

## Breast Cancer Diagnosis

Breast cancer is the most common cancer afflicting women in Hong Kong. One in twenty two women will develop this disease in their lifetime. The key to successful treatment of this cancer is to find it early, preferably before it causes symptoms.

To make a diagnosis, a doctor goes through a diagnostic process known as 'triple-assessment'. This comprises clinical breast examination, radiological examination and biopsy (sampling of the tumour). Many women now practice breast self-examination at home. Although this is most encouraging, regular examination by an experienced doctor is extremely important. A systematic, diligent palpation covering the whole breast area and axilla (armpit region containing lymph drainage from the breast) and examination of the nipple for discharge, is carried out. It sometimes surprises a woman that an obvious lump in her breast goes unnoticed by her until it is pointed out by her doctor.

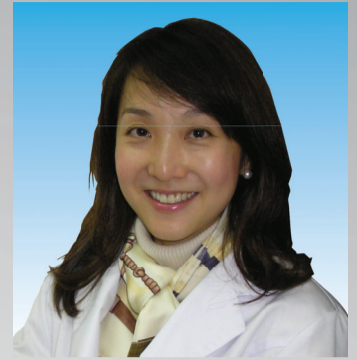
Radiological examination helps define the appearance of any abnormalities found on clinical examination of the breasts. It is especially helpful in detecting a breast cancer before it can be felt as a lump, or before it causes abnormal nipple discharge. Usually, both a mammogram and ultrasound will be performed.

Mammogram is a special X-ray specifically designed to take images of the breasts. The dedicated machine requires the woman to position her breasts, one at a time, on a special film cassette. The breast will be gently compressed by a paddle, so that as much of the breast as possible will be included in the field. Each breast is compressed in two different planes to minimize any blind spots. Mammogram is very good at detecting micro-calcifications (tiny deposits of calcium) which are often the first signs of breast cancer. Additional views or magnified films may be taken to provide more detailed study of any lesions of concern. Many women decline mammogram examination for fear of the radiation they receive. Modern digital mammography involves low dose X-ray, and the amount of radiation is no more than what one gets from a few months of background radiation. Other women shy away from mammography as they find the process a little uncomfortable while their breasts are being compressed. However, mammography is the single most important tool in diagnosing breast cancer; 85-90% of breast cancers can be detected by mammography in women aged 50 or over, and it can detect a lesion up to two years before it can be felt. When ordered by a doctor, the benefits of undergoing mammogram far outweigh the consequences of late detection, or the minimal discomfort involved with the examination.

Ultrasound of the breasts is another valuable imaging tool which helps the doctor evaluate abnormalities found on clinical breast examination, or on mammography. It is particularly useful in discriminating between cystic and solid lesions. Most cystic lesions are benign, but any solid lesion requires biopsy to rule out the presence of cancer. Ultrasound is a simple examination which does not emit any harmful radiation, or cause physical discomfort. It is however, not particularly accurate in detecting micro-calcifications, so it is more a supplementary test, and does not replace mammogram.

When there is a palpable solid lump or when a suspicious lesion is detected on mammogram or ultrasound, the doctor will arrange a biopsy. This is the definitive test to determine if cancer is present. Sometimes a fine needle aspiration will be performed, when a small amount of tissue fluid is sucked out, and the cells that are within the fluid are examined under the microscope for evidence of malignancy. This is a relatively simple and quick procedure, and usually does not require an anaesthetic. Diagnostic accuracy is greater than 90%. On occasions, a core needle biopsy may be deemed more appropriate. The needle for this procedure is slightly thicker, so a local anaesthetic will be used. The needle cuts out small strips of tissue from the lesion for histological examination. The risks of both procedures are minimal, and will not cause adverse changes in the tumour or promote its spread.

Properly executed triple assessment should lead to an almost 100% accurate diagnosis. Appropriate treatment can then be planned. Breast cancer can be very effectively treated if found early, so visit your doctor regularly for a breast assessment, especially as you enter your late thirties.



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