



# Early Detection, Diagnosis, and Staging

## Detection and Diagnosis

Catching cancer early often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that is not always the case.

- [Can Malignant Mesothelioma Be Found Early?](#)
- [Signs and Symptoms of Mesothelioma](#)
- [How Is Malignant Mesothelioma Diagnosed?](#)

## Stages of Mesothelioma

After a cancer diagnosis, staging provides important information about the extent of cancer in the body and anticipated response to treatment.

- [How Is Malignant Mesothelioma Staged?](#)

## Outlook (Prognosis)

Doctors often use survival rates as a standard way of discussing a person's outlook (prognosis). These numbers can't tell you how long you will live, but they might help you better understand your prognosis. Some people want to know the survival statistics for people in similar situations, while others might not find the numbers helpful, or might even not want to know them.

- [Survival Statistics for Mesothelioma](#)

## Questions to Ask About Mesothelioma

Here are some questions you can ask your cancer care team to help you better understand your diagnosis and treatment options.

- [What Should You Ask Your Doctor About Malignant Mesothelioma?](#)

# Can Malignant Mesothelioma Be Found Early?

Mesothelioma is uncommon, and there are no widely recommended screening tests for this cancer in people who are not at increased risk. (Screening is testing for cancer in people who don't have any symptoms.)

For people with known exposure to asbestos, some doctors recommend imaging tests such as chest x-rays or computed tomography (CT) scans to look for changes in the lungs that might be signs of mesothelioma or lung cancer. But it is not clear how useful these tests are in finding mesotheliomas early.

In recent years, doctors have found that people with mesothelioma often have high levels of certain substances in their blood, including *osteopontin* and *soluble mesothelin-related peptides* (SMRPs). Blood tests for these substances may one day be useful in finding mesotheliomas early, as well as for monitoring the course of the disease in people who have mesothelioma.

Most mesotheliomas are found when a person goes to a doctor because of symptoms. People who have been exposed to asbestos should know the possible [signs and symptoms of mesothelioma](#). Many of these symptoms are more likely to be caused by something other than mesothelioma, but it's important to report any new symptoms to your doctor right away so that the cause can be found and treated, if needed.

- [References](#)

[See all references for Malignant Mesothelioma](#)

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## Signs and Symptoms of Mesothelioma

Many of the early symptoms of mesothelioma are more likely to be caused by other conditions, so at first people may ignore them or mistake them for common, minor ailments. Most people with mesothelioma have symptoms for at least a few months before they are diagnosed.

**Symptoms of pleural mesothelioma (mesothelioma of the chest) can include:**

- Pain in the side of the chest or lower back
- Shortness of breath
- Cough
- Fever
- Excessive sweating
- Fatigue
- Weight loss (without trying)
- Trouble swallowing (feeling like food gets stuck)
- Hoarseness
- Swelling of the face and arms

**Symptoms of peritoneal mesothelioma can include:**

- Abdominal (belly) pain
- Swelling or fluid in the abdomen
- Weight loss (without trying)
- Nausea and vomiting
- Constipation

These symptoms can be caused by mesothelioma, but more often they are caused by other conditions. Still, if you have any of these problems (especially if you have been exposed to asbestos), it's important to see your doctor right away so the cause can be found and treated, if needed.

- [References](#)

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# How Is Malignant Mesothelioma Diagnosed?

Mesothelioma is most often diagnosed after a person goes to a doctor because of [symptoms](#) they are having. If there is a reason to suspect you might have mesothelioma, your doctor will examine you and use one or more tests to find out. Symptoms might suggest that the problem could be mesothelioma, but tests will be needed to confirm the diagnosis.

## Medical history and physical exam

If you have any signs or symptoms that suggest you might have mesothelioma, your doctor will want to get your medical history to learn about your symptoms and possible risk factors, especially asbestos exposure.

A physical exam can provide information about possible signs of mesothelioma and other health problems. Pleural mesothelioma can cause fluid to build up around the lungs in the chest (called a *pleural effusion*). In cases of peritoneal mesothelioma, fluid can build up in the abdomen (called *ascites*). In pericardial mesothelioma, fluid builds up in the sac around the heart (called a *pericardial effusion*). Rarely, mesothelioma can develop in the groin and look like a hernia. All of these might be found during a physical exam, such as when the doctor listens to these areas with a stethoscope or taps on the chest or abdomen.

