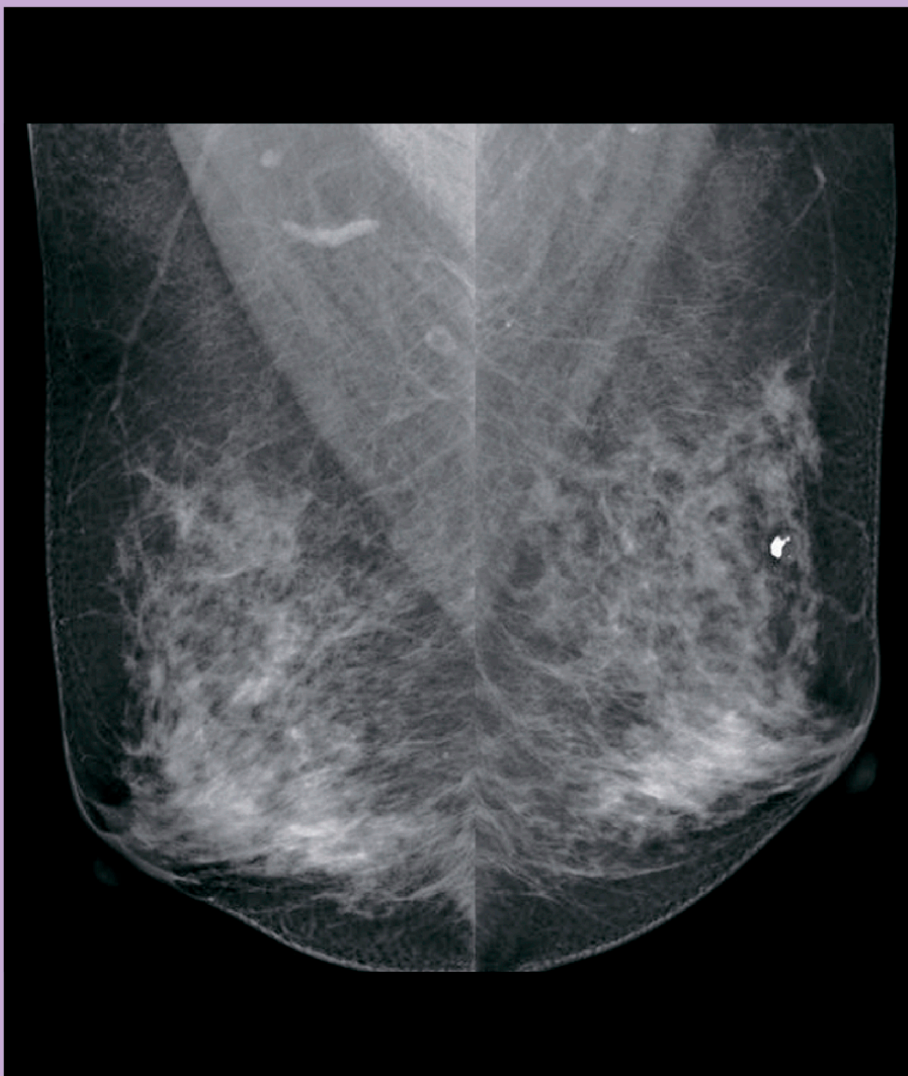
