Welcome to the Project BRA ECHO Series

Facilitators:
Lauren Nye, MD & Jennifer Klemp, PhD, MPH

Guest Speakers:
Katie Nelson, MS, CGC
University of Kansas Cancer Center

Guest Panelist:
Kelly Nightengale, Early Detection Works

Topics:
Genetic Risk Assessment

Project ECHO®

MCA MASONIC CANCER ALLIANCE

THE UNIVERSITY OF KANSAS CANCER CENTER

early detection works

susan g. komen.

Agenda

Time	Presentation	Presenter
12:00 – 12:10 pm	Welcome & Overview of Session	Jennifer Klemp, PhD
12:10 – 12:30 pm	Didactic: Genetic Risk Assessment	Katie Nelson, MS, CGC
12:30 – 12:55 pm	Case Study	Lauren Nye, MD Kelly Nightengale
12:55 – 1:00 pm	Wrap-up, Announcements, & Homework	Jennifer Klemp, PhD

Conflict of Interest Disclosure

- **The following presenters and/or planning committee members do not have any financial relationships with companies whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients:** Katie Nelson, CGC; Suzanne Procter, RN; Catie Knight, MPH; Mary Beth Warren, MS, RN

- **The following presenters and/or planning committee members do have financial relationships with companies whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients:**

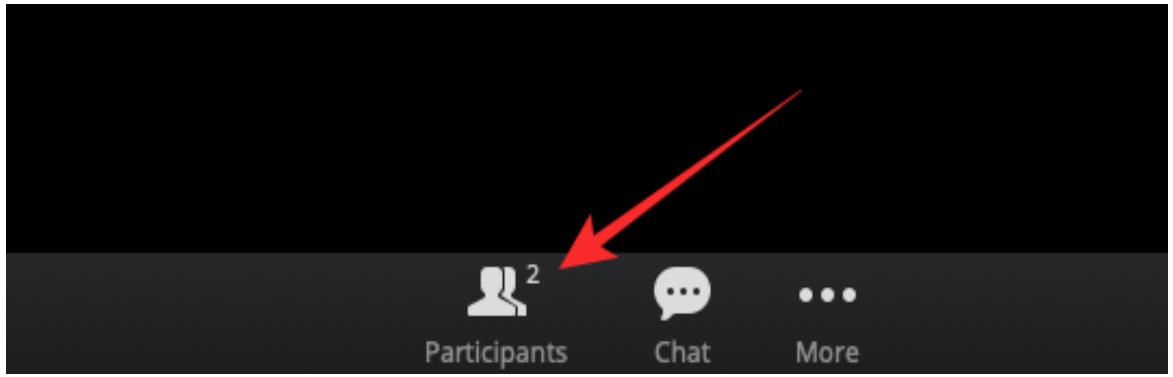
  Jennifer Klemp, PhD, MPH received honoraria for consulting and speaking from Pfizer and honoraria for consulting from Astra Zeneca.

  Lauren Nye, MD, External Advisory Board Member for Myriad and Biotheranostics.

  All relevant financial relationships have been mitigated.

Continuing Education Attendance

You must sign in to Zoom with your full name (first and last) so we can confirm your attendance. After you sign in, if you discover you need to change your name to display your first and last name, click on the 'Participants' tab at the bottom of your screen where you see other meeting controls.



When the list of participants appears, hover your mouse over your name until you see the option to select 'Rename'. Note—we will not be able to award continuing education credit or a certificate of attendance without your first and last name appearing on the Zoom attendance log.

Continuing Education Credit & Certificate of Attendance

- **APRN/Nurses**: The University of Kansas Medical Center Area Health Education Center East is approved as a provider of CNE by the Kansas State Board of Nursing. This course offering is approved for 1.0 contact hours applicable for APRN, RN, or LPN relicensure. Kansas State Board of Nursing provider number: LT0056-0749. Mary Beth Warren, MS, RN, Coordinator.

- **Physicians:** The University of Kansas Medical Center Office of Continuing Medical Education is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

  The University of Kansas Medical Center Office of Continuing Medical Education designates this live activity for a maximum of 1.0 *AMA PRA Category 1 Credit(s)™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

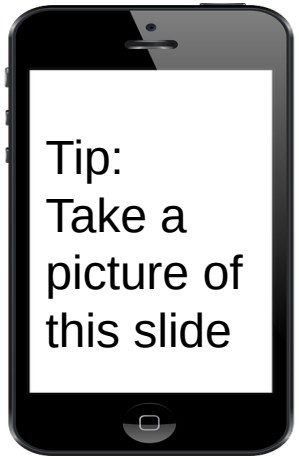
- **Social Workers:** The University of Kansas Medical Center Area Health Education Center East, as an approved provider of continuing education by the Kansas Behavioral Sciences Regulatory Board presents this offering for a maximum of 1.0 hours credit applicable for relicensure of LASWs, LBSWs, LMSWs and LSCSWs. Kansas Provider Number 12-002. Mary Beth Warren, MS, RN, coordinator.

  Attendance requirement for nurses and social workers: Participants missing more than 10% of this presentation will not receive credit. Partial credit will not be given.

  Certificates of attendance are available to other participants upon completion of documentation of attendance and evaluation

Instructions for Obtaining CEUs or Certificate of Attendance

SIGN IN CODE 28paps



The deadline to enter the sign in code is August 3, 2021 at 5:00 PM
Please note—this is a **firm** deadline.

Use the sign in code to document your attendance and access the evaluation.
Choose one of the following ways to enter the sign in code, complete the course evaluation:

- Text to (828) 295-1144

OR

- Go to www.eeds.com – click the "sign-in" icon in the upper right corner, *sign-in with your email address,* then enter the activity code

Your certificate will be available after we confirm your attendance via the Zoom participant log.

You will receive an e-mail when your certificate is available.

Funding Source

This project is funded by a Susan G. Komen Community Grant with additional support from the University of Kansas Cancer Center (KUCC), and Masonic Cancer Alliance (MCA).

MCA
MASONIC CANCER ALLIANCE
Outreach Network of The University of Kansas Cancer Center

THE UNIVERSITY OF KANSAS
CANCER CENTER
NCI
Designated Cancer Center

susan g. komen.

Recording

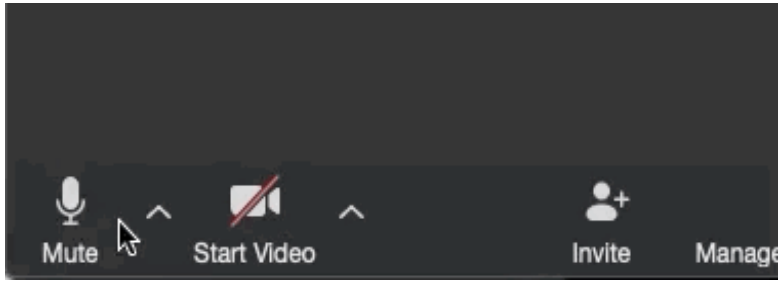
This ECHO session will be recorded for educational and quality improvement purposes.