If mesothelioma is a possibility, tests will be needed to make sure. These might include imaging tests, blood tests, and other procedures.

## Imaging tests

Imaging tests use x-rays, radioactive particles, sound waves, or magnetic fields to create pictures of the inside of your body. Imaging tests might be done for a number of reasons, such as:

- To look at suspicious areas that might be cancer
- To learn how far cancer has spread
- To help determine if treatment is working

People thought to have mesothelioma may have one or more of these tests.

## Chest x-ray

This is often the first test done if someone has symptoms such as a constant cough or shortness of breath. Findings that might suggest mesothelioma include an abnormal thickening of the pleura, calcium deposits on the pleura, fluid in the space between the lungs and the chest wall, or changes in the lungs themselves as a result of asbestos exposure.

## Computed tomography (CT) scan

The CT scan uses x-rays to make detailed cross-sectional images of your body. Instead of taking one picture, like a regular x-ray, a CT scanner takes many pictures as it rotates around you while you are lying on a narrow table. A computer then combines these into images of slices of the body.

CT scans are often used to help look for mesothelioma and to determine the exact location of the cancer. They can also help determine the [stage](#) (extent) of the cancer. For example, they can show if the cancer has spread to other organs. This can help determine if surgery might be a treatment option. Finally, CT scans can also be used to learn if treatment such as chemotherapy is shrinking or slowing the growth of the cancer.

A CT scanner has been described as a large donut, with a narrow table that slides in and out of the middle opening. You will need to lie still on the table while the scan is being done. CT scans take longer than regular x-rays, and you might feel a bit confined by the ring while the pictures are being taken.

Before the test, you might have to drink a liquid called *oral contrast*. This helps outline the intestine so that certain areas are not mistaken for tumors. You might also need an IV (intravenous) line through which a different kind of contrast is injected. This helps better outline structures in your body. The injection can cause some flushing (redness and warm feeling). Some people are allergic and get hives or, rarely, more serious reactions like trouble breathing and low blood pressure. Be sure to tell the doctor if you have any allergies (especially to iodine or shellfish) or have ever had a reaction to any contrast material used for x-rays.

## Echocardiogram

This test uses sound waves to look at the heart. It may be done if your doctor suspects that you have fluid around your heart (a pericardial effusion). This test can also tell how well the heart is working. For the most common version of this test, you lie on a table

while a technician moves an instrument called a *transducer* over the skin on your chest. A gel is often put on the skin first.

## **Positron emission tomography (PET) scan**

For a PET scan, a radioactive substance (usually a type of sugar related to glucose, known as *FDG*) is injected into the blood. The amount of radioactivity used is very low. Because cancer cells grow quickly, they absorb more of the sugar than most other cells. After waiting about an hour, you lie on a table in the PET scanner for about 30 minutes while a special camera creates a picture of areas of radioactivity in the body.

The picture from a PET scan is not as detailed as a CT or MRI scan, but it can provide helpful information about whether abnormal areas seen on these tests are likely to be cancerous or not. For example, it can give the doctor a better idea of whether a thickening of the pleura or peritoneum seen on a CT scan is more likely cancer or merely scar tissue. If you have been diagnosed with mesothelioma, your doctor may use this test to see if the cancer has spread to lymph nodes or other parts of the body. A PET scan can also be useful if your doctor thinks the cancer may have spread but doesn't know where.

Some machines can do both a PET and CT scan at the same time (PET/CT scan). This lets the doctor compare areas of higher radioactivity on the PET scan with the more detailed appearance of that area on the CT.

## **Magnetic resonance imaging (MRI) scan**

Like CT scans, MRI scans make detailed images of the body's soft tissues. But MRI scans use radio waves and strong magnets instead of x-rays. A contrast material called *gadolinium* is often injected into a vein before the scan to better show details. This contrast is different than the one used for CT scans, so being allergic to one doesn't mean you are allergic to the other.

MRI scans can sometimes help show the exact location and extent of a tumor since they provide very detailed images of soft tissues. For mesotheliomas, they may be useful in looking at the diaphragm (the thin band of muscle below the lungs that helps us breathe), a possible site of cancer spread.

MRI scans take longer than CT scans – often up to an hour. You may have to lie inside a narrow tube, which can upset people with a fear of enclosed spaces. Special, more open MRI machines may be an option in some cases. The MRI machine makes buzzing and clicking noises that you might find disturbing. Some places will give you earplugs to

help block this out.

