

## Practice 2 [1]

**Appropriate** to ensure optimal fixation of breast cancer specimens for accurate pathological examination and biomarker assessment.

### Context

Pathological assessment of a breast cancer surgical specimen is a critical step in the diagnosis and management of breast cancer. Pathological assessment provides information on the type of breast cancer and its biological features to guide the multidisciplinary team's consideration of appropriate treatment for the individual patient.

The Royal College of Pathologists of Australasia has produced detailed guidelines on optimal procedures for tissue fixation. Several studies have shown that suboptimal fixation of breast cancer specimens can result in inaccurate and inconsistent assessment of diagnostic biomarkers such as receptors for oestrogen, progesterone and human epidermal growth factor 2 (HER2), increasing the risks of misdiagnosis.

### Value to patients

Appropriate handling and preparation of a breast cancer specimen for pathology assessment will help to ensure that patients receive an accurate diagnosis of breast cancer, including the cancer sub-type which is essential to informing appropriate treatment options.

### Supporting evidence

Francis GD, Dimech M, Giles L, et al. *Frequency and reliability of oestrogen receptor, progesterone receptor and HER2 in breast carcinoma determined by immunohistochemistry in Australasia: results of the RCPA Quality Assurance Program*. *Journal of Clinical Pathology*. 2007;60(11):1277-83.

Mann GB, Fahey VD, Feleppa F, Buchanan MR. *Reliance on hormone receptor assays of surgical specimens may compromise outcome in patients with breast cancer*. *Journal of Clinical Oncology*. 2005 Aug 1;23(22):5148-54.

Nkoy FL, Hammond ME, Rees W, et al. *Variable specimen handling affects hormone receptor test results in women with breast cancer: a large multihospital retrospective study*. *Archives of Pathology and Laboratory Medicine*. 2010;134(4):606-12.

Royal College of Pathologists of Australasia. <http://www.rcpa.edu.au/Library/Practising-Pathology/Macroscopic-Cut-Up/general-information/fixation> [2]. Viewed 22 February, 2016.

Wolff AC, Hammond ME, Hicks DG, et al. *Recommendations for human epidermal growth factor receptor 2 testing in breast cancer: American Society of Clinical Oncology/College of American Pathologists clinical practice guideline update*. *Archives of Pathology and Laboratory Medicine*. 2014;138(2):241-56.

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### Links

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