By participating in this ECHO clinic, you are consenting to be recorded.

ECHO Clinic Tips

TESTING 1, 2, 3
Test both audio & video in advance

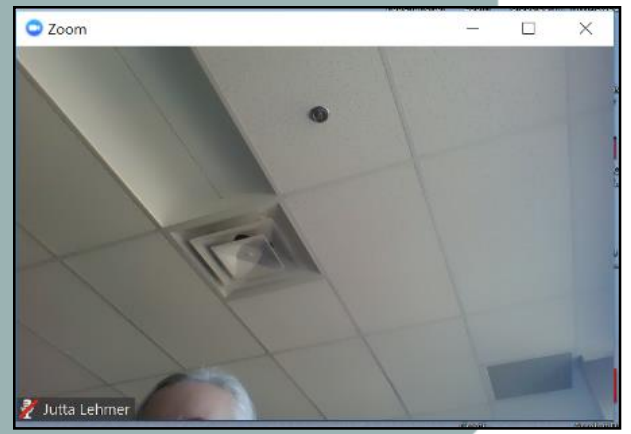
MUTE YOURSELF
when you're not speaking.



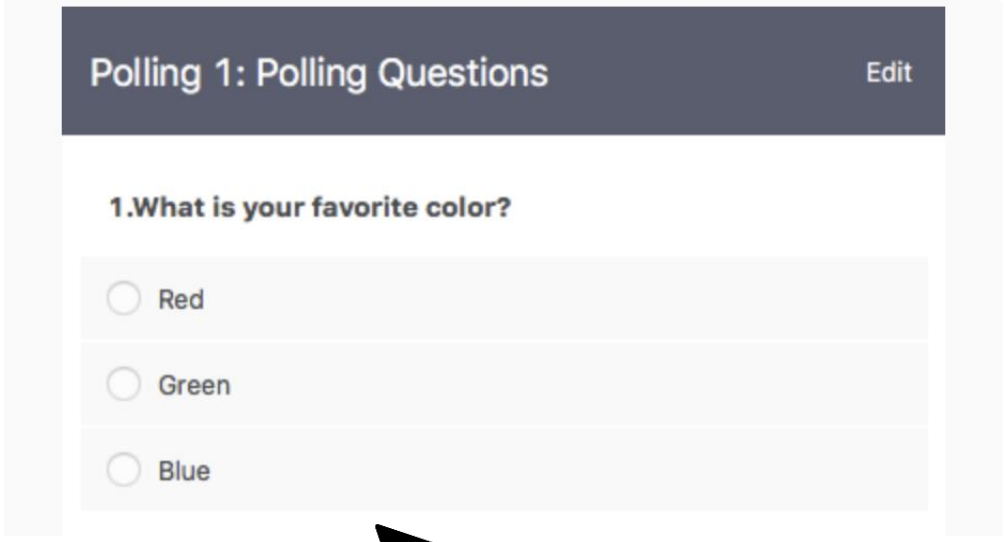
PARTICIPATE
Speak clearly, use the chat box, and actively engage.

Project ECHO®

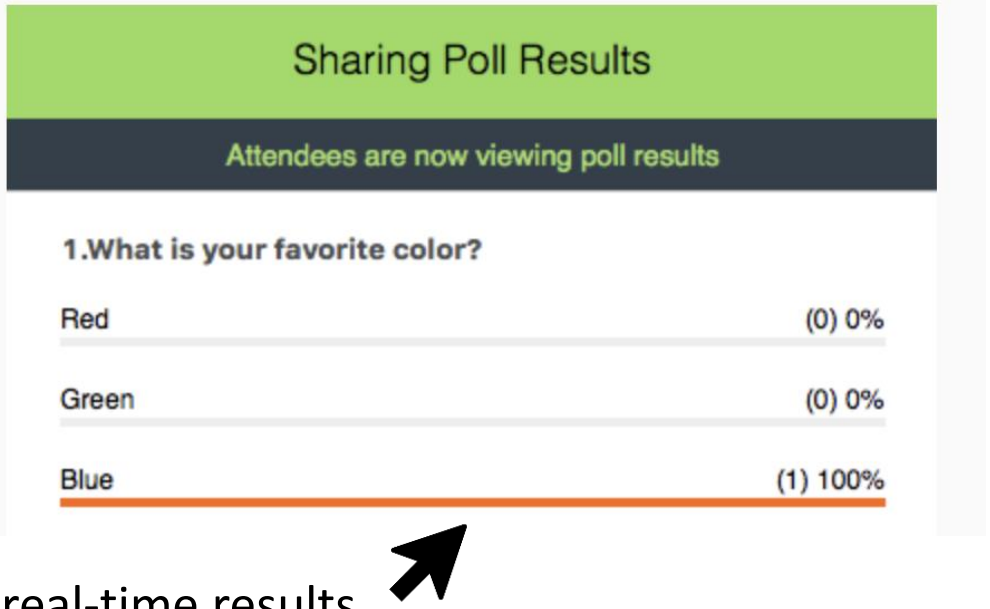
CAMERAS ON
Well-lit faces are more engaging!



Polling Questions



Answer the poll question



See real-time results

It’s nice to see you!

Please be sure your name appears in your Zoom box.

Learning Objectives

1. Identify previvors (women without history of cancer) and survivors of breast cancer eligible for genetic counseling and testing.

2. Describe options for genetic counseling and testing.

Oncology Genetic Assessment

Cancer of the…

- Breast
- Colon (and polyps)
- Uterus
- Ovaries
- Kidneys
- Prostate
- Pancreas
- Melanoma
- Paraganglioma/Pheochromocytoma
- Other cancers
- “Rule of Three”

Unaffected women (Previvors) and Survivors needing updated testing

Red Flags for Recommending Genetic Counseling / Testing

YOUNG

- Individual dx with breast cancer < 46y

RARE

- Ovarian, Male Breast, Pancreatic

MULTIPLE

- Two or more different cancers in the same person (bilateral and/or multifocal)

FAMILY

- Ancestry- Ashkenazi Jewish
- Two or more family members with the same or related types of cancer
  -Breast/Ovary/Prostate/Pancreas/Melanoma
  -Breast/Thyroid/Uterine
  -Breast/Colon/Prostate/ Thyroid/Melanoma/Kidney
  -Breast/Sarcoma/Brain/Pediatric cancers

Family History Considerations (3-2-1)

National Comprehensive Cancer Network®

NCCN Guidelines Version 2.2021
Hereditary Cancer Testing Criteria

TESTING CRITERIA FOR HIGH-PENETRANCE BREAST AND/OR OVARIAN CANCER SUSCEPTIBILITY GENES
(This can include *BRCA1, BRCA2, CDH1, PALB2, PTEN,* and *TP53* among others. See GENE-A for a more complete list.)

