MANAGEMENT OF HIGH RISK BREAST PATIENTS

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BREAST PHYSICIAN, FSH
HIGH RISK MANAGEMENT
OBJECTIVES

• Be alert to FHx Breast and/or Ovarian cancer

• Know how to perform a risk assessment

• Be aware of HR clinics and how to refer

• Be able to inform patients about prevention and surveillance options

• Be comfortable managing moderately increased risk patients and HR patients >50 in general practice.
HIGH RISK MANAGEMENT OUTLINE

• Breast Cancer – general considerations

• Overview FBOC (Familial Breast and Ovarian Cancer)

• The High Risk Clinic – who to refer, how to refer, why refer

• Case Studies – including preventive and surveillance strategies

• Questions
BREAST CANCER
GENERAL CONSIDERATIONS

• 1 in 8 lifetime risk of breast cancer

• Average age at diagnosis is 60

• Modifiable and non-modifiable risk factors

• Main risk factors remain female and age

• Most women with FHx BC are not high risk and will not develop breast cancer

• specific inherited mutations responsible for only 5% of breast cancer

• Risk Ovarian Cancer 1/81, 15% may be genetic
BREAST CANCER RISK FACTORS

• **Non-modifiable**
  - female sex
  - age
  - hormonal factors (early menarche, late menopause)
  - increased breast density
  - inherited genetic predisposition

• **Modifiable/lifestyle factors**
  - Obesity/diet/exercise
  - alcohol (smoking)
  - Exogenous hormones (OCP, HRT)
  - reproductive behaviours (age at first full term pregnancy, breastfeeding)
  - Ionising radiation
  - Other – vitamin D, shift work, stress, pollutants, silicone…

Prevention of Breast Cancer, Ian N Olver; MJA 21 Nov 2016 vol 205 no 10
“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”
<table>
<thead>
<tr>
<th>Mutation</th>
<th>Breast Cancer</th>
<th>Ovarian Cancer</th>
<th>Other sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal female population</td>
<td>11% (to age 85)</td>
<td>1.2%</td>
<td></td>
</tr>
<tr>
<td>BRCA1 (1/1000) Chromosome 17</td>
<td>57% (47%-66%)</td>
<td>40% (35%-46%)</td>
<td>? Pancreas, prostate</td>
</tr>
<tr>
<td>BRCA2 (1/1000) Chromosome 13</td>
<td>49% (40%-57%)</td>
<td>18% (13%-23%)</td>
<td>pancreas &lt;5%, male breast, prostate</td>
</tr>
<tr>
<td>Li-Fraumeni Syndrome (TP53 mutation)</td>
<td>High risk esp young</td>
<td></td>
<td>Sarcoma, brain, leukaemia,</td>
</tr>
<tr>
<td>Lynch Syndrome (MMR genes)</td>
<td></td>
<td>9% (varies with mutation)</td>
<td>Colorectal, renal, endometrial, gastric,</td>
</tr>
<tr>
<td>PTEN Hamartoma syndrome (Cowden)</td>
<td>High (&gt;30%)</td>
<td></td>
<td>Thyroid, endometrial, renal</td>
</tr>
<tr>
<td>Peutz – Jeghers Syndrome</td>
<td>45% (by age 70)</td>
<td></td>
<td>GI, colorectal, gynaecological, pancreas</td>
</tr>
<tr>
<td>ATM mutation</td>
<td>47% (17%-89%)</td>
<td></td>
<td>pancreas</td>
</tr>
<tr>
<td>PALB2 Mutation</td>
<td>33%-55%</td>
<td></td>
<td>pancreas</td>
</tr>
<tr>
<td>CDH1 Mutation</td>
<td>42% (lobular)</td>
<td></td>
<td>gastric</td>
</tr>
</tbody>
</table>

THE HUMAN GENOME
(WELLCOME COLLECTION, LONDON)
THE HIGH RISK CLINIC
WHO, HOW AND WHY?

