

# Lung Cancer

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Lung cancer is the leading cause of cancer death in Hong Kong for both men and women. The high mortality rate is due to late presentation because patients usually do not have symptoms when the disease is early.

Screening is looking for cancer before a person has any symptoms. This can help find cancer at an early stage. When abnormal tissue or cancer is found early, it may be easier to treat.

If a screening test result is abnormal, you may need to have more tests done to find out if you have cancer. These are called diagnostic tests and are often more invasive.

## Primary prevention



- Avoidance or cessation of smoking is the most effective measure for preventing lung cancer.
- Evidence suggests that after 10 years of abstinence, the risk of lung cancer is 30-50% lower than that of continuing smokers.

## Screening tests have risks:



Decisions about screening tests can be difficult. Not all screening tests are helpful and most have risks. Before having any screening test, you may want to discuss the test with your doctor. The risks of lung cancer screening tests include the following:

- Finding lung cancer may not improve health or help you live longer. Screening may not improve your health or help you live longer if you have advanced lung cancer or if it has already spread to other places in your body. Some cancers never cause symptoms or become life-threatening, but if found by a screening test, the cancer may be treated. It is not known if treatment of these cancers would help you live longer than if no treatment were given, and treatments for cancer may have serious side effects.
- False-negative test results can occur. Screening test results may appear to be normal even though lung cancer is present. A person who receives a false-negative test result (one that shows there is no cancer when there really is) may delay seeking medical care even if there are symptoms.
- False-positive test results can occur. Screening test results may appear to be abnormal even though no cancer is present. A false-positive test result (one that shows there is cancer when there really isn't) can cause anxiety and is usually followed by more tests (such as biopsy), which also have risks. A biopsy to diagnose lung cancer can cause part of the lung to collapse. Sometimes surgery is needed to re-inflate the lung.
- Chest x-rays or CT scan exposes the chest to radiation. Radiation exposure from chest x-rays or CT scan may increase the risk of developing certain cancers, such as breast cancer.



- Up till now, there is inadequate evidence to determine whether any screening test can reduce mortality from lung cancer.
- Chest X-Ray and/or Sputum Cytology: Although screening with chest x-ray plus sputum cytology appears to detect lung cancer at an earlier stage, there is no good evidence that screening for lung cancer using chest x-ray or sputum cytology can reduce lung cancer mortality in many of the previous randomized controlled studies.
- Low-Dose Helical Computed Tomography (LDCT): Technological advances have led to the development of a number of promising new tools that may lead to effective screening. The most promising of the new tools is the spiral CT chest scanner. The low-dose technique is ideal to evaluate the lung parenchyma for nodules, but is not intended to screen for abnormalities elsewhere in the chest, such as the aorta, heart, lymph nodes, or bones. Like screening mammography, it is important to minimize the amount of radiation exposure in asymptomatic patients. No intravenous contrast is used. It has superior ability to detect small pulmonary nodules than chest X-ray. Several recent reports have documented the ability of low-dose spiral CT scans to detect lung cancer at an early stage. However, we still have to wait for the results of the ongoing randomized studies to see whether LDCT is effective in reducing lung cancer mortality.

## Summary

There is not yet a proven effective screening test for lung cancer. Prevention is still the key to reduce lung cancer risk and mortality for the moment. The major risk for lung cancer is tobacco smoking. Other less important risk factors include second-hand smoke, radon and occupational exposure like asbestos, arsenic, chromium, nickel.