Testing is clinically indicated in the following scenarios:

1. Individuals with any blood relative with a known pathogenic/likely pathogenic variant in a cancer susceptibility gene
2. Individuals meeting the criteria below but tested negative with previous limited testing (eg, single gene and/or absent deletion duplication analysis) interested in pursuing multi-gene testing
3. *Personal history of cancer*
   - Breast cancer with at least one of the following:
     - Diagnosed at age ≤45 y; or
     - Diagnosed at age 46–50 y with:
       - ◊ Unknown or limited family history;[e] or
       - ◊ A second breast cancer diagnosed at any age; or
       - ◊ ≥1 close blood relative[f] with breast, ovarian, pancreatic, or prostate cancer at any age
     - Diagnosed at age ≤60 y with triple-negative breast cancer;
     - Diagnosed at any age with:
       - ◊ Ashkenazi Jewish ancestry; or
       - ◊ ≥1 close blood relative[f] with breast cancer at age ≤50 y or ovarian, pancreatic, metastatic,[g] intraductal/cribriform histology, or high- or very-high risk group (see NCCN Guidelines for Prostate Cancer) prostate cancer at any age; or
       - ◊ ≥3 total diagnoses of breast cancer in patient and/or close blood relatives[f]
     - Diagnosed at any age with male breast cancer
   - Epithelial ovarian cancer[h] (including fallopian tube cancer or peritoneal cancer) at any age
   - Exocrine pancreatic cancer at any age (See CRIT-3)
   - Prostate cancer at any age with:
     - Metastatic,[g] intraductal/cribriform histology, or high- or very-high-risk group (see NCCN Guidelines for Prostate Cancer);
     - Any NCCN risk group (see NCCN Guidelines for Prostate Cancer) with the following family history:
       - ◊ Ashkenazi Jewish ancestry; or
       - ◊ ≥1 close relative[f] with breast cancer at age ≤50 y or ovarian, pancreatic, metastatic,[g] or intraductal/cribriform prostate cancer at any age; or
       - ◊ ≥2 close relatives[f] with either breast or prostate cancer (any grade) at any age
   - A mutation identified on tumor genomic testing that has clinical implications if also identified in the germline
   - Individual who meets Li-Fraumeni syndrome (LFS) testing criteria (see CRIT-4) or Cowden syndrome/PTEN hamartoma tumor syndrome testing criteria (see CRIT-5)
   - To aid in systemic therapy decision-making, such as for HER2-negative metastatic breast cancer[i]

(3-2-1)

- ✓ 3- individuals in a family with breast and/or prostate ca- dx any age
- ✓ 2- brca dx <50 with one additional family member with breast if prostate ca
- ✓ 1- Brca dx<46y, or triple negative dx <60y
  - Ovarian
  - Pancreas
  - Metastatic prostate
  - Limited information (if brca was dx <50y)
  - Ashkenazi Jewish ancestry
  - Positive Tumor (somatic) testing

https://www.nccn.org/professionals/physician_gls/pdf/genetics_bop.pdf

NCCN Guidelines Version 2.2021
Hereditary Cancer Testing Criteria

TESTING CRITERIA FOR HIGH-PENETRANCE BREAST AND/OR OVARIAN CANCER SUSCEPTIBILITY GENES
(This can include *BRCA1, BRCA2, CDH1, PALB2, PTEN,* and *TP53* among others. See GENE-A for a more complete list.

Testing is clinically indicated in the following scenarios (continued):

4. ***Family history of cancer***
   - **An affected or unaffected individual with a first- or second-degree blood relative meeting any of the criteria listed above (except individuals who meet criteria only for systemic therapy decision-making).[j]**
     - **If the affected relative has pancreatic cancer or prostate cancer (metastatic, intraductal/cribriform, or NCCN Guidelines for Prostate Cancer - High- or Very-High-Risk Group), only first-degree relatives should be offered testing unless indicated for other relatives based on additional family history.**
   - **An affected or unaffected individual who otherwise does not meet the criteria above but has a probability >5% of a *BRCA1/2* pathogenic variant based on prior probability models (eg, Tyrer-Cuzick, BRCAPro, CanRisk)[k]**

Testing may be considered in the following scenarios (with appropriate pre-test education and access to post-test management):

1. **Multiple primary breast cancers, first diagnosed between the ages of 50 and 65 y**
2. **An Ashkenazi Jewish individual[l]**
3. **An affected or unaffected individual who otherwise does not meet any of the above criteria but with a 2.5%–5% probability of *BRCA1/2* pathogenic variant based on prior probability models (eg, Tyrer-Cuzick, BRCAPro, CanRisk)[b]**

There is a low probability (<2.5%) that testing will have findings of documented clinical utility in the following scenarios:

1. **Women diagnosed with breast cancer at age >65 y, with no close relative[f] with breast, ovarian, pancreatic, or prostate cancer**
2. **Men diagnosed with localized prostate cancer with Gleason Score <7 and no close relative[f] with breast, ovarian, pancreatic, or prostate cancer**

Other Guidelines for Testing

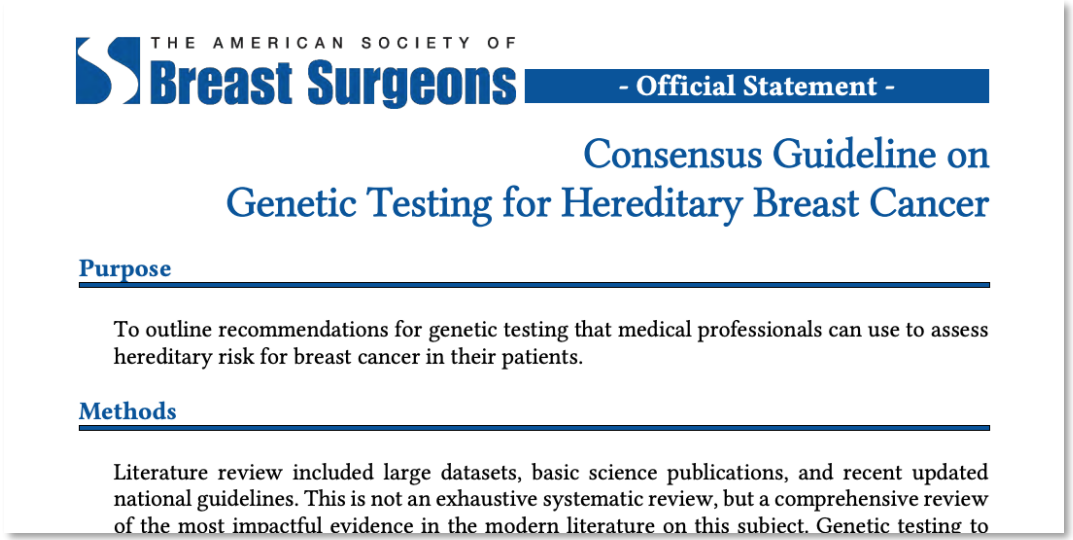
USPSTF:
https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/brca-related-cancer-risk-assessment-genetic-counseling-and-genetic-testing\