## Blood tests

Blood levels of certain substances are often higher in people with mesothelioma:

- Osteopontin
- Soluble mesothelin-related peptides (SMRPs), detected with the MesoMark<sup>®</sup> test

Mesothelioma can't be diagnosed with these blood tests alone, but high levels of these substances can make the diagnosis more likely. These tests are not routinely used in most doctors' offices because of their limited value.

## Tests of fluid and tissue samples

Symptoms and test results may strongly suggest that a person has mesothelioma, but the actual diagnosis is made by removing cells from an abnormal area and looking at them under a microscope. This is known as a *biopsy*. It can be done in different ways, depending on the situation.

### Removing fluid for testing

If there is a buildup of fluid in part of the body that might be due to mesothelioma, a sample of this fluid can be removed by inserting a thin, hollow needle through the skin and into the fluid. Numbing medicine is used on the skin before the needle is inserted. This may be done in a doctor's office or in the hospital. Sometimes ultrasound (or an echocardiogram) is used to guide the needle. These tests use sound waves to see inside the body.

This procedure has different names depending on where the fluid is:

- **Thoracentesis** removes fluid from the chest.
- **Paracentesis** removes fluid from the abdomen.
- **Pericardiocentesis** removes fluid from the sac around the heart.

The fluid is then tested for its chemical makeup and is looked at under a microscope to see if it contains cancer cells. If cancer cells are found, special tests might be done to see if the cancer is a mesothelioma, a lung cancer, or another type of cancer.

Even if no cancer cells are found in the fluid, a person might still have cancer. In many cases, doctors need to get an actual sample of the mesothelium (the pleura,

peritoneum, or pericardium) to determine if a person has mesothelioma.

## Needle biopsies

Suspected tumors in the chest are sometimes sampled by needle biopsy. A long, hollow needle is passed through the skin in the chest between the ribs and into the pleura. Imaging tests such as CT scans are used to guide the needle into the tumor so that small samples can be removed to be looked at under the microscope. This is often done using just numbing medicine.

Needle biopsy can also be used to get samples of the lymph nodes in the space between the lungs to see if the cancer has spread there (see “Endobronchial ultrasound needle biopsy”).

Needle biopsies do not require a surgical incision or overnight hospital stay. But the downside is that sometimes the samples removed are not big enough to make an accurate diagnosis. This is especially true for mesothelioma. A more invasive biopsy method may be needed.

There is a slight chance that the needle could put a small hole in the lung during the biopsy. This can cause air to build up in the space between the lung and the chest wall (known as a *pneumothorax*). A small pneumothorax might not cause any symptoms. It may only be seen on an x-ray done after the biopsy, and it will often go away on its own. But a larger pneumothorax can make part of a lung collapse and might need to be treated. The treatment is placement of a small tube (a catheter) through the skin and into the space between the lungs. The tube is used to suck the air out in order to re-expand the lung and is left in place for a short time.

## Endoscopic biopsies

Endoscopic biopsy is commonly used to diagnose mesothelioma. An endoscope is a thin, tube-like instrument used to look inside the body. It has a light and a lens (or tiny video camera) on the end for viewing and often has a tool to remove tissue samples. Endoscopes have different names depending on the part of the body where they’re used.

**Thoracoscopy:** This procedure uses an endoscope called a *thoracoscope* to look at areas inside the chest. It can be used to look at the pleura and take tissue samples for biopsies.

Thoracoscopy is done in the operating room while you are under general anesthesia (in



a deep sleep). The doctor inserts the thoracoscope through one or more small cuts made in the chest wall to look at the space between the lungs and the chest wall. This lets the doctor see possible areas of cancer and remove small pieces of tissue to look at under the microscope. The doctor can also sample lymph nodes and fluid and see if a tumor is growing into nearby tissues or organs.

Thoracoscopy can also be used as part of a procedure to keep fluid from building up in the chest. This is called *pleurodesis* and is discussed in [Palliative Procedures Used for Malignant Mesothelioma](#).

**Laparoscopy:** For this test, the doctor uses an endoscope called a *laparoscope* to look inside the abdomen and biopsy any peritoneal tumors. This is done in the operating room while you are under general anesthesia (in a deep sleep). The laparoscope is inserted into the abdomen through small cuts on the front of the abdomen.

