

A patient's guide to understanding

# Cancer Screening



MINISTRY OF HEALTH  
SINGAPORE



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This brochure is developed together with the Clinical Practice Guidelines on Cancer Screening. Clinical Practice Guidelines are recommendations to help doctors and patients make appropriate choices about the patient's condition based on the best scientific evidence currently available. These guidelines do not replace the judgement of the attending doctor. It is important to remember that each person is different, and the Clinical Practice Guidelines may not always apply to everyone.

## Cancer Screening

Cancer is the leading cause of death in Singapore, accounting for approximately 28% of the total number of deaths. If cancer is detected early through screening, the person is able to receive treatment early and avoid complications, much suffering or even death.

Cancer screening consists of tests and procedures usually done at regular intervals like once a year or once in two to three years, or when a person reaches a certain age.

The cancer screening guidelines in this booklet provide current recommendations on screening for common cancers in Singapore, for average-risk individuals without any symptoms.

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## Who Should Go For Cancer Screening?

Cancer screening helps to discover if a person is suffering from a particular cancer, even though he or she does not have any symptoms. It is best to get yourself screened if you have an immediate family member who has been diagnosed with the same form of cancer or conditions.

Your doctor will recommend the screening tests needed and how often the tests should be done. If your screening results are abnormal, you may need more specific diagnostic tests to confirm if you have cancer.

## Nasopharyngeal Carcinoma

Nasopharyngeal Carcinoma (NPC) is the most common head and neck cancer in Singapore. More than 90% of cases are seen in Chinese men in Singapore between 40-65 years.

The risk factors for NPC include genetic and environmental co-factors, particularly the Epstein-Barr Virus (EBV) infection, which is common in South-East Asia and China. Successful treatment for NPC depends on the stage of the cancer. However, early detection improves overall cure rate.

### Screening For NPC

Blood tests can be conducted for the screening and diagnosis for NPC. Blood is tested for raised levels of EBV IgA antibodies, against Viral Capsid Antigen (VCA) and Early Antigen (EA). Individuals with the EBV IgA antibody have a higher risk of developing NPC. These antibodies have been observed to rise two to three years ahead of clinical diagnosis and are helpful to detect NPC in the early stages.

VCA IgA test is more sensitive but the VCA antibodies may remain high for six months following a viral upper respiratory infection. EA IgA test is more specific in diagnosing NPC, but the levels of EA IgA may be raised in some salivary gland, lung and stomach cancers as well.

**Nasopharyngeal Carcinoma (NPC) is the most common head and neck cancer in Singapore.**

### Should You Be Screened For NPC?

If you have two or more family members or relatives with NPC, an annual screening with the EBV IgA antibody test and nasoendoscopy is recommended.

# Colorectal Cancer

Colorectal cancer refers to cancer of the colon (large intestine) and the rectum (the passage connecting the colon to the anus). It is now the most common cancer among men and the second most common cancer among women in Singapore.

Most colorectal cancers begin as small, slow-growing and benign (non-cancerous) growths called colon polyps. If these polyps are detected early, they can be removed to prevent colorectal cancer.

## Screening For Colorectal Cancer

Several tests can be conducted, and each can be used independently. Usually, the Faecal Occult Blood Test is done first and if the results are positive, it will be followed by one of the other tests.

- **Faecal Occult Blood Test (FOBT)**  
This test detects tiny amounts of 'hidden' blood in the stools which may be due to bleeding. Those with a positive FOBT will have to undergo a colonoscopy to rule out cancer.
- **Colonoscopy**  
A thin, long flexible lighted tube is used to examine the lining of the entire large intestine. It is the only test that detects and removes polyps should these be found during the procedure.
- **Flexible Sigmoidoscopy**  
A short, flexible lighted tube is inserted into the rectum and slowly guided into the sigmoid colon to examine the lining of the lower end of the large intestine.

- **Computed Tomographic Colonography**  
Special X-ray equipment is used to create detailed images of the inside of the colon and rectum using computer software. Although this test is minimally invasive, it exposes one to radiation.

## Should You Be Screened For Colorectal Cancer?

You are at high risk if one or more of your close relatives are diagnosed with colorectal cancer or colon polyps (growth) in their large intestine.

Women who have had cancer of the womb, ovaries or breast may also have a slightly higher risk of colorectal cancer.

- If you have no symptoms and are not considered to be at high risk, you should go for annual screenings for colorectal cancer starting from 50 years of age.
- If you are at high risk, you will need to undergo colonoscopy at a younger age and at more frequent intervals. Please consult your doctor for advice.