Final Recommendation Statement

BRCA-Related Cancer: Risk Assessment, Genetic Counseling, and Genetic Testing

August 20, 2019

Recommendations made by the USPSTF are independent of the U.S. government. They should not be construed as an official position of the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services.


THE AMERICAN SOCIETY OF Breast Surgeons - Official Statement -

Consensus Guideline on Genetic Testing for Hereditary Breast Cancer

Purpose

To outline recommendations for genetic testing that medical professionals can use to assess hereditary risk for breast cancer in their patients.

Methods

Literature review included large datasets, basic science publications, and recent updated national guidelines. This is not an exhaustive systematic review, but a comprehensive review of the most impactful evidence in the modern literature on this subject. Genetic testing to

The American Society of Breast Surgeons:
https://www.breastsurgeons.org/docs/statements/Consensus-Guideline-on-Genetic-Testing-for-Hereditary-Breast-Cancer.pdf

THE UNIVERSITY OF KANSAS
CANCER CENTER

Do You Have a Personal or Family History of Cancer?

Some people are at higher risk for cancer than others. If you know which family members have had certain cancers and the ages they were diagnosed, our genetic experts can better define your risk and the risk of your family.

Options may include more frequent screenings, preventive medications, surgery or lifestyle changes.

Use this tool to identify your risk of certain cancers. Record the number of relatives affected by each cancer type and their age at diagnosis, if possible.

For more information

Patients: **913-588-1227** | 844-323-1227
Physicians: **913-588-5862** | 877-588-5862
kucancercenter.org

BEST HOSPITALS U.S.News NATIONAL CANCER 2017-18

NCI Designated Cancer Center

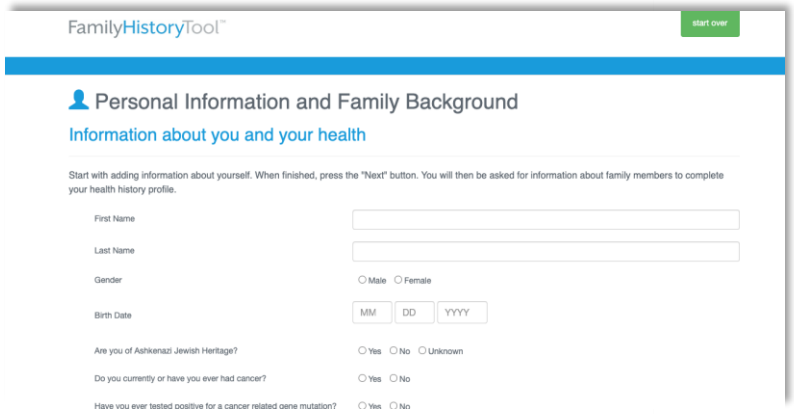
Include only blood relatives.	Breast	Colon/Colon Polyp	Uterus	Kidney	Melanoma	Ovarian/Peritoneal	Pancreas	Prostate	Stomach	Thyroid	Adrenal Gland	Brain/Spine	Eye	Skin	Age at onset
You															
Sister(s)															
Brother(s)															
Mother's Side/Maternal															
Mother															
Aunt(s)															
Uncle(s)															
Cousin(s)															
Grandmother															
Grandfather															
Great Aunt(s)															
Great Uncle(s)															
Father's Side/Paternal															
Father															
Aunt(s)															
Uncle(s)															
Cousin(s)															
Grandmother															
Grandfather															
Great Aunt(s)															
Great Uncle(s)															
Your Children															
Daughter(s)															
Son(s)															
Your Grandchildren															
Granddaughter(s)															
Grandson(s)															

