The investigation of a new breast symptom

a guide for General Practitioners 2021

This guide has been developed to maximise the effectiveness of investigation of women who present to their General Practitioner with a new breast symptom. The development of the guide was informed by a review of the evidence together with expert consensus opinion.

This is a guide to appropriate practice, subject to the medical practitioner's judgement in each individual case. The individual patient history, such as a strong family history or a personal history of breast cancer may influence the investigative process for any particular woman.

The triple test approach to diagnosis

The triple test refers to three diagnostic components:

- medical history and clinical breast examination
- imaging – mammography and/or ultrasound
- non-excisional biopsy – core biopsy and/or fine needle aspiration (FNA) cytology.

The correct sequencing of tests is important to optimise interpretation of the results (refer to investigation of a new breast symptom flow chart). It is the responsibility of the managing clinician to correlate the cytological/histological results with the clinical and imaging findings.

Presenting symptoms of breast cancer

While the most common presenting symptom of breast cancer is a new breast lump, other presenting symptoms include:

- thickening or ridge
- breast or nipple asymmetry
- skin changes such as dimpling, redness
- nipple changes
- nipple discharge
- unilateral breast pain.

HISTORY AND CLINICAL EXAMINATION

A detailed history and thorough clinical examination provide important information on which to base further investigation, and should be accurately documented.

Patient history

Relevant history includes details of:

- previous breast problems and previous breast investigations
- risk factors, particularly strong family history of breast/ovarian cancer. For further information see *Cancer Australia's Breast Cancer Risk Factors* website and *iPrevent*, a validated breast cancer risk management decision support tool designed to facilitate prevention and screening discussions between women and their doctors
- hormonal status, menstrual history, parity, recent pregnancies and breastfeeding
- current medications or recent changes in medication, especially exogenous hormones, complementary and alternative medicines
- lifestyle factors, including obesity, alcohol, physical activity and smoking
- most recent imaging results – screening or diagnostic
- previous radiation therapy or previous breast surgery, including cosmetic surgery
- recent breast trauma – symptoms still require investigation.

History of presenting symptom

- site — constant or changing, unilateral or bilateral
- duration — when and how first noted
- any changes since first noted
- relationship to menstrual cycle or exogenous hormones
- associated symptoms — breast lump, breast pain, breast asymmetry or skin dimpling, nipple changes, nipple discharge.

Clinical breast examination

Inspection should take place in good light and with the patient seated or standing:

- with arms by her side
- with arms raised above her head
- pressing on her hips and leaning forward (contracting pectoral muscles).

Pay particular attention to:

- breast contours — skin changes such as erythema, dimpling or puckering, peau d'orange, visible lumps
- nipples — height, inversion, erythema, eczema, nodules, ulcers.

Palpation with the flat of the fingers:

patient seated or standing:

- palpate supraclavicular and axillary fossae
- palpate breasts, particularly upper quadrants and bimanual examination

patient lying flat or at 45 degrees with ipsilateral arm behind her head:

- palpate all quadrants and axillary tail, and around and behind nipple
- the non-examining hand may be used to immobilise a large breast
- a pillow positioned under the shoulder may assist in examining the outer quadrants of a large breast.

The ability to identify breast cancers by palpation may be reduced by the characteristics of the tumour, the surrounding breast tissue and the position of the lesion in the breast.

Details of any breast changes — including size, shape, consistency, mobility, tenderness, fixation and exact position — should be recorded in the patient notes.

This guide was developed with input from the Australian College of Rural & Remote Medicine (ACRRM), Breast Cancer Network Australia (BCNA), Breast Surgeons of Australia & New Zealand (BreastSurgANZ), The Royal Australian and New Zealand College of Radiologists (RANZCR), and The Royal College of Pathologists of Australasia (RCPA).

RACGP Accepted Clinical Resource

RACGP Accepted clinical resource

Australian Government
Cancer Australia

canceraustralia.gov.au

The investigation of a new breast symptom

HISTORY AND CLINICAL EXAMINATION

- No lump, No discrete lesion
- Findings consistent with hormonal change
- Clinically benign mass/nipple change
- Clinically inconclusive
- Suspicious or malignant breast or nipple change

Refer to breast surgeon *and request urgent diagnostic imaging*

Treat any pain
Review in 6-8 weeks (immediately after period)
If problem persists, refer for diagnostic imaging

IMAGING: MAMMOGRAPHY AND/OR ULTRASOUND (see Guidance for referral)

- Normal breast tissue or no discrete lesion
- Benign
- Indeterminate/ equivocal
- Suspicious or malignant

If consistent with clinical findings:
- Reassure
- Advise re breast awareness
- Advise re future screening

If inconsistent with clinical findings non-excisional biopsy required

Simple cyst *If symptomatic*

Solid lesion or complex cyst

Refer to breast surgeon *irrespective of other test results*

FINE NEEDLE ASPIRATION (FNA)

