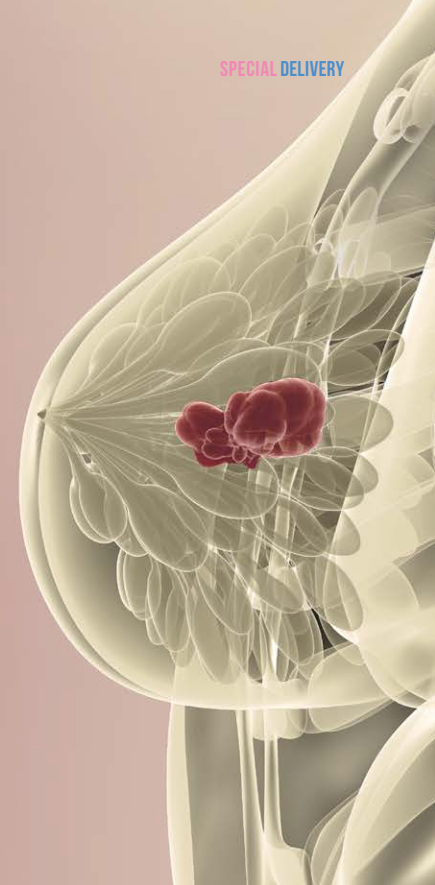


Minimal Scar Mastectomy

– A Novel Mastectomy Technique

Minimal scar mastectomy, a novel technique of nipple-sparing mastectomy without reconstruction, is enabling patients with breast cancer to conserve their nipple-areolar complex with minimal post-surgical scarring.

By Dr Lim Geok Hoon



Breast cancer is the top cancer affecting women worldwide, and develops when cells in the breast begin to grow out of control.

In Singapore, it is estimated that one in 14 women develop breast cancer before the age of 75¹.

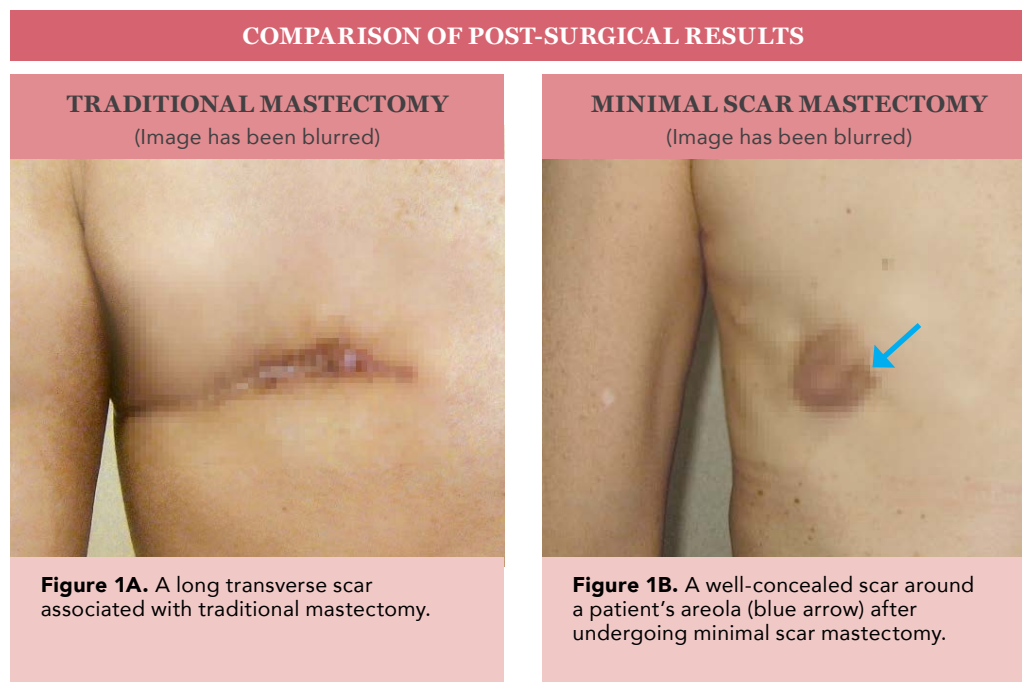
Since March 2017, minimal scar mastectomy (MSM), a novel technique of nipple-sparing mastectomy without reconstruction, has been introduced at KK Women's and Children's Hospital (KKH) for select patients with breast cancer.

Arising from a combination of nipple-sparing mastectomy and the round block technique (an oncoplastic technique), MSM provides patients an alternative to the long transverse chest scar associated with traditional mastectomy (Figure 1A), with a more cosmetically pleasant concealed scar (Figure 1B).

