

# Oncoplastic breast surgery in Australia and New Zealand—2014 and beyond

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**Abstract:** Oncoplastic breast surgery (OBS) is an established field of surgery bringing together oncological and reconstructive principles to the surgical management of breast disease, which is yet to make inroads into some areas of Australia and New Zealand (A&NZ). Both patients and medical fraternity are supportive of these approaches and improved quality of life and aesthetic outcomes resulting from their application. Oncological outcomes have been shown to be no different when these oncoplastic approaches are utilised. There is a broad interest amongst breast surgeons regarding OBS and development of their own skills. However a new and improved method of training the current and the next generation of breast surgeons is required. This has already begun in some countries such as the UK, but is slower in A&NZ region. Some of the obstacles in training of OBS to the next generation of surgeons are discussed and highlighted. This year first steps in formalised training approaches are being made. The future of breast surgery is likely to involve OBS as part of mainstream surgical management of breast disease.

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Oncoplastic breast surgery (OBS) is an amalgamation of extirpative oncological surgical techniques and plastic/cosmetic reconstructive techniques to produce a significantly improved aesthetic outcome for the breast cancer patient, whilst not compromising oncological treatment. It includes breast reshaping/remodelling and implant/autologous reconstructive techniques.

In this article we aim to identify the key features that led to the development of OBS and to focus on the current training in this discipline, highlighting the current problems facing surgeons wishing to gain qualification in OBS.

## History

This branch of surgery has come about from the multiple preceding improvements in breast surgery, particularly the development of breast conservation therapy (BCS), but also from improved breast cancer screening/diagnosis and adjuvant therapy.

Consumer advocacy has also aided the promotion of

OBS. With significant numbers of women missing out on reconstruction opportunities or alternatively acknowledging their dissatisfaction with more traditional surgical treatment outcomes, the OBS approach has been developed.

There are many studies examining the psychological benefit of breast conservation surgery and breast reconstruction in breast cancer patients, with evidence of significant positive impact in the lives of these women (1). Expectantly, women undergoing breast conservation surgery and breast reconstruction procedures post mastectomy as a group, have higher satisfaction rates post surgery with respect to their body image, self-esteem and sexuality, compared with those undergoing mastectomy alone (1). However, breast conservation surgery can create significant breast asymmetry or disfigurement at times [particularly with the addition of radiotherapy (RXT)]. This is where OBS and reconstructive techniques can be superior to standard BCS approaches.

OBS in Australia and New Zealand (A&NZ) has had a presence for almost 30 years, being introduced and pioneered in The Royal Adelaide Breast Unit. It has become

widespread across the world in the last 15 years, becoming mainstream in some units. However, despite its pioneering days in A&NZ, it has yet to become the standard of care across our region.

Since the early days, OBS has been shown to be a safe and oncologically sound approach to the treatment of breast cancer. Fitoussi *et al.* (2) showed no difference in local recurrence or survival between BCS patients and OBS patients for tumours both high in volume and difficult in position.

Follow up for breast cancer local recurrence after OBS has also been shown to be unaffected by mammoplasty procedures, with similar mammographic findings noted in both BCS and OBS patients in a study by Losken *et al.* (3).

Importantly, OBS offers a way of achieving clear margins whilst providing an acceptable cosmetic outcome by trying to achieve the most natural breast shape and appearance. However, surgical competence and proficiency are important in achieving these outcomes.

### Who should be performing OBS?

In A&NZ, public reconstructive waiting lists for plastic surgeons tend to be lengthy (particularly in the delayed setting) and Health Insurance cover or Medicare rebates are low (or absent if these are considered to be cosmetic procedures), leaving most patients significantly out of pocket (4). This can act as a deterrent to at least some of the women who may benefit from OBS and reconstruction. The system has worked better in the immediate breast reconstruction setting in some tertiary hospitals, however even here issues of coordinating multiple teams and provision of adequate theatre time tend to hinder the process (4).

Therefore an opportunity to expand the scope of practice of a breast surgeon to include OBS and breast reconstruction would benefit these patients in need of these procedures. A lot of OBS techniques are simple and easy to learn, whilst others are complex and require extended mentoring. Acquiring the necessary armamentarium, however, is not straightforward. Most of the breast surgeons performing these procedures have developed their skills by working with an experienced plastic surgeon, or alternatively in a few breast units where OBS procedures are performed. Other breast surgeons have also attended various courses or visited overseas units who perform these OBS techniques.