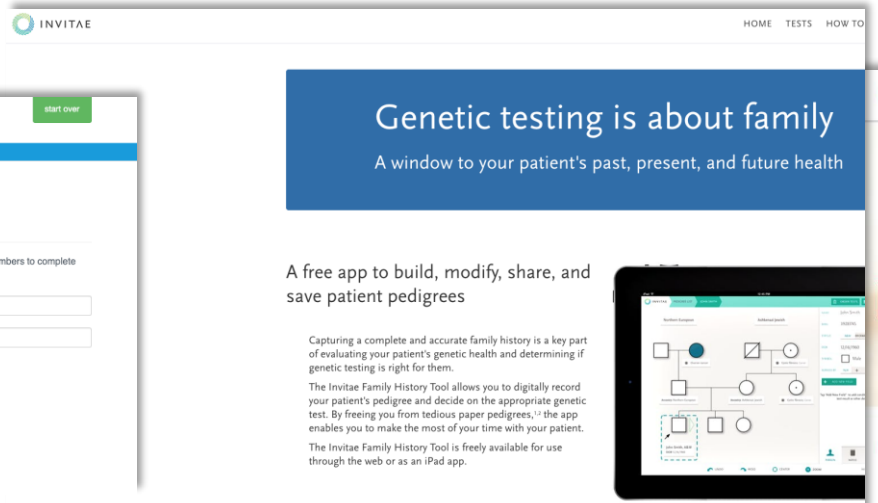
FL160161017

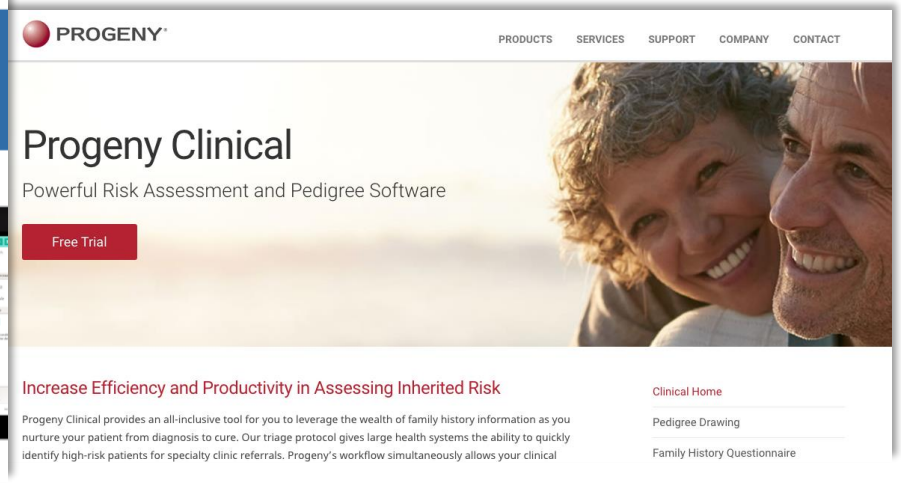
Family History Tools

- Online family history collection- Email
  - Progeny (Automatic Test Order Form via Ambry Genetics): https://www.progenygenetics.com/clinical/
  - Invitae Family History Tool: https://www.invitae.com/en/familyhistory/
  - Myriad Family History Tool: https://fht.myriad.com/app/#/get-started

- Chat bots- text messaging apps







Genetic Counseling Resources

- Refer patients to genetic counselors at KU
  - Patients can also call (913) 588-5568 to schedule an appointment without a doctor's referral
- Most labs will offer **free** post-test genetic counseling

Updated Testing

National Comprehensive Cancer Network®

NCCN Guidelines Version 2.2021
Hereditary Cancer Testing Criteria

NCCI

TESTING CRITERIA FOR HIGH-PENETRANCE BREAST AND/OR OVARIAN CANCER SUSCEPTIBILITY GENES
(This can include *BRCA1, BRCA2, CDH1, PALB2, PTEN,* and *TP53* among others. See GENE-A for a more complete list.)[a,b,c,d]

- No longer testing for *BRCA1/2* alone*
- Most insurances will cover updated testing if only *BRCA1/2* was ordered

Other Genes Related to Causing Breast Cancer

ATM

Breast Cancer (17-52%)

CHEK2

Breast Cancer (20-25%)

PALB2

Breast Cancer (25-58%)

CDH1

Breast Cancer (23-68%)

Stomach cancer (40-83%)

STK11

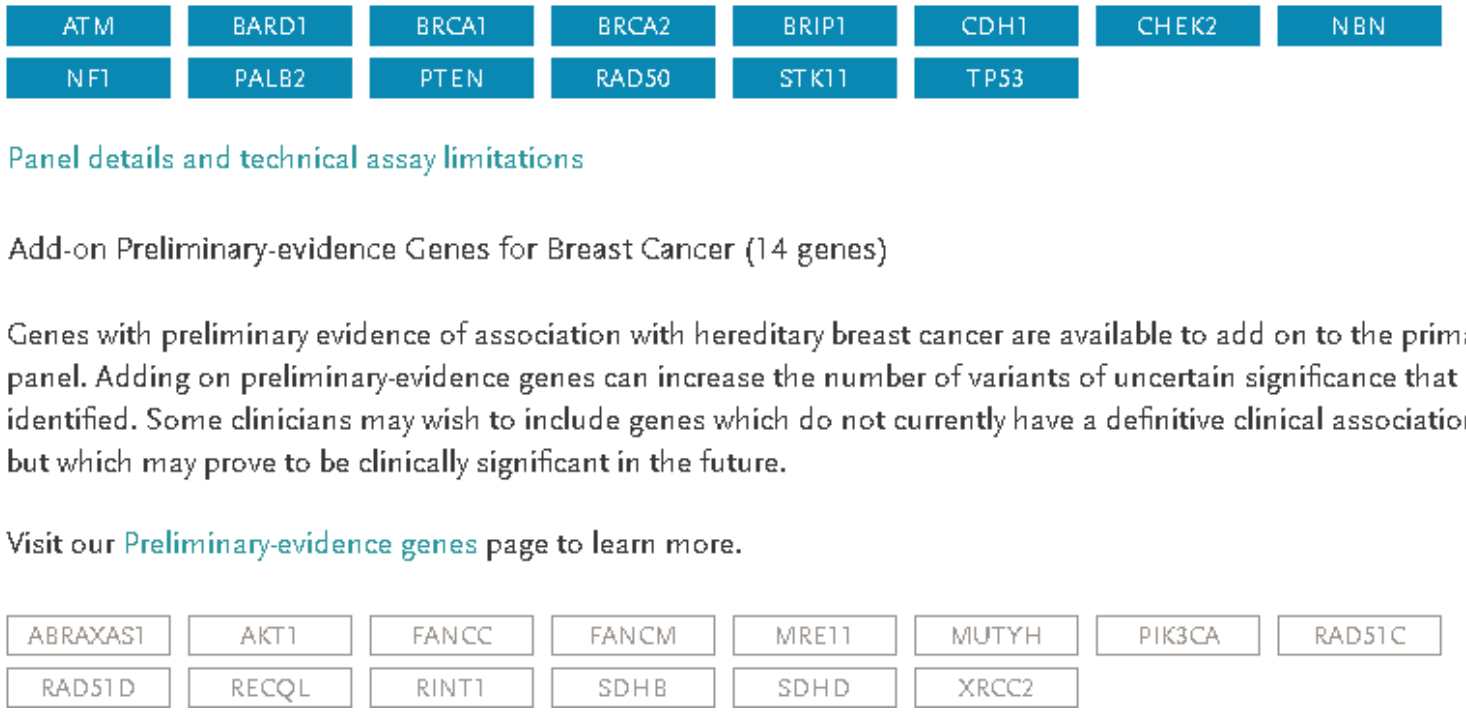
Breast Cancer (32-54%)

Ovarian tumors (21%)

Colon Cancer (39%)

Gastric Cancer (29%)

And other cancers



TP53

Breast, Bone, Sarcomas, Brain tumors, adrenocortical carcinoma, leukemia, and other cancers.

