SCREENING FOR LUNG CANCER

Because lung cancer is usually diagnosed at such a late stage, a lot of effort has gone into finding suitable and cost effective screening methods for detecting early and, hopefully, curable cases, especially in high risk individuals. Sadly this proved to be disappointing and effective screening tests do not exist.

PREVENTION OF LUNG CANCER

The risk of lung cancer can be reduced but lung cancer cannot be completely prevented:

1. Do not smoke
2. If you are smoking already, get help and stop
3. Limit exposure to toxic chemicals/polluted air where practically possible
4. Educate children about the dangers of smoking
5. Diet and exercise. As for cancer in general, moderate physical exercise and a balanced healthy diet are essential in preventing ill health
6. Genetics — "We don't choose our genetics". If a person has a familial predisposition to lung cancer, it should be a major incentive to avoid other risk factors, especially not to smoke

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LUNG CANCER

Cancer of the lung is a condition where cells of the lung, usually those lining the airways, divide and multiply uncontrollably to form a growth or tumor. This is called primary lung cancer. Cancer cells from elsewhere in the body can also be carried with the bloodstream to the lungs to form new growths there and this is called secondary lung cancer. Primary lung cancer is a common cancer amongst smokers. Previously, males were more affected than females but the incidence has steadily increased in women and is now similar to males.

WHAT ARE THE CAUSES OF LUNG CANCER?

1. **SMOKING (CIGARETTES, CIGARS AND PIPES)**
   Smokers have a 20 times bigger risk for developing lung cancer. There is an almost linear correlation between the severity of the changes in the lung and the amount of cigarettes smoked. Not all smokers get lung cancer and as many as 10—15% of patients with lung cancer never smoked and their cancer is due to other causes.

   Even passive smokers (people who inhale smoke from other smokers in their direct vicinity) are at an increased risk of developing lung cancer.

2. **EXPOSURE TO OTHER CANCER-CAUSING AGENTS E.G. ASBESTOS, RADIATION, CERTAIN CHEMICALS (RADON), AND POLLUTED AIR IN GENERAL.**
   The longer the exposure, the higher the risk of getting lung cancer, especially if accompanied by smoking.

   Polluted air and asbestos exposure put smokers at a higher risk of developing lung cancer, as is seen in people living in cities.

3. **FIBROSIS/SCARRING OF THE LUNG**
   Lung cancer sometimes develop in a lung scar (e.g. after injury or healed infections) or in a lung with more diffuse scarring such as in certain underlying chronic lung diseases.

4. **GENETICS**
   Genetics often play a role, in smokers and in non-smokers. This means that certain people have a familial/genetic susceptibility to get lung cancer.

WHAT ARE THE SYMPTOMS OF LUNG CANCER?

Unfortunately most lung cancers are at an advanced stage when diagnosed (as many as 60% are inoperable at the time of diagnosis), the reasons being that warning signs do not occur early in the disease and lung cancer spreads quickly and early in the course of the disease.

The most common symptoms are:

1. Coughing
2. Weight loss
3. Chest pain or a feeling of pressure during breathing/shortness of breath
4. Increased production of mucus/sputum
5. Coughing up blood
6. Recurring chest infection
7. “Paraneoplastic symptoms” — These are symptoms that occur outside chest cavity and are caused by chemical compounds secreted by the cancer cells, such as swelling of finger tips (clubbing), enlargement of breasts, electrolyte disturbances in the blood and hot flushes.

   Sometimes bone pain is the first symptom as lung cancer tends to spread to bones, often the back.

SPREAD OF LUNG CANCER

1. **DIRECT SPREAD**
   The cancer may spread into adjacent lung tissue until it reaches the surface of the lung. This may lead to fluid accumulating in the chest cavity (called a pleural effusion) which may cause shortness of breath.

2. **LYMPH NODES**
   Cancer cells may travel through lymphatic vessels to lymph nodes in the chest cavity, around the collar bone and in the neck.

3. **DISTANT SPREAD**
   Cancer cells may travel via the blood stream to the opposite lung, liver, adrenal glands, brain and bones. Often these so-called ‘‘metastases’’ in the brain or bones are the first manifestations of the disease.

TREATMENT OF LUNG CANCER

There are many options available to treat lung cancer. A number of factors are taken into consideration before appropriate treatment for a specific patient is decided on:

- Type of lung cancer
- Stage of the disease (if and how far the cancer has spread at the time of diagnosis)
- The patient’s age and general health
- The potential side effects of the treatment options

1. **SURGERY**
   If the cancer has not spread too far, the tumor with the surrounding lung tissue is removed, or sometimes even the whole lung.

2. **CHEMOTHERAPY**
   This is treatment that uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping them from dividing. It may be given alone or with other treatments, such as surgery, radiotherapy, or biologic therapy.

3. **RADIOTHERAPY**
   The local growth of the cancer can sometimes be controlled by applying radiation therapy.

4. **OTHER TREATMENTS**
   Constant research brings newer treatment options onto the market, such as “targeted treatments” where the drug targets specific molecular areas in the cancer cell or “immunotherapy” where drugs use the body’s own immune system/defence mechanism to kill cancer cells. A number of molecular tests based on genetic mutations in cancer cells are now available to identify subsets of patients who may benefit from these targeted treatment options and to accurately predict better or poorer survival rates.