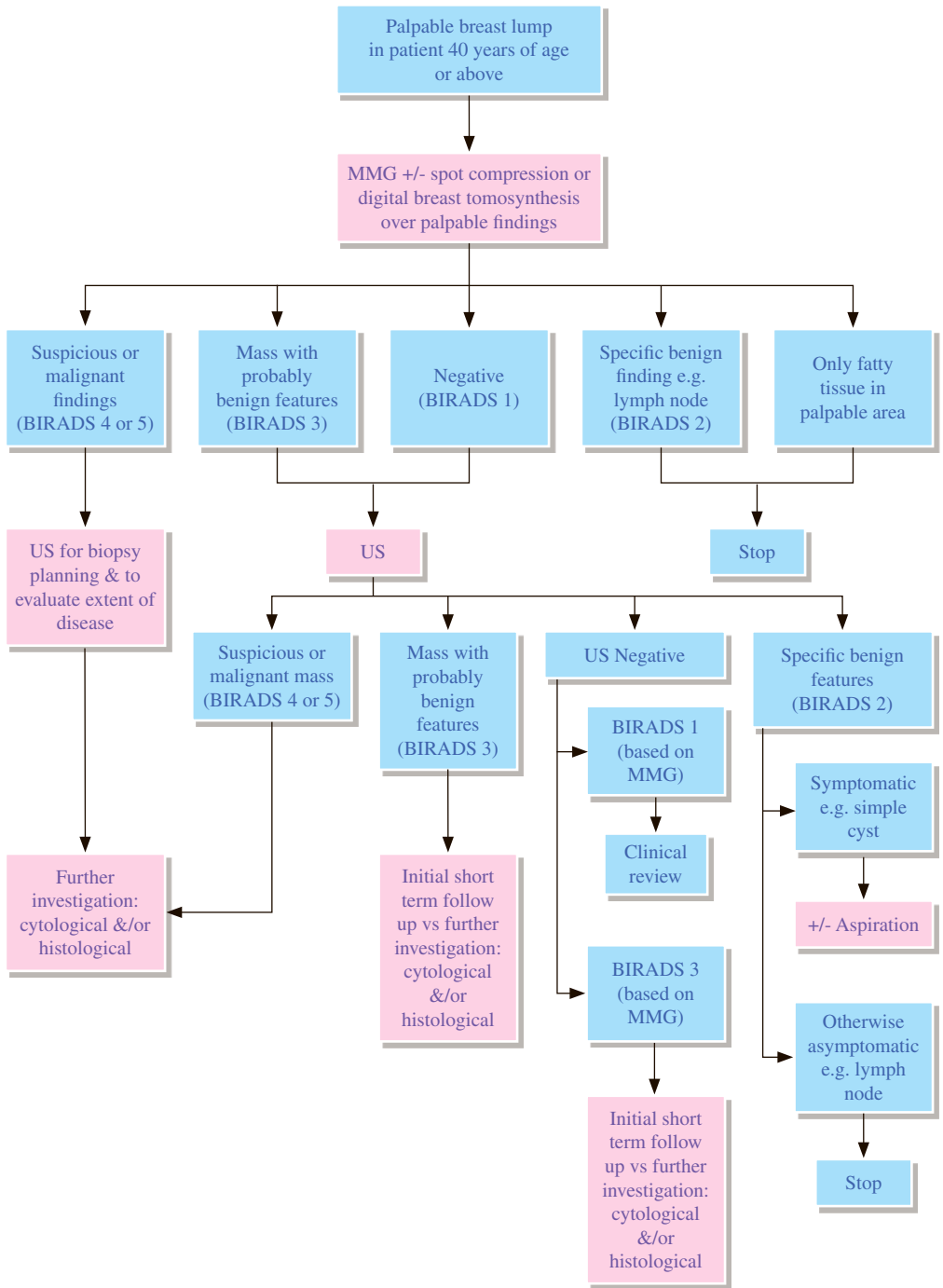