Overall cancer risk is 100% for females and 73% for males

PTEN

Breast cancer (25-50%)

thyroid cancer (10%)

uterine cancer (5-10)

melanoma (6%) colon and kidney cancers

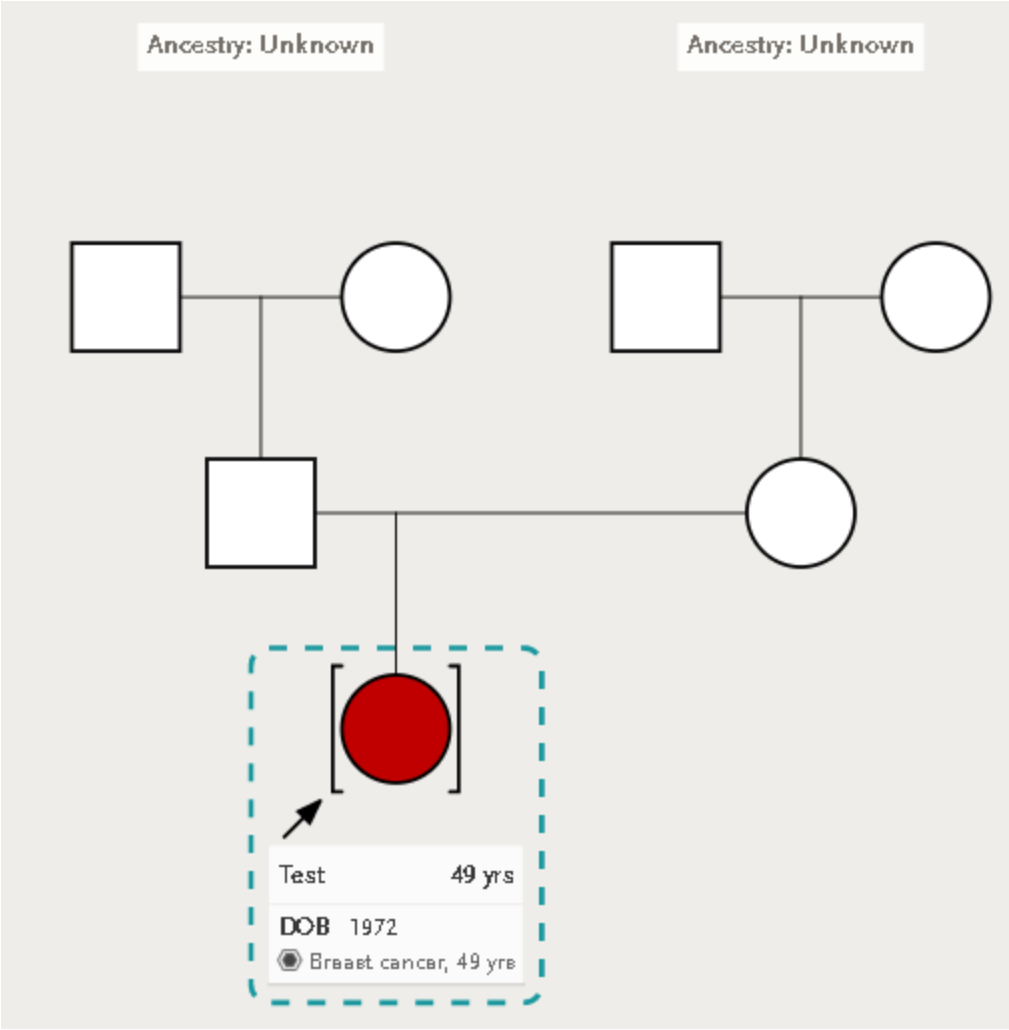
RNA

Familial Testing

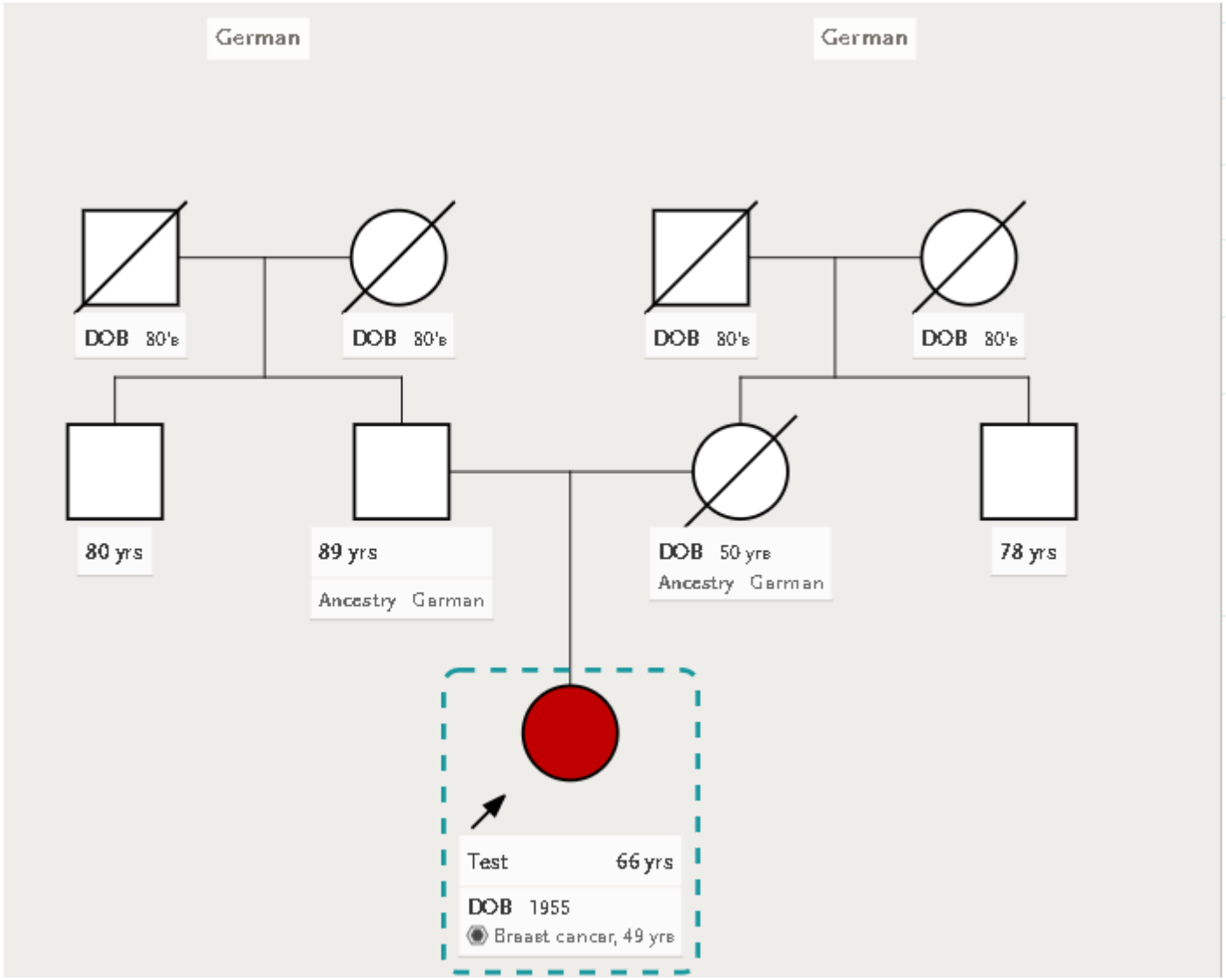
When your patient has a known mutation in the family