• Who
  • The High Risk Clinic aims to offer surveillance to women, usually under age 50, whose family history places them in the potentially high risk category for breast cancer. (Covers <1% of the population - risk BC 1:2 – 1:4)
  • Additionally, women treated with chest irradiation for Hodgkin’s Lymphoma should also be referred for high risk surveillance

• How
  • Central Referral Service

• Why
  • Information
  • Risk assessment
  • Risk management – prevention and surveillance
  • Referral – Genetic Services, Breast Surgeon, Gynaecologist-oncologist
  • Management breast pathology
  • Annual review
THE HIGH RISK CLINIC

- History and Examination

- Risk Assessment

- Risk Management – preventive vs. surveillance (breast and ovarian cancer)

- Referral

- Ongoing follow up/management breast pathology
THE HIGH RISK CLINIC

- History and Examination

- Risk Assessment

- Risk Management – preventive vs. surveillance (breast and ovarian cancer)

- Referral

- Ongoing follow up
THE HIGH RISK CLINIC
HISTORY AND EXAMINATION

• History
  • Clinical breast symptoms
  • Previous breast disease/ Relevant medical history
  • Risk factors
    • Family History (breast, ovarian, sarcoma, other)
    • Hormone exposure/reproductive factors
    • Lifestyle factors – weight, diet, exercise, alcohol (smoking), Vit D

• Examination
THE HIGH RISK CLINIC

• History and Examination

• Risk Assessment

• Risk Management – preventive vs. surveillance (breast and ovarian cancer)

• Referral

• Ongoing follow up
THE HIGH RISK CLINIC
RISK ASSESSMENT

- Take a careful family history (pedigree)
- First and second degree relatives, age at which affected, uni vs. bilateral
- In general high risk comprises:
  - 2 relatives plus additional factor
    - Additional relative
    - young age (<40 BC) or (<50 OC)
    - male BC
    - BC and OC in same woman
    - bilateral BC especially if first <50
    - Jewish Ancestry
  - Or a relative with BC <45 and a relative with sarcoma <45
  - Or presence of high risk mutation on genetic testing
- Risk >3x population average (1:2 – 1:4)
THE HIGH RISK CLINIC
RISK ASSESSMENT TOOLS

- **FRA-BOC** (Family Risk Assessment of Breast and Ovarian Cancer) Online

- **Calculate Your Risk** (Cancer Australia) for patients

- Cancer Australia (formerly NBOCC) Advice about Familial Aspects of Breast Cancer and Epithelial Ovarian Cancer December 2010

- **BOADICEA** - Online
FAMILY RISK ASSESSMENT OF BREAST AND OVARIAN CANCER (FRA-BOC)

- Designed for health professionals
- Places women in one of three broad categories based on risk of BC and OC
- Aids in the reassurance of the majority of women whilst identifying those who would benefit from referral to a family cancer clinic
YOUR RISK AND BREAST CANCER

CALCULATE YOUR RISK

This user-friendly, interactive calculator is intended for use by women who have not had breast or ovarian cancer. It will help you to gain a good understanding of your level of risk for breast cancer compared to another woman of your age group.

YOUR RISK OF BREAST CANCER EVALUATION

LOW OR AVERAGE  MODERATELY INCREASED  POTENTIALLY HIGH

Your Risk

Compared to another woman of your age group, your risk level has been assessed as low or average. This means you are at the level of risk for women who have few or no risk factors. However, this does not mean that you will never develop breast cancer.
CANCER AUSTRALIA (NBOCC)

Advice about familial aspects of breast cancer and epithelial ovarian cancer
A guide for health professionals (DECEMBER 2010)

The guide has been developed to cover familial aspects of both breast and epithelial ovarian cancer.* This guide is general advice to be followed subject to the health professional's judgement in each case. It is designed to provide information to help health professionals and their patients. The guide is based on the best available evidence or consensus opinion of experts where evidence does not exist at the date of publication.

The information on page three can be used to determine an individual woman's risk of developing breast cancer, based on her family history. The information on page three can similarly be used to determine her risk of developing ovarian cancer.

To estimate the risk of a woman developing breast or ovarian cancer, based on family history, with additional family history not covered in this guide, visit the National Risk Assessment – Breast and Ovarian Cancer (NRA-BOC) on-line at canceraustralia.gov.au/nrabc.