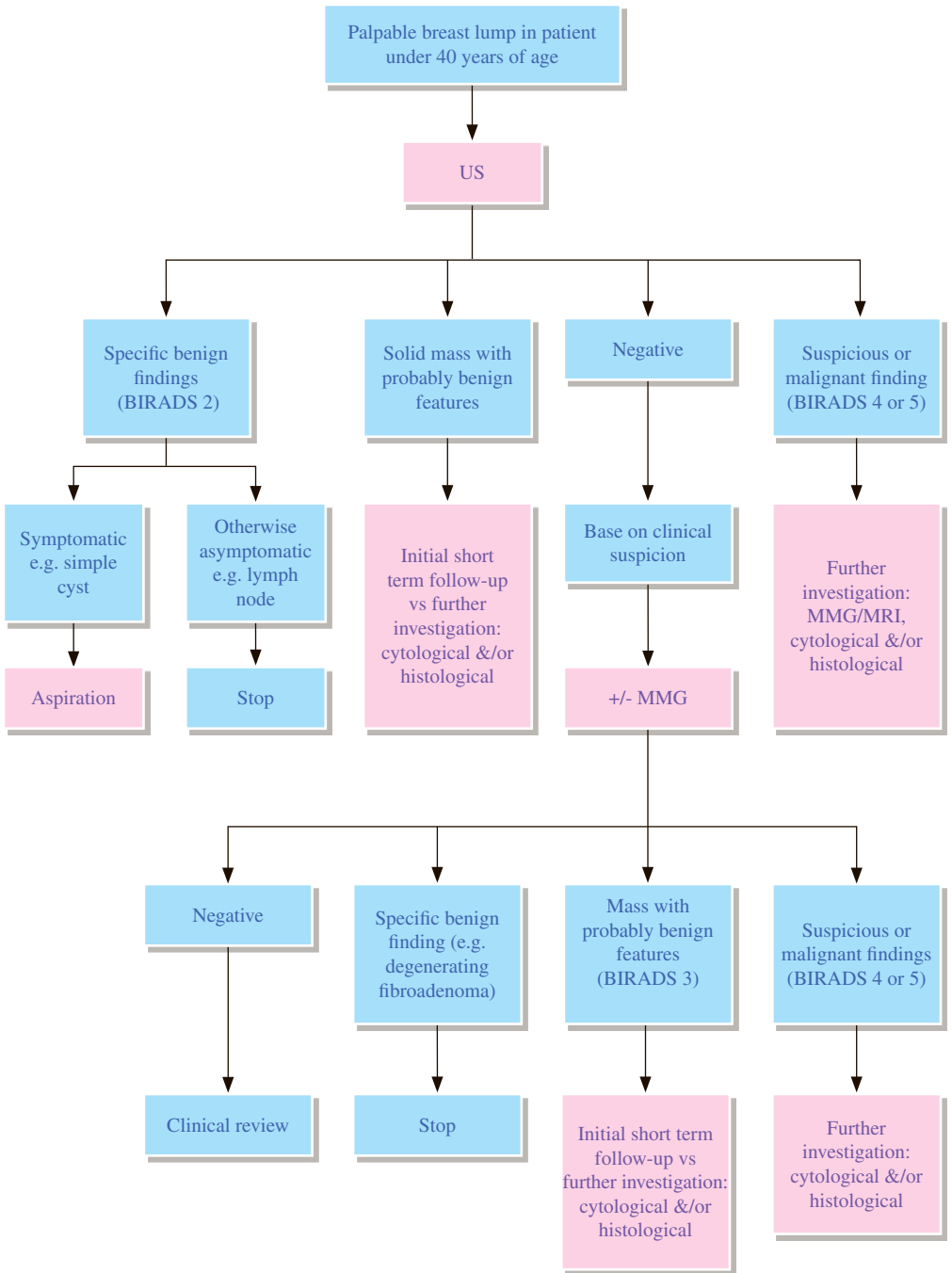
Breast Radiology



Hong Kong College of Radiologists

BR 1 Palpable breast lump





REMARKS

1. General

- 1.1 Less than 7% of breast cancers occur in women under 40 years of age.³
- 1.2 Risk factors for breast cancer are^{4,5,8}:
 - 1.2.1 Major risk factors : BRCA1 or BRCA2 mutation
first degree relative with a BRCA1 or BRCA2 mutation
history of radiation to the chest between the age of 10 and 30
certain clinical syndromes e.g. Li-Fraumeni syndrome
 - 1.2.2 Minor risk factors : history of lobular carcinoma in-situ or atypical lobular hyperplasia
history of atypical ductal hyperplasia
history of breast cancer including ductal carcinoma in-situ
very dense breasts
hormonal replacement therapy
more menstrual cycles
nulliparity or late age at first live birth
obesity
never breastfed
alcohol consumption

2. Mammography (MMG)

- 2.1 Diagnostic MMG is the initial exam for evaluating a palpable mass for women aged 40 or older. Because of increased radiation risk, lower sensitivity of MMG, and lower incidence of breast cancer in younger women, US is therefore the initial imaging modality in younger women.⁹
- 2.2 A negative MMG does not exclude breast cancer.⁶
- 2.3 Low-dose radiation increases breast cancer risk among high-risk women especially at a younger age.⁸
- 2.4 The risk of developing breast cancer from radiation exposure secondary to MMG in women under the age of 35 is estimated to be 7 excess cancers per million women per year per rad.⁷

3. US

- 3.1 US is useful in avoiding unnecessary biopsy of cysts.⁷
- 3.2 US is helpful in differentiating benign from malignant solid masses but tumours like medullary and colloid carcinoma may look benign sonographically.³
- 3.3 For evaluation of a palpable mass, US is the modality of choice for women under age of 30 and can also be used as the first line investigation for women aged 30 to 39 years.⁹

