommend at age 40 years. |
| Mammography screeni interval | Annual or biennial§ | iennial‖ | Annual for women aged 40–54 years‡<br>Biennial with the option to continue annual screening for women 55 years or older‡ | Annual |
| Mammography stop ag | Continue until age 75 years. Beyond age 75 years, the decision to discontinue should be based on a share decision-making process tha includes a discussion of the woman's health status and longevity. | he current evidence is sufficient to assess the alance of benefits and arms of screening ammography in omen 75 years nd older.† | When life expectancy is less than 10 years‡ | When severe comorbidities limit life expectancy to 10 years or less |

*Offer in the context of a shared, informed decision-making approach that recognizes the uncertainty of additional benefits and harms of clinical breast examination beyond screening mammography.

*Breast cancer risk assessment and screening in average risk women. Practice Bulletin No. 179. American College of Obstetricians and Gynecologists. 2017.*

# Mammography Screening Adverse Effects

What are the possible adverse effects of mammography screening?

- **False-positive test results**
  - 10 year Cumulative FP rate of 61% with annual screening, 42% with biennial screening, 7% need for biopsy with annual screening and 5% with biennial screening
- **Anxiety and distress**
  - Those with FP results are less likely to follow up for next screening mammo
  - Financial costs for false-positive test results are often borne by patient (increased testing not covered by insurance)
- **Discomfort during procedures**
- **Overdiagnosis and overtreatment**
  - USPTF reports “1 in 8 women diagnosed with breast cancer…is overdiagnosed”
- **Radiation exposure**

U.S. Preventive Services TASK FORCE

# Breast Self-Exams and Clinical Breast Exams

## Are routine breast self-examinations recommended for patients?

- No, there is no evidence for average risk women and increased risk of harm from false positive test results
- Can counsel about *breast self-awareness*, and encourage patients to notify providers if they notice a change
  - 71% of breast cancer cases in women <50, and ~50% of breast cancer cases in women 50 and over is detected by women themselves

## Should practitioners perform routine screening breast exam?

- Can be offered to asymptomatic, average risk women every 1-3 years for women aged 25-39 and annually for 40+; uncertain benefit
- Is recommend for high-risk women and those with symptoms

## 5–Year Risk of Developing Breast Cancer

Patient Risk
**0.5%**

Average Risk
**0.5%**

Based on the information provided, the patient's estimated risk for developing invasive breast cancer over the next 5 years is 0.5%, presented in blue since hers is equal to the average risk of 0.5% (presented in blue) for women of the same age and race/ethnicity in the general U.S. population.

## Lifetime Risk of Developing Breast Cancer

Patient Risk
**9.2%**

Average Risk
**7.7%**

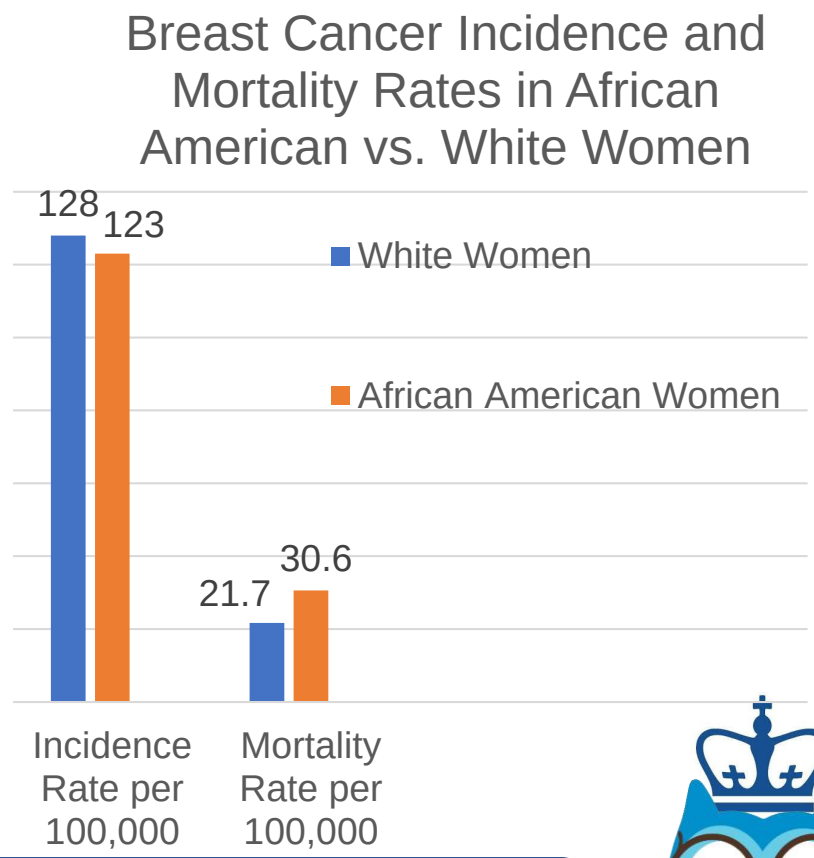
Based on the information provided, the woman's estimated risk for developing invasive breast cancer over her lifetime (to age 90) is 9.2%, presented in red since hers is higher than the average risk of 7.7% (presented in blue) for women of the same age and race/ethnicity in the general U.S. population.

https://bcrisktool.cancer.gov/

# SOCIAL DETERMINANTS OF HEALTH

White women are more likely to be diagnosed with breast cancer, yet African American women are more likely to die from it.

- African American women are less likely to undergo genetic counseling for *BRCA1/2* testing even with significant family history
- African American women have a higher incidence of triple-negative breast cancer
- African American women are more likely to die from breast cancer even when adjusted for tumor grade, stage, tumor marker status, insurance status and age
- Minority women are more likely to experience delays in follow-up time, treatment, and initiation of appropriate treatment




Interventions aimed at improving patient education and physician communication are needed to remove barriers to timely diagnosis and treatment!

# EPIC .PHRASE

**.BBonBreastExam**

Description: breast exam with normal findings

Breasts: Examined in two positions. Symmetric. No dominant masses. No skin retraction, dimpling or other changes noted. No axillary LAD. No nipple discharge

**.BBonScreeningMammographyCounseling**

Description: breast cancer risk assessment/screening counseling<50

The risks and benefits of starting mammography before 50 years of age were discussed with the patient including decreased risk of death if diagnosed with breast cancer, increased risk of a false-positive test result, increased risk of breast biopsies with normal results, increased risk of unnecessary treatment, and increased radiation exposure. Individual risk factors were discussed with the patient as they relate to the need for screening.

# TAKE HOME POINTS

- Breast cancer screening is a complex decision that should be made through a shared decision-making process
- Women should be offered **screening mammography starting at age 40**. If not already initiated, they should begin no later than age 50. Average risk women should initiate screening mammography no earlier than 40
- Screening **mammography should take place every 1-2 years**. Decreasing frequency to biennial screening after 55 years is a reasonable option to reduce frequency of harms
- Women should **continue screening until at least age 75**
- **Self-breast examination is not recommended** in average risk women; clinical screening breast examinations may be offered to average risk women but have limited evidence.

# BILLING AND CODING

- Diagnoses:
  - Z12.31: encounter for screening mammogram for malignant neoplasm of breast
  - Z00.00 Encounter for general adult medical examination without abnormal findings
  - Z01.41 Encounter for routine gynecology examination

# REFERENCES

- References


  - Breast cancer risk assessment and screening in average risk women. Practice Bulletin No. 179. American College of Obstetricians and Gynecologists. 2017.
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