In some families genetic testing can be used to assess risk. The availability, limitations, potential benefits and possible consequences of genetic testing can be discussed in a family cancer clinic.

*Note: many of these cases may originate in the literature for those that are managed as epithelial ovarian cancer.

Table of risk categories

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Definition</th>
<th>Management</th>
<th>Advice about familial aspects of breast cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>At or slightly above average risk</td>
<td>Covers more than 95% of the female population as a group, risk is less than 1 in 10 by age 75.</td>
<td>Discuss risk in the context of the general population.</td>
<td>Early risk. See canceraustralia.gov.au/risk</td>
</tr>
<tr>
<td></td>
<td>This risk is no more than 1.5 times the population average.</td>
<td>Reassure that most of the women in this group will not develop breast cancer.</td>
<td>Risk is similar to that of the general population.</td>
</tr>
<tr>
<td></td>
<td>Women with breast or ovarian cancer (without the additional features of the potentially high-risk group)</td>
<td>Inform that breast cancer risk increases with age (see Table 1).</td>
<td>Reassure that 9 out of 10 women in this group will not develop breast cancer.</td>
</tr>
<tr>
<td></td>
<td>Two 1° or 2° relatives diagnosed with breast cancer at age 50 or older, but not both</td>
<td>Advise that although there is a high or potentially high risk of developing breast cancer, and perhaps other cancers, many women in this group will not develop breast cancer.</td>
<td>Advise early referral to a family cancer clinic for risk assessment.</td>
</tr>
<tr>
<td></td>
<td>Two 1° or 2° relatives, on the same side of the family, diagnosed with breast cancer at age 25 or younger</td>
<td>Advise referral to a family cancer clinic for risk assessment.</td>
<td>Discuss the possibility of risk reduction or prevention plans.</td>
</tr>
<tr>
<td></td>
<td>One 1° or 2° relative diagnosed with breast cancer before the age of 50, or both</td>
<td>Advise referral to a family cancer clinic for risk assessment.</td>
<td>Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer.</td>
</tr>
<tr>
<td></td>
<td>Women who are at potentially high risk of ovarian cancer (See page 3)</td>
<td>Discuss the possibility of risk reduction or prevention plans.</td>
<td>Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer.</td>
</tr>
<tr>
<td></td>
<td>cover more than 95% of the female population</td>
<td>For available trials see <a href="http://www.australiancancertrials.gov.au">www.australiancancertrials.gov.au</a>, <a href="http://www.anzctr.org.au">www.anzctr.org.au</a>, <a href="http://www.anzbctg.org.au">www.anzbctg.org.au</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>This risk is 1.5 to 3 times the population average.</td>
<td>Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>As a group, risk of breast cancer up to age 75 is between 1 in 8 and 1 in 4</td>
<td>Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Covers less than 1% of the female population</td>
<td>Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Potentially high risk</td>
<td>Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>This risk is 1.5 to 3 times the population average.</td>
<td>Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer.</td>
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<td>Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Covers less than 4% of the female population</td>
<td>Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer.</td>
<td></td>
</tr>
</tbody>
</table>

Additional exercises

- Breast cancer risk increases with age (see Table 1)
- Women over 35 years of age should be aware of the normal look and feel of their breasts and promptly report persistent or unusual changes to their GP
- Encourage all women to be aware of the normal look and feel of their breasts and promptly report persistent or unusual changes to their GP
- Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer
- Referral to a family cancer clinic may be appropriate
- Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer
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- Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer
- Referral to a family cancer clinic for risk assessment. |

In women over 35 years of age, consider the use of medication, such as tamoxifen or raloxifene, to reduce risk of developing breast cancer. In women over 40 years of age, consider additional surveillance, such as mammography or other imaging, to detect breast cancer at an earlier stage.

