AIMS
The aim of this document is to provide practical guidance for the management of a woman with unilateral breast cancer who requests a contralateral mastectomy (CM) at the time of the index mastectomy or at a later date. This document does not provide guidance with regards to bilateral mastectomy as part of a risk reduction strategy for high-risk individuals without breast cancer. Please refer to NICE.

SUMMARY
For the majority of women with unilateral breast cancer, contralateral mastectomy is not required. Women with unilateral breast cancer who proceed with contralateral mastectomy must be fully counselled as to the potential risks.

BACKGROUND
In the USA increasing numbers of bilateral mastectomies are being performed for unilateral breast cancer, this is despite a decreasing incidence of contralateral breast cancer (CBC) due to the use of adjuvant systemic therapies. A similar rise in bilateral mastectomy has been observed in the UK but not all European countries.

The reasons for a request or offer of contralateral mastectomy (CM) can be multi-factorial and complex: e.g. to prevent future regret (done everything I can), to avoid breast screening because of breast density, fear of screening recalls, to achieve symmetry or maximise use of a generous abdominal donor site, etc. In addition, high profile public figures, such as Angelina Jolie, undergoing bilateral mastectomy as part of a risk reduction strategy reduction for BRCA mutations, have led to the misconception amongst woman with breast cancer that bilateral mastectomy offers the ‘best’ chance of survival.

The majority of women do not require CM and for some it will have a negative impact on quality of life. It is important clinicians explore the reasons behind a request for CM and address the individual patient concerns. Those patients who decide to proceed with CM must be fully counselled and understand the potential risks.

The American Society of Breast Surgeons produced comprehensive guidelines for contralateral mastectomy in 2016. The publication includes a patient decision tool.

HOW TO MANAGE A REQUEST FOR CONTRALATERAL MASTECTOMY FOR UNILATERAL BREAST CANCER
The majority of women who request a contralateral mastectomy for unilateral cancer either at the time of the index mastectomy or at a later date do so because they overestimate the benefits or misunderstand the rationale for a contralateral mastectomy.

It is important to explore, address and document the reasons behind a request for CM.

Often women will be satisfied with a simple explanation of the risks and benefits of CM and a clear explanation as to what CM can and cannot achieve.
Broadly the risk of contralateral breast cancer (CBC) is:

- BRCA 1 or 2 gene carrier: 2 - 3% per annum (20-30% at 10yrs)\(^6\)
- Woman with no significant FH: 0.5% per annum (5% at 10yrs)\(^5\)

These risks are reduced by 50-70% by use of Tamoxifen or aromatase inhibitors if the index cancer is ER positive\(^7\).

CM will reduce the incidence of a new contralateral breast cancer primary by 90–95% but this is unlikely to give any survival advantage as this has been determined by the prognosis of the presenting cancer. The lack of overall survival benefit should be emphasised to the patient as part of the counselling process.

Any new contralateral cancer is likely to be early and screen detected as part of the post cancer surveillance for the index cancer.

The greater risk of needing chemotherapy is for systemic relapse rather than a contralateral breast cancer.

If possible defer decisions about CM until the treatment of the primary breast cancer is complete.

**RISKS**

- Increased complications including chronic pain and need for multiple surgeries\(^5\)
- Impact of unilateral radiotherapy on reconstructive symmetry
- Potential delay of adjuvant therapies for cancer
- Up to half of women express problems with femininity and sexuality\(^8\,9\,10\,11\)

**BENEFITS**

- Less screening
- Aesthetic symmetry
- Psychological: reduction of anxiety\(^8\,12\)

**INDIVIDUALISED RISK ASSESSMENT AND STRATIFICATION (IF REQUIRED)**

The current predicted average life span for women in the UK is 83 years\(^12\) but 80 years can be used for ease of calculation when estimating the life time risk of developing CBC.

Life span will obviously be affected by the index cancer.

Determine:

- Prognosis from index cancer at 10 years (Predict NHS)
- Prognosis from index cancer + Co-morbidities at 10 years (Adjuvant online)
- Risk of CBC:
  - BRCA status: 20–30% risk at 10 years, 40–60% at 20 years etc\(^6\,13\)
  - Baseline risk 5% risk at 10 years, 10% at 20 years etc
  - The above risks can be increased by FH (RR1.5–3.5)\(^14\), young age at diagnosis\(^2\)
    previous mantle RT (RR 2.7)\(^9\)
    lobular histology +FH (RR2.0)
    ER negative (RR1.3)\(^9\)
  - The above risks can be reduced 50–70% by Endocrine therapy\(^3\,7\,16\) Oophorectomy before 40 years, early menopause (<45 years)

**Low risk:** < 10% remaining life time risk of CBC

**Population risk:** 10 -20% remaining life time risk of CBC

**Moderate risk:** 20 -30% remaining life time risk of CBC

**High risk:** >30% - remaining life time risk of CBC
Although these risk calculations are not validated, they are used on a regular basis by the Manchester Group and have been published\(^\text{17}\).

**RELATIVE INDICATIONS FOR CM**

For a small number of women CM will be reasonable recommendation because of CBC risk but other women will request CM regardless of risk\(^\text{18}\). Their reasons need to be explored by and the request ideally assessed by the breast MDT, preferably with genetic and psychological input if considered necessary.

- moderate to high risk of CBC
- low-population risk but risk averse and fully counselled
- to avoid screening uncertainties
- to achieve symmetry with or without implants or use of generous abdominal donor site autologous flap

The incidence of unexpected occult invasive breast cancer in contralateral mastectomy specimens is 1.8%\(^\text{19}\) and as such routine sentinel node biopsy is not required.

Although women may request bilateral mastectomy for unilateral cancer, not all CCGs will fund bilateral reconstruction in low risk cases.

### Shared decision making algorithm for contralateral risk-reducing mastectomy

<table>
<thead>
<tr>
<th>Patient factors</th>
<th>Breast cancer factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>family history - genetic testing anxiety, mistrust of surveillance comorbidities for surgery desire for symmetry</td>
<td>prognosis likelihood of relapse versus benefit of contralateral mastectomy</td>
</tr>
</tbody>
</table>

- **Calculate risk of contralateral cancer**
  - gene carriers - 2 - 3% per year sporadic - 0.5% per year (reduced by 0.5 by tamoxifen and 0.7 by AIs)
  - age at breast cancer diagnosis family history lobular histology endocrine treatment age at menopause < 45 years oophorectomy under 45 years prior chest wall radiotherapy

- **Calculate risk of CBC** (based on left expectancy of 80 years)
  - no. of years CBC risk x 0.5% = life time risk of CBC
  - low risk (<10%) usual risk (10 - 20%) moderate risk (20 - 30%) high risk (> 30%)

- **Cooling off period**
  - clinical nurse specialist assessment psychology input if deemed necessary risk counselling

- **MDT discussion** for those at high risk of CBC (moderate risk and below in special circumstances)

- **Informed consent**
SUMMARY STATEMENT:
CONTRALATERAL MASTECTOMY FOR UNILATERAL BREAST CANCER

Authors: Maria Bramley, Matthew Barber, Clare Fowler, Elisabeth Grimsey, Jennifer Hu, Fiona MacNeill, Philip Drew, John Benson, Nicola Roche and Ashu Gandhi

Produced: March 2017

Version: 1

REFERENCES

5. Benson JR, Winters ZE. Contralateral prophylactic mastectomy. BJS 2016; 103: 1249-1250