- ✓ It is still common to order a panel test
  - Especially if a family member only tested for one gene
- ✓ Collecting family history remains important
  - Especially of the opposite side of family

Case Example: Limited Family History



Case Example: Triple Negative



HEIGHT 0 ft 0 in FT CM

SYMBOL Female

MARKED BY N/A + − ✳

ADD NEW FIELD

PERSONAL RISK FACTORS

Breast cancer

DIAGNOSED 49 yrs

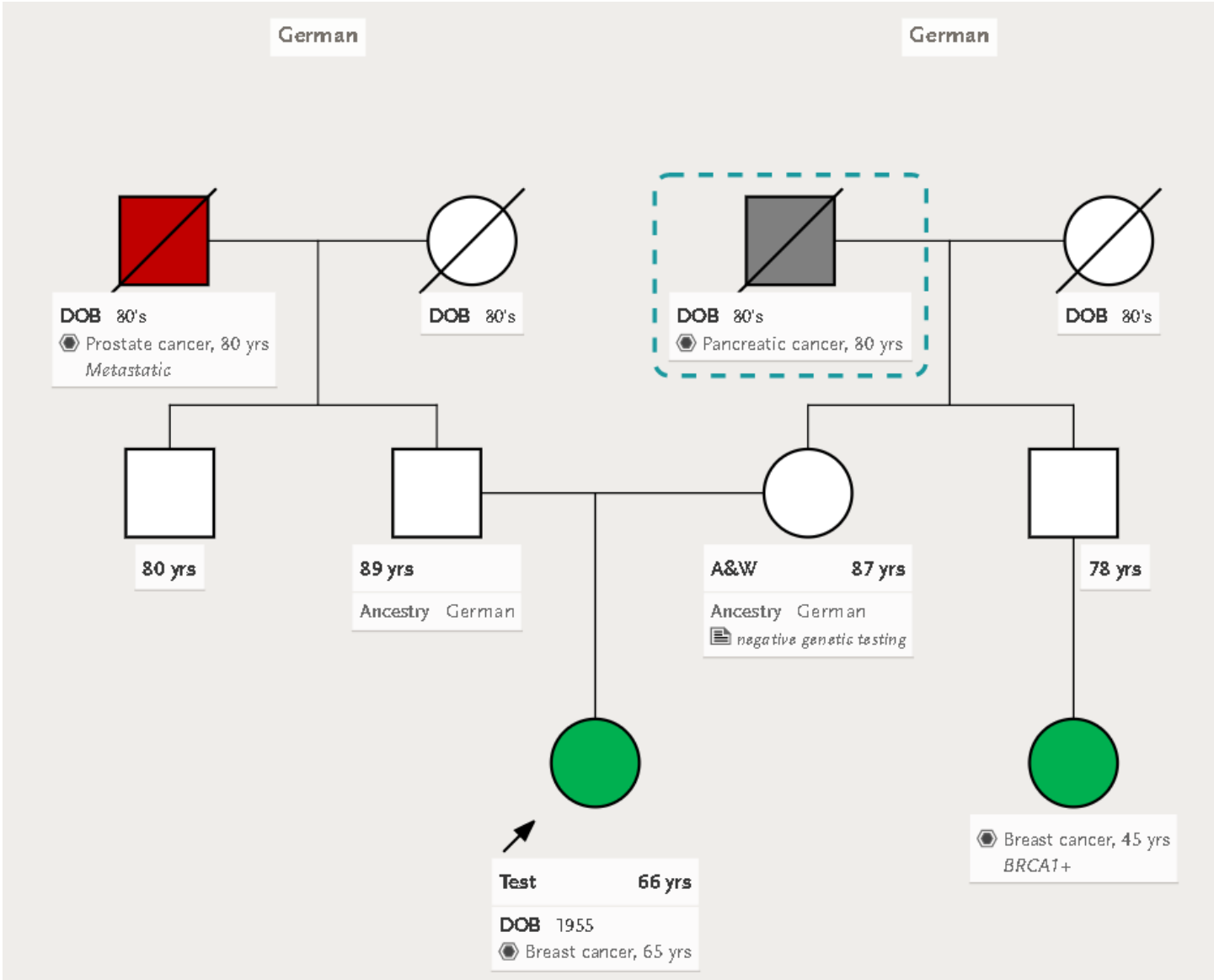
Histology: IDC - Invasive Ductal Carcinoma

ER: Negative test

PR: Negative test

HER2: Negative test

Case Example: Known Mutation in Family



Discussion & Questions

Let’s Review

The WHY…

- Breast cancer is common (1 in 8)
- Women with risk factors can be at a MUCH higher risk (1in 4 or greater) of breast cancer.
- Knowing one's breast cancer risk can improve screening/early detection as well as open opportunity for breast cancer risk reduction.
- Disparities in breast cancer mortality can be improved by enhancing screening utilization in African American women through improving provider-patient communication about breast cancer risk.