Referral to a family cancer clinic may be appropriate for women with a known family history of breast cancer and for women who are at potentially high risk of developing breast cancer. In women over 35 years of age, consider the use of medication, such as tamoxifen or raloxifene, to reduce risk of developing breast cancer.
The Breast and Ovarian Analysis of Disease Incidence and Carrier Estimation Algorithm (BOADICEA) is a computer program that is used to calculate the risks of breast and ovarian cancer in women based on their family history. It is also used to calculate the probability that they are carriers of cancer-associated mutations in the BRCA1 or BRCA2 gene. The latest version of BOADICEA (BWA v3) is described by Lee et al. (2013). You can run BOADICEA risk calculations using the BOADICEA Web Application. To access this program, all you need is a BOADICEA user account, which you can setup online in a minutes here. To date, more than 6000 healthcare professionals have registered to use BWA v3, based in more than 100 countries worldwide. In the United Kingdom, it is recommended as a risk assessment tool in the National Institute for Health and Care Excellence clinical guideline CG164 and has been incorporated in the guidelines of several countries for the management of familial breast cancer. The BOADICEA Web Application is an example of translational research, where scientific software has been developed further for use by healthcare professionals. For technical support, the BOADICEA Web Application is not currently available to members of
THE HIGH RISK CLINIC

• History and Examination

• Risk Assessment

• Risk Management – preventive vs. surveillance (breast and ovarian cancer)

• Referral

• Ongoing follow up
THE HIGH RISK CLINIC
RISK MANAGEMENT

• Prevention
  • Lifestyle
    • Healthy diet, exercise, weight, vit D
    • Minimise alcohol
    • Promote breastfeeding

• Chemoprophylaxis
  • SERM/AI eg. Tamoxifen
  • ?other (e.g. aspirin)

• Surgery
  • Risk Reducing bilateral mastectomy
  • Risk Reducing BSO (RRBSO)

• Surveillance
  • Breast Awareness
  • Clinical Breast Examination (CBE) 6-12/12
  • Mammography – annual from 35
  • MRI – annual from 30-35 to age 50
  • Ovarian surveillance not recommended
THE HIGH RISK CLINIC
RISK MANAGEMENT

- Ovarian management

  - At risk of OC if FHx ovarian cancer or known mutation (BRCA1, BRCA2, Lynch)

  - No role for ovarian surveillance (transvaginal USS or Ca 12-5)

  - Refer for risk reducing BSO surgery (age 35-40)
eviQCancer Online is a point of care clinical information resource that provides health professionals with current evidence based, peer reviewed, best practice cancer treatment protocols and information. The primary audience is health professionals, and registration is free with a username and password.
Endocrine therapy reduces the risk of invasive and in-situ disease.

Consider for women >35 with high/moderate risk of BC

2 classes of agents – SERMs and AIs

**Selective Estrogen Receptor Modulators (SERMs)**

- **Tamoxifen**
  - Reduced risk of hormone positive BC (and vertebral fractures)
  - **Relative Risk Reduction 40%** over 5 years
  - Benefit lasts for at least 10 yrs (5 yrs treatment, 5 yrs after)
  - S/E – menopausal Sx, thromboembolism, endometrial cancer (each – 4/1000), cataracts
  - No difference in breast or all cause mortality

- **Raloxifene**
  - No data in pre-menopausal women (**RR reduction 30%** in post-menopausal women)
  - No inc risk of endometrial cancer
  - Overall tamoxifen ?slightly more effective but more side effects
**RISK MANAGEMENT**

**CHEMOPROPHYLAXIS**

- **Aromatase inhibitors (AIs)**
  - reduce plasma estrogen levels
  - Only suitable in post-menopausal women
  - Anastrozole and exemestane - similar
  - **RR reduction 50%** (number of invasive BC)
  - Side effects include menopausal Sx (vasomotor, vaginal dryness), hypertension, **musculoskeletal, loss of bone density**.
  - Not on PBS for BC prevention
  - IBIS -2 trial
CHEMOPROPHYLAXIS
PRESCRIBING TIPS

• ASCO (American Society of Clinical Oncology) supports use of endocrine agents in BC prevention
• Ensure normal breast examination and recent normal imaging (<12mths)
• Review at least annually
• Cease after 5 yrs of use