You should go for annual screening for colorectal cancer from 50 years of age.

# Lung Cancer

Lung cancer is the second most common cancer among men and the third most common cancer among women in Singapore.

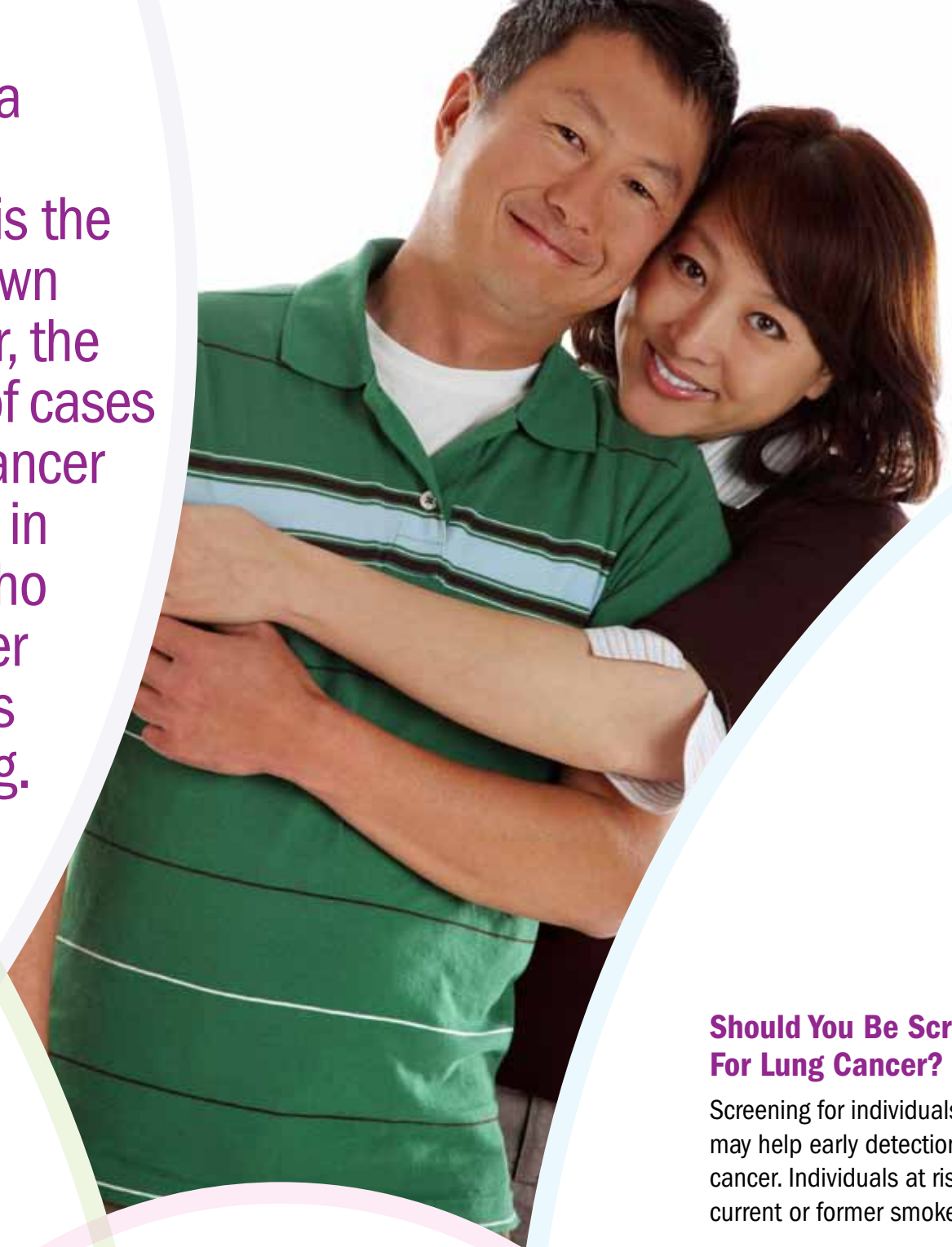
It is also the leading cause of cancer deaths among men in Singapore. Although a history of smoking is the main known risk factor, the number of cases of lung cancer occurring in people who have never smoked is increasing.

## Screening For Lung Cancer

There is no proven screening test for lung cancer. Individuals at risk may consider a CT scan for lung cancer screening after being made aware the limitations and risks of the procedure.

Quitting smoking is known to reduce one's risk of lung cancer, but it does not totally eliminate the risk.