**Mediastinoscopy:** If imaging tests such as a CT scan suggest that the cancer might have spread to the lymph nodes between the lungs, the doctor may want to sample some of them to see if they really contain cancer. The area between the lungs is called the *mediastinum*, and looking at it with an endoscope is called *mediastinoscopy*. This is done in an operating room while you are under general anesthesia (in a deep sleep).

A small cut is made in the front of the neck above the breastbone (sternum) and a thin, hollow, lighted tube (called a *mediastinoscope*) is inserted behind the sternum. Special instruments can be passed through this tube to take tissue samples from the lymph nodes along the windpipe and the major bronchial tube areas.

Lung cancers often spread to lymph nodes, but mesotheliomas do this less often. Testing the lymph nodes can help show whether a cancer is still localized or if it has started to spread, which might affect treatment options. It can also sometimes help tell lung cancers from mesotheliomas. Patients with mesothelioma don't need to have bronchoscopy to see if tumors are in their airways (because that isn't where tumors from mesothelioma are found). Instead, bronchoscopy may be used to biopsy lymph nodes near the lungs (instead of using mediastinoscopy).

**Endobronchial ultrasound needle biopsy:** For this test, a bronchoscope (a long, thin, flexible, fiber-optic tube) with an ultrasound device at its tip is passed down the throat and into the windpipe. The ultrasound lets the doctor see the nearby lymph nodes. A hollow needle is then passed down the bronchoscope and through the airway wall into the nodes to take biopsy samples. This procedure may be done with either general anesthesia (where you are asleep), or with numbing medicine (local anesthesia) and light sedation.

## Open surgical biopsy

Sometimes, endoscopic biopsies aren't enough to make a diagnosis, so more invasive procedures are needed. By making an incision in the chest (thoracotomy) or an incision in the abdomen (laparotomy) the surgeon can remove a larger sample of tumor or, sometimes, remove the entire tumor.

## Testing the samples in the lab

No matter how they're obtained, all biopsy and fluid samples are sent to the pathology lab. There, a doctor will look at them under a microscope and test them to find out if they contain cancer cells (and if so, what type of cancer it is).

It's often hard to diagnose mesothelioma by looking at cells from fluid samples. It can even be hard to diagnose mesothelioma with tissue from small needle biopsies. Under the microscope, mesothelioma can often look like other types of cancer. For example, pleural mesothelioma can resemble some types of [lung cancer](#), and peritoneal mesothelioma in women may look like some cancers of the [ovaries](#).

For this reason, special lab tests are often done to help tell mesothelioma from some other cancers. To learn about some of the tests that might be done on tissue samples, see [Testing Biopsy and Cytology Specimens for Cancer](#).

If mesothelioma is diagnosed, the doctor will also determine what [type of mesothelioma](#) it is, based on the patterns of cells seen in the microscope. Most mesotheliomas are classified as either epithelioid, sarcomatoid, or mixed/biphasic.

## Pulmonary function tests

If mesothelioma has been diagnosed, pulmonary function tests (PFTs) may be done to see how well your lungs are working. This is especially important if [surgery](#) might be an option to treat the cancer. Surgery often requires removing part or all of a lung, so it's important to know how well the lungs are working to start with. These tests can give the surgeon an idea of whether surgery may be an option, and if so, how much lung can safely be removed safely.

There are a few different types of PFTs, but they all basically have you breathe in and out through a tube connected to a machine that measures your lung function.

- [References](#)

[See all references for Malignant Mesothelioma](#)

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## How Is Malignant Mesothelioma Staged?

The stage of a cancer is a standard way for doctors to sum up how far the cancer has spread. Your treatment and prognosis (outlook) depend, to a large extent, on the cancer's stage.

The stage of a mesothelioma is based on the results of physical exams, biopsies, and imaging tests (CT scan, PET scan, etc.), which are described in [How is malignant mesothelioma diagnosed?](#)

Pleural mesothelioma, the most common type, is the only mesothelioma for which a formal staging system exists.

### The TNM staging system

The system most often used to describe the growth and spread of pleural mesothelioma is the American Joint Committee on Cancer (AJCC) **TNM** staging system. The TNM system is based on 3 key pieces of information:

- **T** sums up the extent of spread of the main (primary) **tumor**.
- **N** describes the spread of cancer to nearby (regional) lymph **nodes**. Lymph nodes are small bean-shaped collections of immune system cells to which cancers often spread first.
- **M** indicates whether the cancer has spread (**metastasized**) to other organs of the body. (The most common sites are the pleura on the other side of the body, the lungs, and the peritoneum.)

