Save the breast!

By **Mr Ran Li**, Oncoplastic Breast Surgeon, Nedlands

Breast cancer is the most common cancer in Australian women and its incidence continues to increase. Fortunately, the majority are diagnosed at an early stage and surgery remains the mainstay of treatment – usually with curative intent. An important discussion for the patient and surgeon is whether to undertake breast conservation surgery or mastectomy, with or without reconstruction.

Traditionally, breast surgeons have counselled patients that breast conservation surgery (with radiotherapy) is non-inferior to mastectomy in terms of overall survival, backed by large studies with long-term outcomes. However, recent evidence from several meta-analyses have shown that breast conservation surgery and radiotherapy may in fact be superior to mastectomy for both overall survival and cancer specific survival.

The reason why this is the case remains unclear. Theories include the possible abscopal effect of radiotherapy, or perhaps that after mastectomy, patients no longer have routine surveillance mammograms.

In addition, research looking at quality of life has repeatedly shown that patient satisfaction in terms of cosmesis, psychosocial and sexual wellbeing are better after breast conservation surgery compared to mastectomy, even with reconstruction.

Studies have also shown that oncoplastic surgeries are safe and do not compromise long oncological outcomes compared to traditional breast conservation surgery. Mastectomy and breast conservation surgery can no longer be considered equivalent for long-term quality of life or oncological outcomes and patients should be informed of this as a part of the initial surgical discussion.

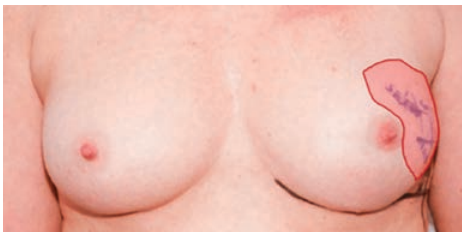
Modern oncoplastic surgical techniques allows for breast conservation surgery to be performed, with excellent cosmetic outcomes, for tumours that traditionally would have required a mastectomy. Breast surgery has come a long way since the days of the Halsted mastectomy – a procedure removing the whole breast, pectoralis muscle and lymph nodes, resulting in devastating morbidity.

In the 1980s, breast conservation surgery was widely adopted for cancers with a favourable tumour to breast volume ratio. Since the early 2000s, oncoplastic techniques have been adopted by many breast surgeons worldwide, resulting in better long-term cosmesis and cancer outcomes for patients.

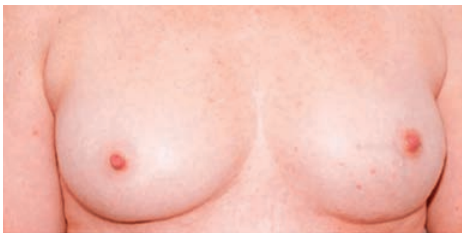
In order the achieve a good cosmetic outcome for larger breast cancers, modern oncoplastic techniques need to be utilised. Many oncoplastic-trained breast surgeons now offer Level II oncoplastic breast conservation procedures, meaning removal of more than 20% of the breast volume, for tumours that otherwise would require mastectomy.

Level II oncoplastic surgeries are categorised into two main types – volume replacement or volume displacement procedures.

In volume replacement surgery, the defect left after removing the cancer with an adequate margin needs to either be filled with a flap of non-breast fatty tissue to avoid asymmetry (Fig 1). These volume

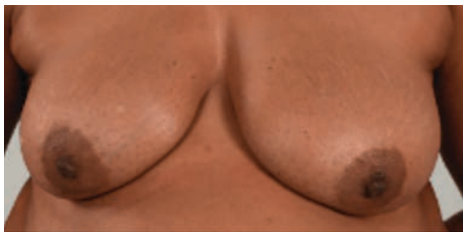


Pre op



Post op

Figure 1. Volume replacement breast conservation surgery utilising a perforator flap. The red shaded area represents the volume of tissue needed to be excised to remove the multifocal cancers for this patient. The post op photo is six months after her initial surgery.



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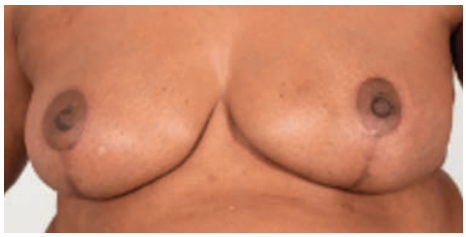

Post op

Figure 2. Left therapeutic mammoplasty (and axillary clearance) with right symmetrising reduction mammoplasty to remove a 4 cm left sided invasive ductal carcinoma.

replacement procedures are usually in the form of a perforator flap partial breast reconstruction, where a wedge of fatty tissue from the lateral chest wall or tissue under the breast is mobilised, kept on its blood supply and rotated to fill in the tumour cavity.

For volume displacement surgery, the entire breast needs to be remodelled and reduced in size to achieve a smaller breast size but with a cosmetically pleasing shape and contour, which is essentially a breast reduction type procedure (Fig 2); usually the contralateral side can be reduced to match the cancer side at the same time. These volume displacement procedures are called therapeutic mammoplasties.

Oncoplastic breast surgery is pushing the possibilities of breast conservation surgery to allow many more patients to avoid mastectomy and still have acceptable cosmesis. Given the emerging evidence that breast conservation surgery is likely superior to mastectomy for long-term cancer survival, not to mention quality of life, it is crucial that surgeons are counselling patients with breast cancer appropriately.

It is also important that patients have access to oncoplastic surgeons with the appropriate subspecialty training, so that they are aware of their full range of surgical options. MF

Author competing interests – nil