Although a history of smoking is the main known risk factor, the number of cases of lung cancer occurring in people who have never smoked is increasing.



## Should You Be Screened For Lung Cancer?

Screening for individuals at risk may help early detection of lung cancer. Individuals at risk include current or former smokers.

# Liver Cancer

Liver cancer is the fourth most common cancer among men in Singapore. Men are four times more likely to suffer from liver cancer than women. The main risk factors for developing liver cancer are chronic hepatitis B infection, hepatitis C liver cirrhosis, and liver cirrhosis from other causes. Patients with a hepatitis B infection may eventually become seriously ill with, or may die from, liver disease and/or cancer.

Hence, screening for hepatitis B infection is recommended for:

- Pregnant women
- Healthcare workers
- Dialysis patients
- Those with a history of hepatitis B infection or liver cancer in the family
- Those with high-risk behaviour. This includes having unprotected sex, having multiple partners, having a sex partner who has a hepatitis B infection and drug addicts who share injection needles.



## Screening For Liver Cancer

A blood test for serum alpha fetoprotein level should be done every three to six months, as those with hepatitis and liver cancer have raised levels of serum alpha fetoprotein. Ultrasound of the liver, including the gallbladder and bile ducts, should be done every six to twelve months.

## Should You Be Screened For Liver Cancer?

Those with chronic hepatitis B infection and liver cirrhosis due to hepatitis C or other causes are at risk and should be screened for liver cancer. There is no need to screen for liver cancer if you are not at risk.

Liver cancer is the fourth most common cancer among men in Singapore. Men are four times more likely to suffer from liver cancer than women.



# Breast Cancer

Breast cancer is the most common cancer among women in Singapore. The peak incidence of breast cancer in Singapore occurs in the age group of 55 to 59 years. Women are said to be at high risk if they have:

- A family history of breast cancer in several close members of the family
- A close relative diagnosed with breast cancer under the age of 40
- A history of other cancers, especially cancer of the ovary and colon, as well as breast cancer, in members of the same family

## Screening For Breast Cancer

A monthly breast self-examination is recommended for women from the age of 30 to improve the awareness of their own breasts and breast cancer. Regular mammography (breast X-ray) is the most reliable way to detect breast cancer, even before any lumps can be felt.

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## Should You Be Screened For Breast Cancer?

Early breast cancer screenings can detect cancer in its early stages for effective treatment. Women at high risk should consult their doctors regarding the frequency of screenings. Below are the recommended screening guidelines for healthy women:

- If you are between 50-69 years, you should go for a mammography once every two years
- If you are between 40-49 years old, discuss with your doctor about the benefits, limitations and harms of mammography screening. If you decide to go for screening, you should have a mammography done every year
- If you are under the age of 40, there is no need to go for a mammography

**Breast cancer is the most common cancer among women in Singapore.**



# Uterine Cancer

Uterine cancer, or cancer of the womb, is the fourth most common cancer among women in Singapore. Women with uterine cancer tend to show symptoms at an early stage, so they should report abnormal symptoms, such as any unexpected vaginal bleeding or spotting, to their doctors.

## Screening For Uterine Cancer

There is no standard or routine screening test for uterine cancer. A vaginal ultrasound and biopsy of the inner lining of the uterus are commonly done for the early detection of uterine cancer.

## Should You Be Screened For Uterine Cancer?

Yearly screening for uterine cancer is recommended at a cancer hospital if you are at increased risk, i.e. you have three or more relatives with cancer of the bowel, womb or urinary system.

Consult your doctor if you experience any suspicious persistent symptoms, such as abnormal vaginal bleeding.

**Uterine cancer, or cancer of the womb, is the fourth most common cancer among women in Singapore.**



# Ovarian Cancer

Ovarian cancer refers to the cancer of the ovary. The ovaries are a pair of organs in a woman's reproductive system – one on each side of the womb – that are located in the pelvis. Ovarian cancer is the fifth most common cancer among women in Singapore. Early ovarian cancer may not cause any obvious symptoms and may go undetected.

## Screening For Ovarian Cancer

There are currently no effective methods for routine screening for women who do not have any known risk factors for ovarian cancer. Annual pelvic examination and vaginal ultrasound, with or without blood test for tumour marker (CA 125), is recommended for women who are at high risk of ovarian cancer.