MSM also enables the preservation of the nipple-areolar complex (Figure 1B) which has been shown to improve the psychological well-being of patients².

NIPPLE PRESERVATION MASTECTOMY WITHOUT RECONSTRUCTION

Every year, the KK Breast Department manages 300 to 400 women newly diagnosed with breast cancer. Treatment usually takes on a multidisciplinary approach, and can



comprise any combination of surgery, chemotherapy, radiotherapy, hormonal therapy and immunotherapy, depending on the extent and characteristics of the cancer. In most cases of treatable breast cancer, surgery of the breast is usually required, and would involve either breast conservation combined with radiotherapy, or a mastectomy with or without reconstruction. Axillary lymph node surgery may also be needed.

Traditionally, to spare the nipple during mastectomy, reconstruction would be mandatory to support the overlying breast skin envelope after the mastectomy was performed. This would involve the use of implants or the patient's own tissue, usually from the back or abdomen, which can increase the duration and costs associated with the surgery.

During MSM, the skin around the areola is pre-operatively outlined to estimate the amount of breast skin to be removed. Thereafter, this excess breast skin is removed and mastectomy is performed using an incision around the areola, while preserving the nipple-areolar complex. The areolar wound is then closed in the same fashion as the round block technique.

This is possibly the first described surgical technique that is able to preserve the nipple-areolar complex in a mastectomy without the need for reconstruction.

Should the patient choose to go for reconstruction in future, the cosmetic outcome will also be better compared to those who had undergone a traditional mastectomy, since the transverse scar associated with the latter was avoided.

To date, MSM has been performed in four patients since its implementation at KKH, and the results have been encouraging. No complications have been reported post-operatively, and patients have been satisfied with the outcome of the surgery. It was also found that the length of hospitalisation following the surgery and the cost of MSM are comparable to that of a traditional mastectomy without reconstruction.

A PROMISING TREATMENT OPTION FOR ASIAN WOMEN

The eligibility criteria for MSM includes small breasts, with no evidence of cancer involving the nipple-areolar complex or

a large area of breast skin. They would also need to have opted for mastectomy without reconstruction, and have the desire to conserve their nipple-areolar complex.

Patients who smoke, or have droopy breasts, breast cancer involving or in close proximity to the nipple or skin, connective tissue disease and/or diabetes, are advised against undergoing MSM, as these conditions may compromise the blood supply of the nipple, which may lead to complications following the surgery.

Potential complications associated with MSM include widening of the areola and necrosis (death) of the nipple-areolar complex. These are expected to be minimal and uncommon, and may occur in less than five per cent of patients who undergo MSM.

As MSM is highly similar to nipple-sparing mastectomy, with the only difference being the lack of reconstruction in MSM, the recurrence rate of breast cancer in patients who opt for MSM is similarly expected to be comparable to traditional mastectomy.

A PERSONAL CHOICE

Although mastectomy with reconstruction will inevitably result in a better cosmesis compared to without reconstruction, the decision to embark on reconstruction remains a very intimate one.

In Singapore, the majority of patients with breast cancer choose to undergo mastectomy without reconstruction.

Up to 74 per cent of patients with breast cancer undergo a mastectomy^{3,4}, of which about 75 to 88 per cent of these patients will not opt for a breast reconstruction^{4,5}.

Between 2005 and 2017, the mastectomy rate among patients with breast cancer seen and managed by KKH was about 65 per cent, of which more than 70 per cent of these patients did not opt for reconstruction.

Given the high mastectomy rate without reconstruction, as well as a higher prevalence of women with smaller breasts in the Asian population⁶, MSM can certainly add to the surgical armamentarium for this group of breast cancer patients, allowing suitable patients to conserve their nipple-areolar complex with less scarring.

REFER A PATIENT

Patients diagnosed with breast cancer who are considering to undergo a minimal scar mastectomy can contact KKH at **+65 6294 4050** for a consultation at the KK Breast Centre.



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Dr Lim Geok Hoon believes that a good cosmetic breast result is as paramount as a safe oncological outcome. As a result, Dr Lim pursued a year-long fellowship in the United Kingdom to train in breast cancer genetics and oncoplastic surgery. An adjunct assistant professor with the Duke-NUS Medical School, Dr Lim has published in several publications, which mainly focus on surgical oncoplastic techniques that are most applicable to Asian women. In 2015, Dr Lim also founded the Singapore Breast Oncoplastic Surgery Symposium (SBOSS) to increase regional awareness of oncoplastic breast surgery.