Numbers or letters appear after T, N, and M to provide more details about each of these factors. Higher numbers mean the cancer is more advanced.

## T groups

**TX:** The main tumor can't be assessed for some reason.

**T0:** There is no evidence of a main tumor (the cancer is found elsewhere instead).

**T1:** Mesothelioma is in the pleura lining the chest wall on one side of the chest. It may or may not also affect the pleura lining the diaphragm (the thin breathing muscle below the lungs) or the mediastinum (the space between the lungs). It may also have spread to the pleura covering the lung.

**T2:** Mesothelioma is in the pleura lining the chest wall on one side of the chest. It is also in the pleura coating the diaphragm, the mediastinum, and the lung. It also has grown into at least one of the following:

- The diaphragm
- The lung itself

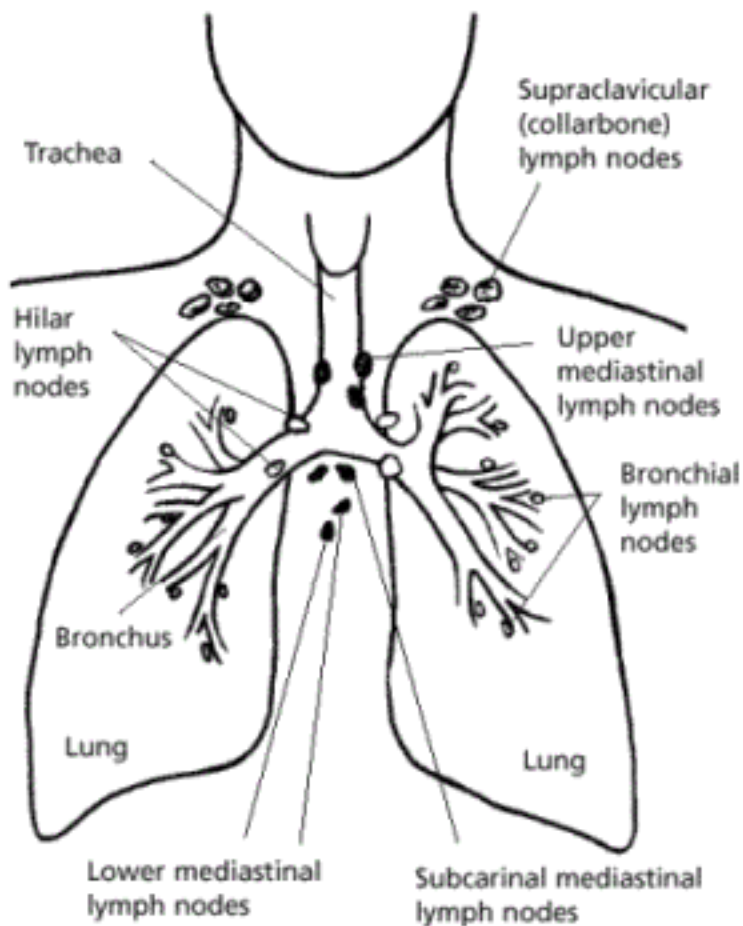
**T3:** The mesothelioma has grown further but may still possibly be removed with surgery. The tumor is in the pleura lining the chest wall on one side of the chest, as well as the pleura coating the lung, the diaphragm, and the mediastinum. It also has grown into at least one of the following:

- The first layer of the chest wall (called the *endothoracic fascia*)
- The fatty tissue in the mediastinum
- A single place in the deeper layers of the chest wall
- The surface of the pericardium (outer covering layer of the heart)

**T4:** The mesothelioma has grown too far to be removed completely with surgery. The tumor has grown into the pleura lining the chest wall on one side of the chest, as well as the pleura coating the lung, diaphragm, and mediastinum on the same side. It also has grown into at least one of the following:

- More than one place in the deeper layers of the chest wall, including the muscle or ribs
- Through the diaphragm and into the peritoneum
- Any organ in the mediastinum (esophagus, trachea, thymus, blood vessels)
- The spine
- Across to the pleura on the other side of the chest
- Through the heart lining (pericardium) or into the heart itself

## N groups



**NX:** The nearby lymph nodes can't be assessed.

**N0:** No spread to nearby lymph nodes.

**N1:** Spread to lymph nodes within the lung and/or around the area where the bronchus enters the lung (called *hilar* or *bronchial* lymph nodes) on the same side as the main tumor.