Are the aesthetic results as good as those achieved by plastic surgeons? This has been shown to be comparable

for some of the oncoplastic procedures such as breast reductions, but little studies have been performed on more complex procedures. For instance, Krysander *et al.* (5) examined outcomes in reduction mammoplasties between breast and plastic surgeons. They found no difference in outcomes examined in the two groups. This indicates that breast surgeons can have similar results to plastic surgeons, at least with respect to some procedures after adequate training and mentoring and therefore once competent should be encouraged to expand their practice.

It should also be noted that there are units across A&NZ, where a two-team approach has been established, refined and works very well and their importance in provision of service to the public should not be underestimated. The need for an oncoplastic breast surgeon may be less apparent in these settings. Regardless of the setting, more complex reconstructive procedures should always have the benefit of input, guidance and mentoring from a more experienced colleague be they oncoplastic breast surgeons or plastic surgeons if available.

### Worldwide interest in OBS

The interest in OBS continues to grow worldwide. This has been shown by a simple analysis of the number of publications over the last ten years, which has grown six times over the preceding 20 years. This has come from more diverse regions of the world, indicating its increased popularity and momentum (6). In 2008 Kollias *et al.* (7) examined their breast surgical oncology practice and found that 28% of all cancer related procedures between 2001 and 2005 in public and private setting were related to OBS procedures, thus indicating that the proportion of reconstructive and oncoplastic techniques being used were quite significant for that established unit.

The initial expansion of breast surgeons into the field of OBS has been met with variable support. Malycha and Gough (8) noted that there were around 1,200 general surgeons in Australia in 2007, most of whom offered some form of breast surgical service, with those exclusively practicing breast surgery numbering around 20, 10 of which offered OBS. Since then these numbers have increased but not as dramatically as one might have hoped.

### OBS training

Currently appropriate training is a rate-limiting factor in A&NZ for dissemination of OBS. How has the rest of the

world dealt with this same issue?

The 7th Portuguese Senology congress in 2009 (9) looked at OBS services and training in several countries. Portugal, Spain, Brazil and the UK all presented findings of significant interest in oncoplastic surgery in their countries and in accelerated development in the last ten years. However, only the UK has formalised training in OBS since 2002, with the establishment of nine oncoplastic breast surgical fellowships. These are open to surgeons trained in either general or plastic surgery. These training fellowships were set up within the context of large tertiary units with multidisciplinary inputs to management of breast cancer.

More recently, Brazilians have also established a formalised post-fellowship 2-year oncoplastic training program and have recently published excellent results in the development of skills in this cohort (10).

Furthermore, in 2007, the British Association of Surgical Oncology (BASO) and the British Association of Plastic Surgeons (BAPS) via the Training Interface Group of Surgery put together the 'Guide to Good Practice' for OBS (11). This document stresses many aspects, but the training and experience of the oncoplastic surgeon both in the setting up and delivery of an oncoplastic breast service is emphasised. The European society of breast cancer specialists (EUSOMA) also published independent training guidelines, which again emphasized experience in OBS and reconstructive techniques (12).

The above guidelines stress experience of the trainee/fellow in a number of different settings, with exposure to broad range of oncoplastic and reconstructive techniques with adequate opportunity for training in complex techniques and tissue handling, under supervision of experienced breast and plastic surgeons.

To address this issue in A&NZ, the recently established BreastSurgANZ society has embarked on a process of formalising post fellowship training in breast surgery. It has set up an Oncoplastic Subcommittee to monitor post fellowship training in OBS by accrediting appropriate units and is currently setting up a centralised application process for the A&NZ region. This has come about from experience gathered from the early cohort of fellows reporting on their fellowship posts and the experience gathered. In the future, this information will likely guide the fellowship placement process by matching the fellow's interests to the experience provided by the unit.

Importantly, there is no reason that most of the OBS (perhaps short of free flap reconstructive techniques) can't be performed in regional/rural and metropolitan units,

assuming that the oncoplastic surgeons and their supporting teams are adequately trained and there is a multidisciplinary input to surgical management as well as adjuvant treatment. This is key to the provision of adequate services across a geographically vast and diverse region.

Finally, it is essential for the plastic surgeon to remain an important part of the team. The work of an oncoplastic surgeon is not designed to diminish the role of the plastic surgeon, but rather to supplement and focus it. A breast unit utilising both an oncoplastic breast surgeon and a plastic surgeon is one that can offer all of the options to the patient and to deal with most potential complications that may arise, as supported and promoted by the BASO guidelines (11).

## Conclusions

It is clear that OBS and the improvements that will flow on from its utilization are the next step forward in surgically managing breast disease. There is widespread acceptance of its principles and benefits. The next challenge is contained in dissemination of the necessary skills and refashioning the way surgeons approach the breast. This is the task for overseeing training committees, promoting the development of this subspecialty as well as its uptake within the surgical community.

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