



PATIENT & CAREGIVER EDUCATION

# Malignant Mesothelioma

This information will help you understand malignant (cancerous) mesothelioma, including risk factors, diagnosis, surgery, and treatment.

## About Mesothelioma

Mesothelioma is a rare type of cancer of the tissue that lines the body's internal organs. The most common type of mesothelioma affects the pleura, which is the sac that surrounds your lungs (see Figure 1). This type of mesothelioma is called pleural mesothelioma.

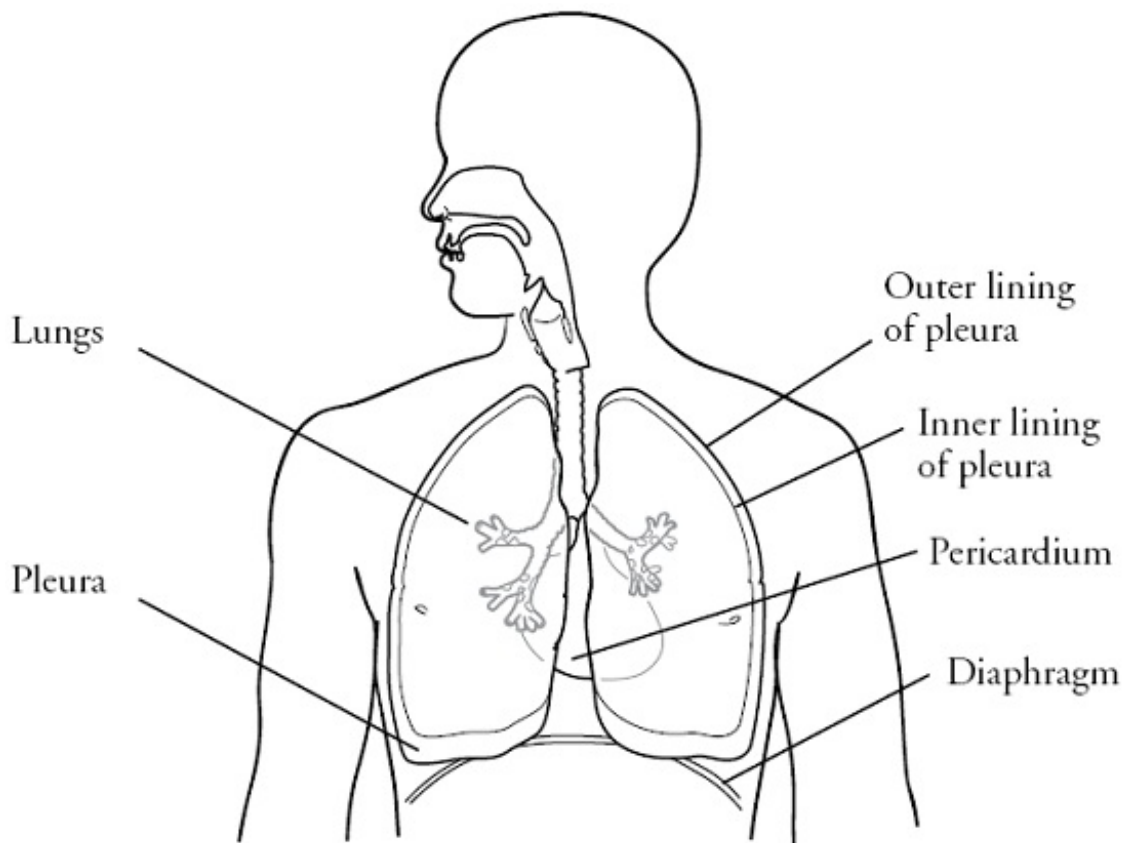


Figure 1. Your chest and pleural space

Mesothelioma may also affect the peritoneal membrane, which is the tissue that surrounds your abdominal organs. This type of mesothelioma is called peritoneal mesothelioma. In rare cases, mesothelioma can also affect your

intestines or heart.

## Risk Factors for Mesothelioma

The main known risk factor for mesothelioma is exposure to asbestos. Asbestos is a mineral fiber that's found in some older buildings.

People who work in mining, milling, construction, plumbing, heating, insulation, carpentry, electrical, or shipyard work generally have the most exposure to asbestos. They're at higher risk of developing mesothelioma. Family members of these workers are also at higher risk because they may have been exposed to asbestos in the clothes and hair of the workers.

People can also develop mesothelioma without being exposed to asbestos.

## Diagnosing Mesothelioma

To see if you have mesothelioma, you will have a biopsy. During the biopsy, your doctor will remove a small piece of tissue from the area where the cancer may be located. A pathologist will look at the sample of tissue under a microscope to see if it's cancer.

