

## Cancer in Women

The most common cancer among women is breast cancer, followed by cervical cancer, endometrial cancer and ovarian cancer.

### BREAST CANCER

1 in 8 women (a *significant* risk for ALL women) will develop breast cancer in their lifetime. As one gets older, the risk increases.

The cause of breast cancer is multi-factorial. However there is one identifiable cause that is often seen in *hereditary* breast cancer - a rare genetic mutation known as **BRCA1** and **BRCA2**. Women who carry BRCA1 or BRCA2 has 60% chance of developing breast cancer in her lifetime. In addition, there is an additional 40% risk of ovarian cancer. If you have a family history of breast cancer, you may request this test at the clinic.

Oestrogen intake (combined oral contraceptive pill and oestrogen replacement therapy) is said to increase the risk of breast cancer.

Screening for breast cancer is by means of regular self examination, breast examination by the doctor and mammography.

### CERVICAL CANCER

Cervical cancer is commonly seen among younger women who are in the reproductive age group. It is now known that human papilloma virus (HPV) is the cause of cervical cancer and that the virus is transmitted via physical contact, most often sexual intercourse.

Women who contracted HPV should maintain a healthy lifestyle (e.g. stop smoking) so as to rid the virus by means of improving the immune system. There is currently no known drug treatment for HPV. Because the change from normal tissue to cancer occurs over many years, women with HPV are advised to have regular (preferably annually) cervical cancer screening tests. With this approach cervical cancer can be *prevented* through early detection.

Cervical cancer screening tests detect *precancerous* changes known as cervical intraepithelial neoplasia (CIN). With timely intervention (usually by removing the abnormal tissue) the progression to cancer is halted. Screening for cervical cancer is commonly done by cervical cytology, best known as Pap smear. New technology to improve the sensitivity and accuracy to pick up abnormal cells has been developed and is called liquid-based cytology (LBC). The clinic offers LBC cytology by means of **ThinPrep** technology. To ensure accurate interpretation, the samples are sent to Singapore.

HPV infection is also examined by **detecting HPV DNA** in cervical secretion. A new test- **CareCervix**, looks at the *integration* of HPV DNA into the human genome. This gives a more useful information as a positive result indicates increased likelihood of malignant change.

Another screening tool for cervical cancer is **colposcopy**. It uses a microscope to look at the cervix in details for evidence of CIN. Sometimes a biopsy, under colposcopy, is needed to confirm a suspicious area. Colposcopy is an office procedure that does not require general anaesthesia.

Prevention is better than cure. **Vaccine against HPV is available in the clinic**; and it is advisable that women who are not infected but are at risk of acquiring it, are vaccinated. Do note that the vaccine available in Indonesia (at the time of writing) is only against HPV type 16 and type 18. The “new” vaccine (Gardasil 9) is still not available at the time of writing.

### CANCER OF THE WOMB

There is no screening test available for uterine cancer (like Pap smear for cervical cancer). It is usually diagnosed when the cancer has already occurred. It is suspected when the cancer presents as abnormal vaginal bleeding, usually heavy periods or bleeding outside a period. The diagnosis is made by endometrial biopsy.

**Endometrial biopsy** can be done in the clinic as an outpatient procedure (that is to say general anaesthesia is *not* needed). Such a procedure has a good diagnostic accuracy and is preferred to a “D & C” that is done under *general* anaesthesia.

### CANCER OF THE OVARY

Ovarian cancer is notoriously difficult to detect or diagnose. It is often referred to as a silent killer because the diagnosis is often made in the late stages of the disease. By then, treatment is often not effective. Attempts to screen for ovarian cancer have been made by means of **ultrasound scan** and blood tumour markers, CA 125 and HE4 (**ROMA**). It is meant to detect early cancer, rather than during the *precancerous* stage. Even then, the test accuracy is not good as detection rate is poor. If there is a strong family history of breast/ovarian cancer, BRCA 1 and BRCA 2 gene mutation should be examined because the presence of these gene mutation increases the risk of ovarian cancer by up to 40%.

### OTHER CANCERS- Genetic causes of cancer (for female and male)

Some cancer has genetic causes and hence can be inherited. If you have a **strong family history** of cancers you should look at what the clinic offers.

**CellMax Life** is a DNA genetic cancer risk test. It can screen for genetic variants that put you at risk of the following cancers: breast, blood, bone, cervix, colorectal, central nervous system, endocrine pancreas, oesophagus, head and neck, kidney, liver, lung, myometrium, ovarian, pancreas, prostate, peripheral nervous system, skin, soft tissue sarcoma, small intestine, stomach, thyroid, urinary tract and uterine.

Cancer	Tests available in the clinic
Breast	BRCA1 and BRCA2 (part of CellMax Life)
Cervix	<ul style="list-style-type: none"><li>• ThinPrep</li><li>• HPV DNA detection test</li><li>• HPV integration test (CareCervix)</li><li>• Colposcopy</li><li>• Biopsy (colposcopy-guided for accuracy)</li></ul>
Uterus	Endometrial biopsy as an office / outpatient procedure ( <b>NO</b> general anaesthesia needed)
Ovarian	<ul style="list-style-type: none"><li>• Ultrasound</li><li>• CA 125 and HE4 (ROMA)</li><li>• BRCA1 and BRCA2</li></ul>

*Dr. Gozali obtained his basic medical degree (Bachelor of Medicine, Bachelor of Surgery) from University College, London (University of London) and post graduate qualification from the Royal College of Obstetricians and Gynaecologists (UK). Other qualifications include a diploma from the Faculty of Family Planning (UK). He is fully registered with the General Medical Council (UK).*

*Dr. Gozali has worked as an obstetrician and gynaecologist in the UK for 20 years. During that time he has been at various teaching hospitals including those of University of London and University of Oxford. He has also worked as clinical lecturer at the University of Oxford.*