4. MRI

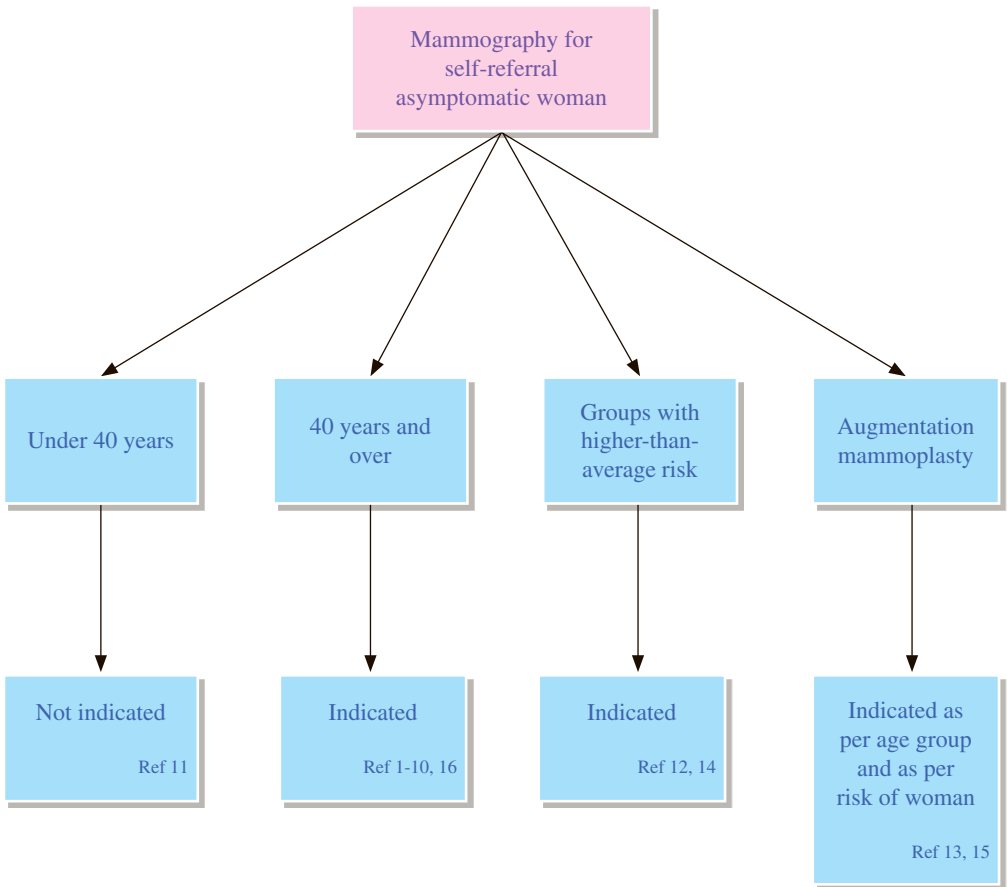
- 4.1 MRI may be useful for evaluating the extent of biopsy proven breast malignancy in glandular tissue. Otherwise it is less cost-effective than MMG and US as the initial imaging examinations for evaluating palpable mass.⁹

5. Pathological diagnosis

- 5.1 If a palpable mass is not visible by either MMG or US, the lesion should be assumed to be solid, and biopsy should be considered if the clinical findings are suspicious of malignancy.³

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REMARKS

Woman categories	Mammography	Comment
Aged 40 years and over	Indicated	<p>Randomized controlled trials, population studies and meta-analyses have shown that screening by mammography (MMG) can reduce mortality in breast cancer in women aged 40 years or above.¹⁻⁸ The American Cancer Society recommends starting annual MMG screening at the age of 40 and continuing it though the women are in good health.⁹ The American College of Radiology and the Society of Breast Imaging also recommend women with average risk for breast cancer to start annual screening from age 40.¹⁰ In Sweden, the breast cancer screening programme covers women between 40 and 74 years of age with MMG every two years.</p> <p>Whilst there is evidence of a mortality reduction from MMG screening in women between the ages of 40-50 years, it should be acknowledged that there is no good quality evidence of a mortality reduction from screening women over the age of 70 and the risk of over diagnosis is substantially greater.</p> <p>Advice from clinicians and shared decision making with the women are important. Benefits and risks of screening should be discussed between the women and the clinician. The decision whether “to screen or not” should be taken together according to the woman's values and the clinician’s advice, after the consideration of the presence or absence of known risk factors.¹⁶</p>
Aged under 40 years	Not indicated, except in groups with high-risk or intermediate-risk	<p>There is no evidence of a mortality benefit from MMG screening of women under the age of 35 years. There is also a greater risk of radiation-induced breast cancer from the use of diagnostic X-ray MMG in young women. For these reasons, routine screening of women in this age group in the absence of significant breast cancer risk factors is not recommended unless as part of a formal trial.¹¹</p>

<p>Groups with high-risk or intermediate-risk</p>	<p>Indicated</p>	<p>Women who are at higher-than-average risk of breast cancer should seek medical advice about whether they should receive screening, age to start and the frequency of screening because the risk of developing breast cancer may be sufficiently high to justify MMG screening.¹²</p> <p>Groups with high-risk or intermediate-risk include:</p> <ol style="list-style-type: none"> a. women with a BRCA gene mutation and their untested first- degree relatives¹⁴; b. women with a history of chest irradiation between the ages of 10-30¹⁴; c. women with personal history of breast cancer, lobular neoplasia, atypical ductal hyperplasia¹⁴; d. women with 15% or greater lifetime risk of breast cancer.¹⁴
<p>Augmentation mammoplasty</p>	<p>Indication as per age group and as per risk of woman.</p>	<p>There is no evidence that breast augmentation is associated with an increased incidence of carcinoma. The risk of prosthesis rupture as a result of compression during MMG is extremely small and in practical terms can be discounted.¹³</p> <p>However, sensitivity for cancer detection is lower than in the non-augmented breast. Digital MMG may help.¹⁵</p>

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