- Normal fluid (straw to dark green) and no lump remains
- Bloody fluid (not traumatic) and no lump remains
- Lump remains (whether normal or bloody fluid)

Send fluid to cytology if diagnostic uncertainty remains
Advise review if refills

If persistent refilling **refer to breast surgeon**

Send fluid to cytology

Refer to breast surgeon irrespective of pathology

NON-EXCISIONAL BIOPSY: CORE BIOPSY OR FNA CYTOLOGY (see Guidance for referral)

- Inadequate/ insufficient
- Benign
- Atypical/ equivocal
- Suspicious or malignant

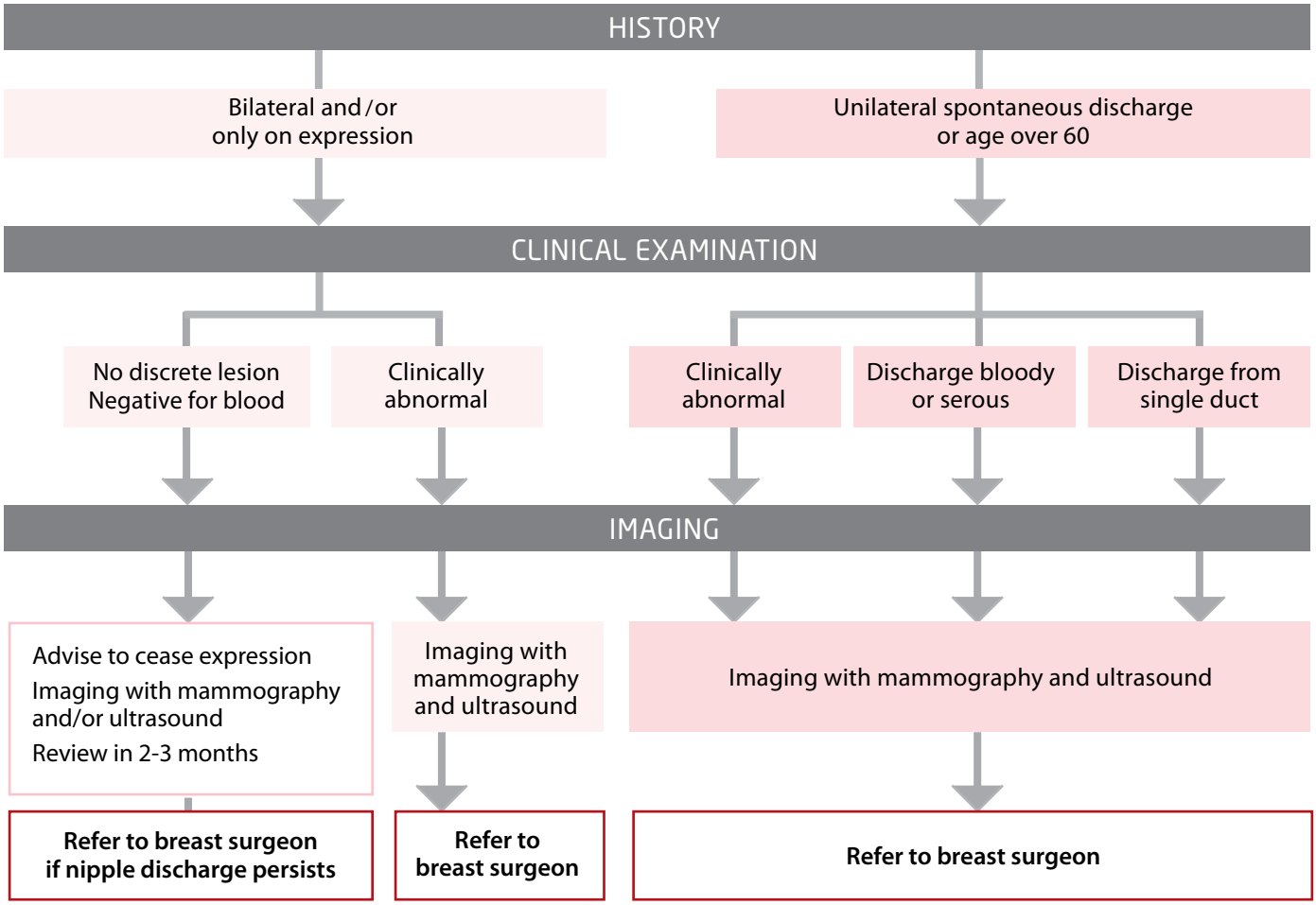
Repeat biopsy or **refer to breast surgeon**

If consistent with clinical and imaging findings, reassure

If inconsistent **refer to breast surgeon**

Refer to breast surgeon

The investigation of a new nipple discharge



Nipple changes

Benign nipple changes include:

- slit-like retraction
- retraction that is able to be easily everted.

Clinically abnormal or suspicious nipple changes include:

- colour change
- fixed whole nipple inversion
- ulceration and eczematous-like changes.

