Malignant Mesothelioma: Radiation Therapy

What is radiation therapy?

Radiation therapy uses high-energy beams of X-rays or particles to kill cancer cells or stop them from growing.

When might radiation therapy be used?

Radiation can be part of the treatment for some mesotheliomas. Here are some reasons your healthcare provider may recommend this treatment:

- **To try to kill any cancer cells left after surgery.** It's hard to remove most mesotheliomas. Some cancer cells may be left behind. Radiation can be used to try to kill these cells to decrease the chance that the tumor happens again after surgery. When radiation is used after surgery, it's called an adjuvant therapy.
- **To ease symptoms.** Sometimes tumors cause problems that can't be treated with surgery. This can happen inside the chest or in other parts of the body if cancer spreads to other organs. Radiation can be used to shrink these tumors and ease symptoms. For instance, radiation might help shrink a tumor that's pressing on a nerve and causing pain. It can also be used to ease compression on the windpipe or esophagus by the tumor.

Mesothelioma can be hard to treat with radiation. This is because it often spreads along the lining of the lungs (or another organ) without forming a tumor. This can make it hard to aim the radiation without affecting nearby normal cells, like those in the lungs.

To plan your treatment, you'll meet with a team of cancer specialists. This might include a surgeon, medical oncologist, and radiation oncologist. A radiation oncologist is a healthcare provider who specializes in treating cancer with radiation. This healthcare provider works with you to decide the kind of radiation you need, the radiation dose, and how long you need treatment.

External beam radiation

The most common way to get radiation for mesothelioma is from a large machine that focuses beams of radiation at the cancer. This is called external beam radiation. Sometimes special types of external beam radiation, such as proton beam radiation, or special methods, such as intensity-modulated radiation therapy, are used. This is done to try to limit the radiation that reaches and damages nearby normal cells.

Most people get external radiation as an outpatient in a hospital or a clinic. This type of radiation is usually given 5 days a week, Monday through Friday, for several weeks.

Getting ready for radiation

Before your first treatment, you'll have an appointment called simulation. This is needed to find exactly where on your body the radiation beam needs to be aimed. It may take up to 2 hours. During this session, imaging tests, like a CT scan or MRI, may be done. These tests help your healthcare providers know the exact place to aim the radiation. Body molds or casts might be made. These are used to put you in the exact same position and help you hold still during treatments.

Then, you'll lie still on a table while a therapist uses a machine to define your treatment field. The field is the exact area on your body where the radiation will be aimed. Sometimes it's called a treatment port. The therapist may mark your skin with tiny dots of semi-permanent ink or tattoos. Lights on the machine will line up with these dots during treatment. This is so the radiation is aimed at the same place every time.

On the days you get radiation

You can get this treatment in either a hospital or outpatient setting. You may have to wear a hospital gown. You'll lie on your back on a table and be put into the right position. The therapist may use blocks or shields to protect parts of your body from the radiation. The therapist then lines up the machine so that radiation is aimed at the spots that were marked on your skin.

When you're ready, the therapist leaves the room and turns the machine on. Treatment is a lot like getting an X-ray, but it takes longer. It takes about 15 to 30 minutes to do. You should plan on being there for about 1 hour. You'll hear whirring or clicking noises as the machine moves around you. It may sound like a vacuum cleaner. During treatment, you'll be able to talk to and hear the therapist over an intercom. You can't feel radiation, and it doesn't hurt. You won't be radioactive afterward.

What to expect after radiation therapy

Because radiation affects normal cells as well as cancer cells, you may have short- and long-term side effects. The side effects from radiation are normally limited to the area being treated. Some people have few or no side effects. If you do have them, your healthcare provider may change the dose of your radiation or how often you receive treatment. Or treatment may be stopped until your side effects get better. Tell your healthcare provider about any side effects right away. It's important to treat them before they get worse.

Common side effects can include:

- Skin irritation or changes in the skin that gets radiation. These areas may look like a bad sunburn, and might blister and peel.
- Hair loss in the skin that's treated. And the hair may not grow back.
- Fatigue
- Trouble breathing (from radiation to the chest), shortness of breath, or pain with breathing
- Cough
- Nausea and vomiting
- Diarrhea
- Loss of appetite (from radiation to the belly)

Most side effects tend to go away over time after you stop treatment. Still, if you have any of these side effects, talk with your healthcare provider about how to deal with them. You should also ask what side effects you might expect and what to do if they become serious. Make sure you know what number to call with questions or problems. Is there a different number for evenings, holidays, and weekends?

Some side effects occur many months after treatment is complete. Make sure to discuss what are the most common long-term side effects from your treatment. You should keep track of these once your treatment is complete and bring them up during follow-up visits.

It may be helpful to keep a diary of your side effects. A written list will make it easier to remember your questions when you go to appointments. It will also make it easier for you to work with your healthcare team to make a plan to manage side effects.