**N2:** Spread to other lymph nodes on the same side as the main tumor, such as the *subcarinal* (around the point where the windpipe branches into the left and right bronchi) and the *mediastinal* lymph nodes. Also includes spread to the lymph nodes in the space just behind the breastbone (called *internal mammary* lymph nodes) and those near the diaphragm (called *peridiaphragmatic*).

**N3:** Spread to lymph nodes near the collarbone on either side (*supraclavicular* lymph nodes), and/or spread to hilar or mediastinal lymph nodes on the side opposite the main

tumor.

## **M groups**

**M0:** No spread to distant organs or areas.

**M1:** The cancer has spread to distant sites. This can be to distant lymph nodes or to other organs.

## **Stage grouping for pleural mesothelioma**

Once the T, N, and M categories have been assigned, this information is combined in a process called *stage grouping* to assign an overall stage of I, II, III, or IV. Patients with lower stage numbers tend to have a better prognosis.

### **Stage I**

**T1, N0, M0:** Mesothelioma has grown into the pleura lining the chest wall on one side of the chest. It might or might not also affect the pleura lining the diaphragm (the breathing muscle) or the mediastinum (the space between the lungs). It may also have spread to the pleura covering the lung (T1). It has not spread to the lymph nodes (N0) or to distant sites (M0).

### **Stage II**

**T2, N0, M0:** Mesothelioma has grown into the pleura lining the chest wall on one side of the chest. It also is in the pleura coating the diaphragm, the mediastinum, and the lung. The cancer has also grown into the diaphragm or the lung itself (T2). It has not spread to the lymph nodes (N0) or to distant sites (M0).

### **Stage III**

Either of the following:

**T1 or T2, N1 or N2, M0:** Mesothelioma has grown into the pleura lining the chest on one side, and might or might not have grown into the pleura lining the lung, the diaphragm, or the mediastinum. It might also have grown into the muscle of the diaphragm or the lung itself (T1 or T2). It has spread to lymph nodes in the chest on the same side as the main tumor (N1 or N2). It has not spread to distant sites (M0).

**OR**

**T3, N0 to N2, M0:** Mesothelioma is in the pleura lining the chest on one side, and has grown into the first layer of the chest wall, the fatty tissue in the mediastinum, a single place in the deeper layers of the chest wall, or the outer covering layer of the heart (T3). It might or might not have spread to lymph nodes in the chest on the same side as the tumor, but it has not spread to lymph nodes near the collarbone or on the opposite side of the chest (N0, N1, or N2). It has not spread to distant sites (M0).

#### **Stage IV**

Any of the following:

**T4, any N, M0:** Mesothelioma has grown into the pleura lining the chest on one side and has grown into more than one place in the deeper layers of the chest wall (including the muscle or ribs), through the diaphragm and into the peritoneum, into any organ in the mediastinum, into the spine, across to the pleura on the other side of the chest, and/or through the heart lining or into the heart itself (T4). It might or might not have spread to lymph nodes (any N). It has not spread to distant sites (M0).

**OR**

**Any T, N3, M0:** The tumor may or may not have grown into nearby tissues (any T). It has spread to lymph nodes near the collarbone on either side and/or to hilar or mediastinal lymph nodes on the side opposite the main tumor (N3). It has not spread to distant sites (M0).

**OR**

**Any T, any N, M1:** The mesothelioma might or might not have grown into nearby tissues (any T). It might or might not have spread to the lymph nodes (any N). It has spread to distant sites (M1).

## **Resectable versus unresectable cancer**

The TNM system divides mesotheliomas into several stages that help give doctors an idea about a person's prognosis (outlook). But for treatment purposes, doctors often use a simpler system based on whether the cancer is likely to be resectable (where all visible tumor can be removed by [surgery](#)) or unresectable.

In general terms, most stage I, II, and III mesotheliomas are potentially resectable, but there are exceptions. Whether or not the cancer can be removed depends not only on how far the tumor has grown, but also on its subtype (most doctors believe only

epithelioid and mixed/biphasic tumors are potentially resectable), where it is located, and if the patient is healthy enough to have surgery.

Even for resectable mesotheliomas, in most cases cancer cells that can't be seen are left behind after surgery. For this reason, many doctors use other forms of treatment ([radiation therapy](#) and/or [chemotherapy](#)) along with surgery when possible.