• Premenopausal
  • 5 yrs tamoxifen 20mg/d (PBS restricted benefit for BC prevention Oct 2016)
  • Contraindications-Hx DVT/PE, smokers, planning pregnancy, using OPC or HRT, unexplained vaginal bleeding
  • Use adequate contraception (not OCP) and cease 3/12 prior to pregnancy

• Postmenopausal
  • SERM (Tamoxifen/Raloxifene) or AI (anastrozole 1mg/exemestane 25mg) reasonable options
  • Indicated in women amenorrheic 12mths, FSH >30 (if hysterectomy), oophorectomy
  • Contraindications to AI – osteoporosis
  • Should take Ca/D supplements and monitor BMD at baseline and 2 yrs (AI)

• 1/10 women cease due to side effects
• No specific studies in BRCA1 or 2 mutations or in men
HIGH RISK SURVEILLANCE SCREENING MAMMOGRAPHY

- Mammography commences age 35 – 74 (?80)
- Performed annually
- No role for surveillance ultrasound alone (but useful adjunct to mammography in women with dense breasts >50 or if unable to have MRI)

If Women controlled medicine

The Manogram
MEDICARE REBATED MRI
(MEDICARE ITEM 63464)

• Since 1\textsuperscript{st} Feb 2009, Medicare funds MRI surveillance for:
  
  • women less than 50
  
  • Asymptomatic
  
  • high risk of breast cancer due to family history or genetic mutation.

• In the MBS, the schedule fee for a breast MRI scan is $690.00.

<table>
<thead>
<tr>
<th>Medicare Rebatable study? Criteria as listed below</th>
</tr>
</thead>
<tbody>
<tr>
<td>STANDARD STUDY MRBRREB1/Item No. 63464</td>
</tr>
<tr>
<td>□ Must be &lt; 50 years of age</td>
</tr>
<tr>
<td>□ Three or more first or second degree relatives on same side of family diagnosed with breast or ovarian cancer</td>
</tr>
<tr>
<td>□ Two or more first or second degree relatives on same side of family diagnosed with breast or ovarian cancer, including any of the following:</td>
</tr>
<tr>
<td>□ bilateral breast cancer</td>
</tr>
<tr>
<td>□ onset of breast cancer &lt; 40 years</td>
</tr>
<tr>
<td>□ onset of ovarian cancer &lt; 50 years</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>□ One first or second degree relative diagnosed with breast cancer at age 45 yrs or younger, plus another first or second degree relative on the same side of the family with bone or soft tissue sarcoma at 45 yrs or younger.</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>□ High risk breast cancer gene mutation on genetic testing:</td>
</tr>
<tr>
<td>□ BRCA 1</td>
</tr>
<tr>
<td>FOLLOW-UP STUDY MRBRREB2/Item No. 63467</td>
</tr>
<tr>
<td>□ Follow-up study (abnormality detected on previous breast MRI within last 12 months)</td>
</tr>
<tr>
<td>□ Medicare non Rebatable study (above criteria not met)</td>
</tr>
</tbody>
</table>
THE HIGH RISK CLINIC

• History and Examination

• Risk Assessment

• Risk Management – preventive vs. surveillance (breast and ovarian cancer)

• Referral
  • Breast/plastic Surgeon
  • Gynae-oncologist
  • Genetic services

• Ongoing follow up
THE HIGH RISK CLINIC
PREVENTIVE SURGERY

- **Risk Reducing Bilateral mastectomy +/- reconstruction**
  - Reduces risk of BC by >90% (depends on type of procedure – skin/nipple sparing)

- **RRBSO (Risk Reducing Bilateral Salpingo oophorectomy)**
  - Reduces risk of BC by 50% (when performed pre-menopausally)
  - Reduces risk of OC by >90%
  - Residual risk of primary peritoneal cancer – 2%
  - Performed around age 35-40 (BRCA 1 and 2)
  - HRT may be considered if performed pre-menopausally
THE HIGH RISK CLINIC
GENETIC TESTING?