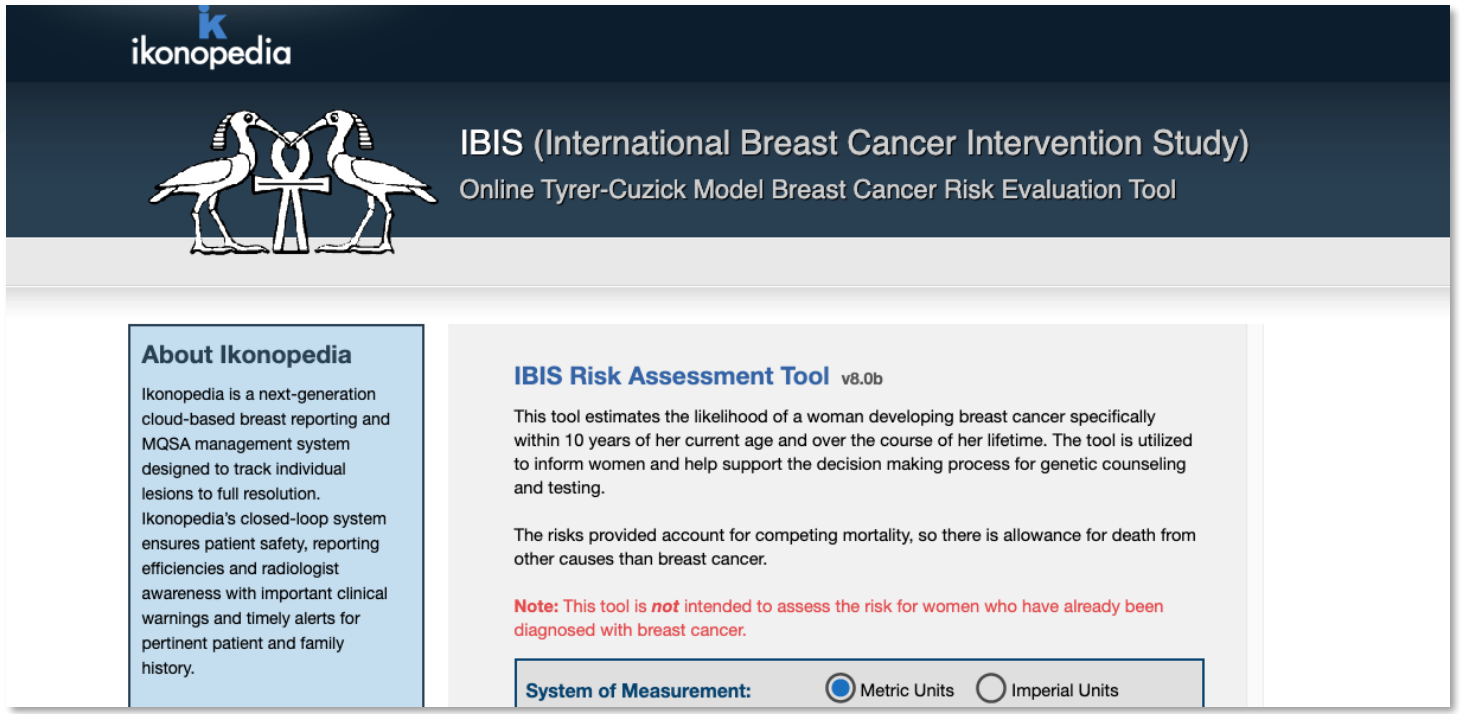
The WORKFLOW…

1. Collect patient information
   - ✓ WHO does this?
     - Personal demographics (height, weight, etc.)
     - Gynecologic history
     - Breast history (biopsies, dense breast)
     - Family History
2. Use a TOOL to make it easier
3. Know where this information is documented
   - ✓ HOW does it get there?
4. Update annually
   - ✓ WHEN does this happen?

The HOW…

Calculate the Lifetime Breast Cancer Risk:

https://ibis.ikonopedia.com/



Now WHAT?

Do they have a genetic risk?

Coming NEXT:

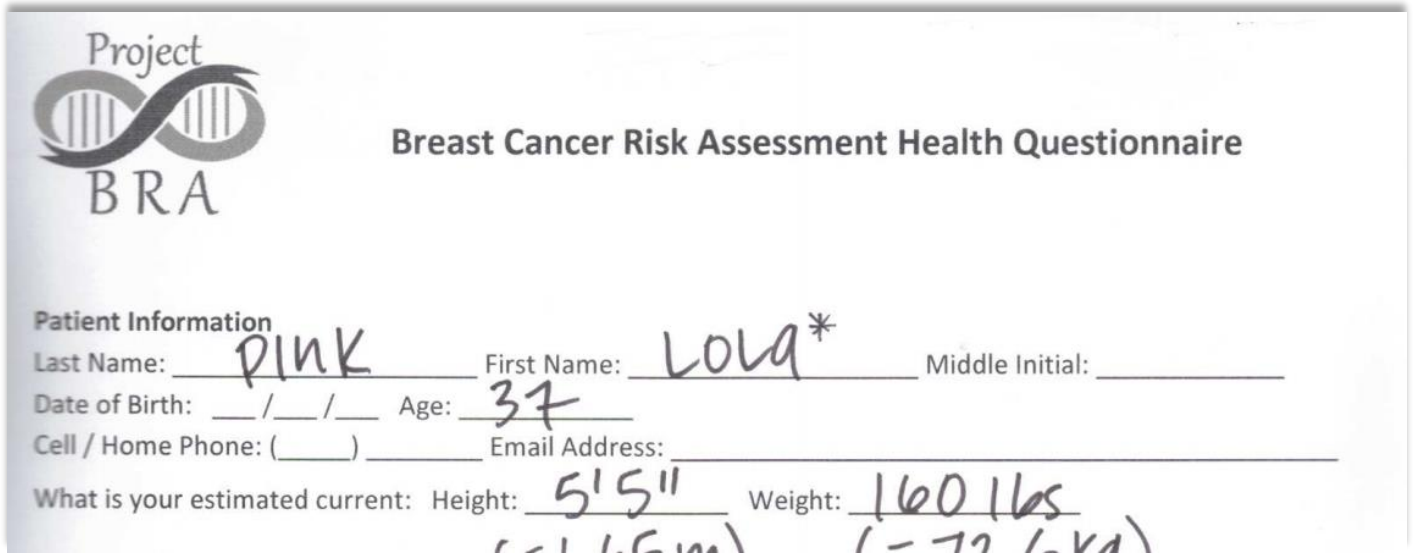
- Screening in High-Risk Women
- Risk Reduction in High-Risk Women

Case Example

Please refer to handout sent in email, or you can find it at:

https://www.kansascancerprojects.com/project-bra-toolbox

Project BRA > Resources > Session 3 > Tools



Project BRA

Breast Cancer Risk Assessment Health Questionnaire

Patient Information

Last Name: PINK First Name: LOLA* Middle Initial: _____

Date of Birth: __/__/__ Age: 37

Cell / Home Phone: (____) _____ Email Address: _____

What is your estimated current: Height: 5'5" Weight: 160 lbs

Let’s take a poll!

Do you feel that you have the information you need to be able to calculate a breast cancer risk using the Tyrer-Cuzick (IBIS)?

- ❑ Yes
- ❑ No

What additional resources or training would be helpful for you to feel confident in calculating a breast cancer risk? Please tell us in the Chatbox!

Discussion & Questions

Announcements

Join us for the next ECHO session on **August 10th at Noon**!

Guest Speaker: Onalisa Winblad, MD
Breast Radiologist, KUMC

Topic: Breast Cancer Screening

Call for Cases!

- ✓ Encounters where you had difficulty relating or communicating with a patient due to cultural differences.
- ✓ Encounters where you would like to calculate their breast cancer risk.
- ✓ Encounters where you struggle to find resources for an individual at increased risk of breast cancer.

We would love to help you with a case during an ECHO session.
Reach out to Catie for details: cknight2@kumc.edu

Wrap-Up

Don’t forget to sign-in by putting your name in the chat box.

ACTIVITY IDENTIFICATION CODE: 28paps

DUE DATE: August 3, 2021 by 5:00 pm

- Text the activity identification code to (828) 216-8114 or www.eeds.com

You can review this presentation and materials in the Toolbox on the Kansurvive website: www.kansurvive.com

Project BRA