## Other prognostic factors

Stage is an important factor in predicting a person's prognosis (outlook), but other factors also play a role. Some factors linked to longer survival times include:

- Good performance status (being able to carry out normal tasks of daily life)
- Younger age
- Female gender
- Epithelioid subtype
- Not having chest pain
- No significant weight loss
- Normal levels of a substance in the blood called LDH
- Normal red blood cell counts, white blood cell counts, and blood platelet counts
- [References](#)

[See all references for Malignant Mesothelioma](#)

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## Survival Statistics for Mesothelioma

Survival rates are often used by doctors as a standard way of discussing a person's prognosis (outlook). Some people want to know the survival statistics for people in similar situations, while others may not find the numbers helpful, or might not even want to know them. If you don't want to read about the survival statistics for mesothelioma, stop reading here.



To get survival rates, doctors have to look at people who were treated at least several years ago. Although the numbers below are among the most current we have available, improvements in treatment since then could result in a better outcome for people now being diagnosed with mesothelioma.

Survival rates are often based on previous outcomes of large numbers of people who had the disease, but they can't predict what will happen in any person's case. Knowing the type and the stage of a cancer is important in estimating outcome. But many other factors can affect survival, such as a person's age and overall health, the treatment received, and how well the cancer responds to treatment. Even taking these other factors into account, survival rates are at best rough estimates. Your doctor can tell you if the numbers below apply, as he or she is familiar with your situation.

Mesothelioma is a serious disease. By the time the symptoms appear and cancer is diagnosed, the disease is often advanced. Regardless of the extent of the cancer, mesothelioma can be very hard to treat.

## **5-year survival rate**

When discussing cancer survival statistics, doctors often use a number called the *5-year survival rate*. The 5-year survival rate is the percentage of people who live *at least* 5 years after their cancer is diagnosed. Of course, some people live longer than 5 years.

*Relative 5-year survival* takes the proportion of people with cancer that have survived 5 years and compares it to the survival expected in a similar group of people without the cancer. This helps adjust for deaths from causes other than the cancer. Based on data from the National Cancer Institute's SEER program, the relative 5-year survival rate for mesothelioma is between 5% and 10%. People diagnosed at a younger age tend to survive longer.

## **Median survival times**

The numbers in the table below are from a large international study that looked at the median survival time of patients with *pleural* mesothelioma who were treated with surgery between 1995 and 2009. Median survival is the length of time it took for half the people in a certain group (like those with a certain type and stage of cancer) to die. It is kind of like an average – half the patients in the group live longer than that and half the patients don't.

- **Stage**
- **Median**

- |       | <b>Survival</b> |
|-------|-----------------|
| • I   | • 21 months     |
| • II  | • 19 months     |
| • III | • 16 months     |
| • IV  | • 12 months     |

As a general rule, survival times are likely to be longer for people with mesotheliomas that can be operated on than for those with cancers that have spread too far to be removed. Other prognostic factors, such as those listed in [How Is Malignant Mesothelioma Staged?](#) can also affect survival.

- [References](#)

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## What Should You Ask Your Doctor About Malignant Mesothelioma?

It's important to have honest, open discussions with your cancer care team. You should feel free to ask any question, no matter how small it might seem. Here are some questions you might want to ask:

- What [kind of mesothelioma](#) do I have?
- Has my cancer spread beyond where it started?
- What is the [stage](#) (extent) of the cancer, and what does that mean?
- Is my cancer likely to be resectable (removable by [surgery](#))?
- Do I need other [tests](#) before we can decide on treatment?
- Do I need to see any other types of doctors?
- How much experience do you have treating this type of cancer?
- Should I get a second opinion? Can you recommend someone?
- What are my [treatment options](#)?
- What is the goal of treatment?
- What do you recommend and why?

- How quickly do we need to decide on treatment?
- What should I do to be ready for treatment?
- How long will treatment last? What will it be like? Where will it be done?
- What risks or side effects are there to the treatments you suggest?
- How will treatment affect my daily activities?
- What will we do if the treatment doesn't work or if the cancer recurs?
- What type of [follow-up](#) might I need after treatment?

Along with these sample questions, be sure to write down some of your own. For instance, you might want more information about recovery times. Or you may want to ask if you qualify for any [clinical trials](#).

Keep in mind that doctors aren't the only ones who can give you information. Other health care professionals, such as nurses and social workers, can answer some of your questions. To find out more about speaking with your health care team, see [The Doctor-Patient Relationship](#).

- [References](#)

[See all references for Malignant Mesothelioma](#)

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