## Should You Be Screened For Ovarian Cancer?

A genetic risk assessment and yearly screening for ovarian cancer is recommended if you are at increased risk, i.e. you have two or more first-degree relatives (mother, sister or daughter) with ovarian cancer. Your risk of ovarian cancer increases if you also carry, or are related to a carrier of, an abnormal gene.

Consult your doctor if you experience any suspicious persistent symptoms, such as an increase in abdominal girth or bloating, abdominal or pelvic pain, constipation, urinary problems of recent onset, or unexplained weight loss.



# Cervical Cancer

Cervical cancer refers to the cancer of the neck of the womb (cervix). Cervical cancer is the sixth most common cancer among women in Singapore, but can be prevented if abnormal cell changes are detected and treated early through regular screening.

You have a lower risk of cervical cancer if you have never had sexual intercourse. You are at a higher risk of cervical cancer if you:

- Had sexual intercourse at an early age
- Have multiple sexual partners
- Have a history of sexually transmitted infections
- Are infected with certain high-risk strains of Human Papillomavirus (HPV)
- Have a weakened immune system (e.g. HIV infection)
- Are a long-term user of combined birth control pills
- Are a chronic smoker

## Screening For Cervical Cancer

Screening for cervical cancer involves a Pap smear test. The Pap smear is a simple procedure where the doctor obtains some scrapings from the neck of the womb (cervix) to detect abnormal cell changes in the cervix. Early detection through screening increases the effectiveness of the treatment.

## Should You Be Screened For Cervical Cancer?

- If you have never had sexual intercourse, you do not need a Pap smear test. However, if you experience any abnormal vaginal discharge anytime, you should consult your doctor.
- If you are aged 25–69 years and have ever had sexual intercourse, you should go for a Pap smear test once every three years. You can stop taking the Pap smear test after 69 years of age if your Pap smear taken at 69 years and in the past have been clear.
- If you are HIV positive, you should go for a Pap smear test every year.
- Even if you have had HPV vaccination, you should continue to go for regular Pap smear screening once every three years.

Cervical cancer can be prevented if abnormal cell changes are detected and treated early through regular screening.



# Prostate Cancer

Prostate cancer is the third most common cancer among men in Singapore, and is seldom seen in men less than 50 years of age. Prostate cancers range from slow-growing to aggressive cancers. Slow-growing cancers are common and may not cause symptoms or shorten life. A majority of those diagnosed with prostate cancer will not die from it.

## Screening For Prostate Cancer

- Digital Rectal Examination (DRE) is a quick and reliable clinical examination of the prostate gland with a gloved finger through the rectum. DRE can pick up suspicious lumps in the prostate gland.
- A blood test can detect raised levels of Prostate Specific Antigen (PSA), which may be an early indication of prostate cancer. However, raised levels of PSA may also be due to non-cancerous prostate enlargement or inflammation of the prostate.

- Further tests such as biopsy of the prostate should be done if DRE and PSA levels are abnormal.

## Should You Be Screened For Prostate Cancer?

You should go for screening if you are male, above 50 years of age and have a family history of prostate cancer diagnosed below 60 years of age. Consult your doctor regarding the benefits and risks of screening.

You should go for screening if you are male, above 50 years of age and have a family history of prostate cancer diagnosed below 60 years of age.

# Recommended Guidelines For Cancer Screening

Screening 25 – 29 30 – 34 35 – 39 40 – 44 45 – 49 50 – 54 55 – 59 60 – 64 65 – 69

## Men & Women

Colorectal Cancer	Faecal Occult Blood Test (FOBT) yearly								
Lung Cancer	Screening for those at risk such as chronic smokers								
Liver Cancer	Screening for those with chronic hepatitis B infection, hepatitis C liver cirrhosis								
Nasopharyngeal Carcinoma	EBV IgA antibodies test and nasoendoscopy for those who have two or more family members or relatives with Nasopharyngeal Carcinoma								

## Women

Breast Cancer	Monthly Breast Self-Examination								
	Yearly Mammography				Mammography once every two years till 69 years				
	Yearly screening for those who have three or more relatives with cancer of the bowel, womb or urinary system								
Ovarian Cancer	Yearly screening for those who carry or are related to a carrier of an abnormal gene that increases risk of ovarian cancer								
Cervical Cancer	Pap smear once every three years till 69 years for all women who have ever had sexual intercourse								

## Men

Prostate Cancer	Early screening for men above 50 years of age who have a family history of prostate cancer diagnosed below 60 years of age								
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\* This chart lists recommended screenings for men and women at average risk for some cancers. These are guidelines only. Your doctor will recommend the screening tests needed and how often the tests should be done.