Nipple discharge

- Unilateral, spontaneous, bloody or serous discharge from a single duct raises the possibility of cancer.
- Malignant cells on cytology of discharge fluid are indicative of cancer (that is, are highly specific), but a negative discharge cytology result cannot be used to rule out cancer, due to low sensitivity.
- Imaging for nipple discharge should include mammography and ultrasound.

The triple test in practice

The triple test is the recommended approach to maximise diagnostic accuracy in the investigation of breast changes.

- Any abnormal result (indeterminate, suspicious or malignant) on **any** component of the triple test requires specialist referral and further investigation, with the likelihood of cancer increasing if more than one component is positive.
- For most women who have a negative result on all three components of the triple test, further investigation is not required. If symptoms persist or there are risk factors, such as strong family history or previous personal history of breast cancer, or the woman remains concerned, a specialist opinion may be warranted.

- The triple test is more accurate at detecting breast cancer than any of the individual components alone.
- When performed appropriately the triple test will detect over 99.6% of breast cancers.
- A triple test negative on all components provides good evidence that cancer is unlikely (less than 1%).

Guidance for referral

DIAGNOSTIC IMAGING

The sensitivity of mammography increases with increasing age. Sensitivity is improved with the addition of ultrasound at all ages, although the size of this benefit is greater in women under the age of 50 years.

Ultrasound is more sensitive than mammography in the detection of cancer in younger women.

Given the limitations of both mammography and ultrasound, they are often used in a complementary capacity to give information when evaluating breast abnormalities.

Magnetic resonance imaging (MRI) is not recommended in the routine investigation of a new breast or nipple symptom. However, there may be a place for MRI, for example when there is a discrepancy in findings across the triple test, in consultation with a specialist.

Referring doctors may consult with their radiologist or breast surgeon about the most appropriate test for individual cases.

Implications for practice

Providing a detailed history will assist the radiologist to perform appropriate targeted imaging.

Mammography should be performed in all age groups if the clinical or ultrasound findings are suspicious or malignant.

Under age 35

- Ultrasound is recommended as the first imaging modality.
- Mammography should be used in addition to ultrasound if:
  - the clinical findings are suspicious or malignant or
  - the ultrasound findings are indeterminate, suspicious or malignant or
  - the ultrasound findings are not consistent with clinical findings.

35 years and over

- Mammography and ultrasound should both be performed.

In pregnancy or lactation

- Ultrasound is the most useful modality.
- Mammography should be used if the clinical or ultrasound findings are indeterminate, suspicious or malignant or there is inconsistency between test results.

Imaging of the axilla

- If mammography or ultrasound findings are suspicious or malignant the ipsilateral axilla should also be imaged with ultrasound.

NON-EXCISIONAL IMAGE-GUIDED BIOPSY

Core biopsy and fine needle aspiration (FNA) cytology have been shown to have high specificity and sensitivity when used for palpable and impalpable lesions.

Implications for practice

- Core biopsy is preferable for the investigation of suspicious lesions or when additional information, such as tumour type, histological grade and receptor status of cancer is required. This information is particularly important for patients who may be considered for neoadjuvant chemotherapy.
- Core biopsy can differentiate between in situ and invasive cancer whereas FNA cytology cannot.
- FNA cytology may be used in centres with cytopathological expertise to confirm the diagnosis of certain benign lesions, including cystic lesions or fibroadenomas.
- Fluid aspirated from a cyst for diagnostic purposes should be sent for pathological examination.

SURGICAL REFERRAL

When surgical referral is recommended, this referral should be to a specialist breast surgeon or specialist multidisciplinary breast clinic service. To find a breast surgeon see ***www.breastsurganz.org/find-a-surgeon***. Public and private referral options should be discussed with the woman.

Implications for practice

Surgical referral is recommended in any of the following situations:

- any one component of the triple test is positive i.e:
  - clinical examination (suspicious or malignant)
  - imaging (indeterminate, suspicious or malignant)
  - core biopsy or FNA cytology (indeterminate, suspicious or malignant)
- a cyst aspiration is incomplete, results in bloody aspirate (not traumatic) or a lump remains post-aspiration
- spontaneous unilateral, bloody or serous discharge from a single duct especially in women 60 years and over
- eczematoid changes of the nipple-areolar skin which persist >1-2 weeks or do not respond to topical treatment
- inflammatory breast conditions that are not resolving after 2 weeks of antibiotic treatment
- if any test result is inconsistent with other results and requires additional investigation.

For further information

Visit **canceraustralia.gov.au** for relevant resources for the investigation of a new breast symptom

- Cancer Australia's *Breast Cancer Risk Factors* webpage
- *iPrevent* breast cancer risk assessment and risk management decision support tool
- *eviQ General practitioner referral guidelines for cancer genetics assessment*
- *eviQ Breast cancer – referring to genetics*