There are several ways to do a biopsy, including thoracentesis, video-assisted thoracic surgery (VATS), or open lung biopsy. Your surgeon will talk with you about which one is best for you.

### Thoracentesis

Thoracentesis is a procedure in which a needle is used to remove fluid from between the layers of your pleura. It can be done in your doctor's office or in a hospital.

### Video-assisted thoracic surgery

VATS is a type of minimally invasive surgery. During VATS, your doctor will make 1 to 3 small incisions in your chest. They will insert a thin telescope attached to a video camera and 2 long, thin surgical instruments into the incisions. They will use the telescope and instruments to remove tissue to be tested.

VATS is usually done in an operating room.

## Open lung biopsy

In an open lung biopsy, your doctor will make a small incision between your ribs and remove a piece of your pleura. This procedure is done in the operating room.

## Other tests

Your doctor may want you to have other tests. You may have a computed tomography (CT) scan or a positron emission tomography (PET) scan to see if the cancer has spread.

You may also have a pulmonary function test (PFT), a ventilation perfusion scan, or both to see how your lungs are working. Your doctor may also order a stress test to check your heart. All of these tests will help your doctor plan the best treatment for you.

If you need to have any other tests, your doctor will discuss this with you.

## Staging Mesothelioma

Staging a cancer is a way of describing its location, if it has spread, and if it affects other organs. Staging will help your doctor make the best treatment choice for you.

- Stage I mesothelioma is when tumors are only in the pleura on one side of the body.
- Stage II mesothelioma is when tumors have spread from the pleura to 1 lung.
- Stage III mesothelioma is when tumors have spread into your chest wall or into your lymph nodes.
- Stage IV mesothelioma is when tumors have grown into deeper layers of your chest wall or have spread to other sites in the body.

## Treatment

Your treatment may include surgery, radiation therapy, and chemotherapy. Your healthcare team will work with you to make a treatment plan that's based on the stage of your cancer, how well your lungs are functioning, and your

overall health.

## **Surgery**

Surgery is the most common treatment for mesothelioma. The goal of surgery is to remove all of the cancer. Depending on your surgery, you may have part or all of your pleura, lung, or linings of your diaphragm and pericardium (the sac surrounding your heart) removed.

## **Radiation therapy**

Radiation is the use of high energy x-rays to kill cancer cells and to help lower the risk of recurrence (the cancer coming back). Your healthcare team will go over radiation planning, treatment, and possible side effects with you.

## **Chemotherapy**

Chemotherapy is a medication or a combination of medications that's used to treat cancer. The most commonly used chemotherapy to treat mesothelioma includes 2 medications: pemetrexed (Alimta®) and cisplatin. Your healthcare team will discuss the benefits and risks of chemotherapy with you.

Your doctor may also recommend other medications or the possibility of joining a clinical trial.

## **Managing pleural effusions**

Some people may have a pleural effusion, which is when there's a buildup of fluid between the layers of your pleura. This can limit how much your lungs can expand, and can make you feel short of breath.

Your doctor may do a procedure called a thoracentesis. In this procedure, your doctor will insert a needle into your pleural space to remove the fluid. This will help you breathe and feel more comfortable.

If the fluid builds up again, your doctor may do a procedure called pleurodesis. In this procedure, your doctor will put some medication into your pleural space to keep the fluid from coming back.

If this does not keep the fluid from coming back, you may need to have a Pleurx® catheter placed in your pleural space. It will drain the fluid every day. Your nurse will give you more information about Pleurx catheters, if needed.

# Emotional Support

The diagnosis and treatment of cancer can be a very stressful and overwhelming event. You may feel depressed, anxious, confused, afraid, or angry. You may have strong feelings about any permanent changes. These changes can have an impact on your emotional well-being. Help is available for you at any time. If you would like counseling, your nurse can give you a referral to see a social worker, psychiatrist, or counselor.

The Memorial Sloan Kettering Cancer Center (MSK) Resources for Life After Cancer (RLAC) Program provides support services after your treatment is finished. To learn more about these services, call 646-888-8106.

You may also find it comforting to speak with a cancer survivor or caregiver who has been through a similar treatment. Through our Patient-to-Patient Support Program, you have a chance to speak with former patients and caregivers. To learn more about this service, call 212-639-5007.

## Resources

American Cancer Society

[www.cancer.org](http://www.cancer.org)

National Cancer Institute

[www.cancer.gov](http://www.cancer.gov)

For additional online information, visit LIBGUIDES on MSK's library website at [library.mskcc.org](http://library.mskcc.org) or the mesothelioma cancer section of [www.mskcc.org](http://www.mskcc.org). You can also call the library reference staff at 212-639-7439 for help.

If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 PM, during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.

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