

Mastectomy and the BRCA Gene

Angeline Jolie has removed her breasts and her ovaries as a measure to reduce her risk of getting breast cancer and ovarian cancer.



1. Mastectomy: What it actually means

Angelina Jolie underwent pre-emptive removal of both breasts to reduce the likelihood of developing breast cancer as she has inherited the BRCA gene from her mother. This surgery is usually in the form of a skin-sparing mastectomy, ie the breast tissue is removed while the overlying skin is preserved to allow plastic reconstruction of the breasts to be performed.

The nipples may be spared but no milk production is possible as all the milk producing gland and the ducts carrying milk to the nipple are removed during surgery.

Breast reconstruction with an implant is frequently done and does not post a significant health problem.

2. Complications of Mastectomy

The surgery requires general anesthesia and this has associated risks. However, this surgery typically takes place in fairly young women below the age of 50. This group of patients is generally of good health and the surgical complication rate should be low. However, removal of the breasts does potentially carry a psychological impact and patients often feel a sense of loss.

3. Candidates for Mastectomy

I would generally only recommend this surgery to women who are tested positive for the BRCA gene. A woman with a strong family history of breast cancer should consider testing for this gene before considering the surgery.

4. BRCA 1 and BRCA 2 Gene

The BRCA 1/2 gene is thankfully rather uncommon and affects about 1 in 200 women in the general population. A female carrier of this gene has a markedly elevated lifetime risk of developing breast cancer (60-80%) as well as cancer of the ovary or fallopian tubes (40-60%). Male carriers have an elevated risk of developing male breast cancer and prostate cancer. Each child of a carrier has 50% probability of inheriting the gene.

5. Childbirth and the Risk of Breast Cancer

Childbirth reduces the lifetime risk of developing breast cancer but has to take place before age 35 to have any significant effect. However, there is a transient increase in risk of breast cancer during pregnancy due to the surge in female hormones in the body.

6. Contributing Factors and Symptoms to Risk of Breast Cancer

Hormonal factors such as early menarche and late menopause increase the risk. Nulliparity or late childbirth after the age of 35 is associated with a higher risk compared with women who gave birth to the first child before the age of 35. Other factors that increase breast cancer risk includes obesity, high red meat consumption and alcohol consumption. Working night shifts is also recognized by WHO as a probable carcinogen in breast cancer.

New occurrence of lumps in the breast or discharge from the nipple (especially if blood-stained) are suspicious symptoms.

7. Advice on Mastectomy

Angelina Jolie is facing an unusual situation of having inherited a fairly uncommon cancer-causing gene. The surgeries to remove the breasts and subsequently the ovaries and fallopian tubes are justified in her case. Women should not consider such radical treatment for cancer prevention if they do not carry the BRCA gene. Even for women diagnosed with breast cancer, if they do not carry the BRCA gene, breast conserving surgery rather than mastectomy should be considered wherever possible.



This article is written by Dr Wong Seng Weng. Dr Wong is currently the Medical Director and Consultant Medical Oncologist of The Cancer Centre (Singapore Medical Group) at the Paragon and Mount Elizabeth Novena Specialists' Centres.

Dr Wong obtained his basic medical degree from the National University of Singapore (NUS) under the Lim Boon Keng and Tan Siak Kew Scholarships and graduated on the Dean's List for outstanding academic achievement. He completed his post-graduate training in Internal Medicine and obtained his Membership of the Royal College of Physicians of the United Kingdom (MRCP UK). Thereafter, he achieved Specialist Accreditation with the Ministry of Health Singapore and was admitted as Fellow of the Academy of Medicine of Singapore (FAMS) and College of Physicians of Singapore. Dr Wong continued his practice in the National University Hospital and was appointed clinical tutor of the clinical faculty of the National University of Singapore. Apart from pursuing his clinical practice, Dr Wong was keenly involved as an investigator in over twenty clinical trials exploring novel methods of cancer treatment. He previously held the posts of Consultant Medical Oncologist and Senior Partner of the Raffles Cancer Centre in charge of all oncology services at the Raffles Hospital. He was also appointed as Chairman of the Singapore Medical Group Medical Board.

Apart from his practice at The Cancer Centre, Dr Wong is currently also a visiting consultant of the National University Hospital where he is a tutor

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Dr Wong is an active member of the American Society of Clinical Oncology (ASCO) as well as the European Society for Medical Oncology (ESMO) and Singapore Society of Oncology. He lectured widely at international cancer conferences in Vietnam, China, India, Bangladesh, Malaysia and Indonesia.

Dr Wong specializes in the diagnosis and treatment of adult cancers with special interest in breast cancers, lung cancers and gastrointestinal cancers.