- Not every case is appropriate for genetic testing
  - Manchester criteria
  - Living affected family member
  - Mutation search results either “positive” or “inconclusive”
  - Predictive testing results either “yes” or “no”

- Referrals
  - Genetic Services of WA Familial Cancer Programme
  - Women Centre (private genetic testing)

<table>
<thead>
<tr>
<th>Manchester Criteria</th>
<th>BRCA 1</th>
<th>BRCA 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cancer age at diagnosis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FBC &lt; 30</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>FBC 30 - 39</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>FBC 40 - 49</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>FBC 50 - 59</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>FBC 60 - 69</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>MBC &lt; 60</td>
<td>5 if BRCA2 already tested</td>
<td>8</td>
</tr>
<tr>
<td>MBC &gt; 59</td>
<td>5 if BRCA2 already tested</td>
<td>5</td>
</tr>
<tr>
<td>Ovarian cancer &lt; 60</td>
<td>8</td>
<td>5 if BRCA 1 already tested</td>
</tr>
<tr>
<td>Ovarian cancer &gt; 59</td>
<td>5</td>
<td>5 if BRCA 1 already tested</td>
</tr>
<tr>
<td>Pancreatic cancer</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Prostate cancer &lt; 60</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Prostate cancer &gt; 59</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
THE HIGH RISK CLINIC

• History and Examination

• Risk Assessment

• **Risk Management** – preventive vs. surveillance (breast and ovarian cancer)

• **Referral** - Genetic services, Breast Surgeon, Gynae-oncologist

• Ongoing follow up
THE HIGH RISK CLINIC
ONGOING FOLLOW UP

• Annual surveillance
  • Annual clinic appointment
  • Clinical examination
  • Annual screening mammography (ASM) age 35 onwards
  • Annual surveillance MRI 30 -35 (or 5 yrs younger than youngest affected family member) until age 50
  • Further assessment of abnormal imaging

• Early review if patient concerns/breast symptoms
Category 1: At or slightly above average risk
85% of women are in this group.
Women in this group have:
> No family history of breast cancer, or
> Family history of breast cancer occurring in:
  - One first-degree relative at age 50 or older, or
  - One second-degree relative at any age, or
  - Two first or second-degree relatives over the age of 50, on different sides of the family, or
  - Two second-degree relatives on the same side of the family, both with breast cancer at age 50 or older

The risk of developing breast cancer in this group is the same or only slightly higher than the average woman in the general population.

Category 2: Moderately increased risk
Less than 4% of women are in this group.
Women in this group have a family history of breast cancer occurring in:
> One first-degree relative before the age of 50, or
> Two first-degree relatives on the same side of the family, or

Two second-degree relatives on the same side of the family with at least one diagnosed under the age of 50

The risk of developing breast cancer in this group is moderately increased compared to that of the general population.

Category 3: Potentially high risk
Less than 1% of women are in this group.
Women in this group have a family history of breast cancer or ovarian cancer occurring in:
> Two first- or second-degree relatives on the same side of the family, plus
> One or more of the following features:
  - Additional relatives with breast cancer or ovarian cancer
  - A relative with both breast and ovarian cancer
  - Breast cancer diagnosed before the age of 40
  - Breast cancer affecting both breasts
  - Ashkenazi Jewish ancestry
  - Breast cancer in a male relative
  - A relative who has tested positive for a high-risk gene mutation e.g. a mutation in genes such as BRCA1 or BRCA2

The risk of developing breast cancer in this group is potentially higher than that of the general population.

How do I monitor my breasts if I have a family history?
The following recommendations apply to all women with or without a family history of breast cancer:
> Be "breast aware"—this means examining your own breasts often enough to be familiar with how they normally feel. This will increase your chances of detecting a change. See the "Breast Health" brochure for more information.
> See a doctor promptly with any breast changes.
> Have a breast examination performed by a doctor every year.
> Begin having screening mammograms every two years from the age of 40-50.

The recommendations for extra monitoring depend on the risk category you are in.
HIGH RISK MANAGEMENT QUESTIONS?

NO ONE HAS EVER EXPLAINED WHY:

OUT OF SCHOOL

WHY?
What's that for?
Will you go?
How does that work?
Can I tell you something?

IN SCHOOL

ANY QUESTIONS?

JOHN DEWEY, DEMOCRACY IN EDUCATION