Radiation Therapy for Multiple Myeloma

Radiation therapy uses high-energy X-rays to destroy cancer cells. In some cases, it can be used to treat areas of bone damage caused by myeloma and solitary plasmacytoma. The type of radiation used is external beam radiation.

In most cases, when radiation is used for multiple myeloma, it is used as a palliative treatment. This means it helps manage symptoms rather than treat the cancer itself. In some cases, it can be used to treat a single plasma cell tumor (plasmacytoma).

Why might your provider recommend radiation?

Some of the reasons you may be treated with radiation are:

- Multiple myeloma can cause bone issues like weakness, pain, fractures (breaks in the bone), and spinal cord compression (bones in the spine pressing on the spinal cord). Radiation can prevent or treat these issues.
- Radiation is sometimes given to prepare for a stem cell transplant, to kill or destroy as many myeloma cells as possible.
- People with solitary plasmacytoma (SP) do not have myeloma cells in the bone marrow or body. Instead, they have a tumor made up of plasma cells that is only in one area of the body. Often, this type of tumor is in the bone and is called solitary bone plasmacytoma, which can be treated with radiation. If you have solitary plasmacytoma, it can turn into multiple myeloma.
- Lytic lesions (bone lesions) are spots where the bone has been damaged, leaving a hole in the bone. Lytic lesions are caused when bone breaks down faster than it can be remade. Too much bone breakdown and too little bone build-up cause weakened bones, leading to lytic lesions.

How is the number of radiation therapy fractions (treatments) decided?

The number of treatments you will have depends on the reason you are being treated with radiation. The ideal dose of radiation for solitary bone plasmacytoma (SBP) is based on the size of your SBP. You will likely receive 20-25 treatments.

Lower doses of radiation, also called palliative radiation, are enough to help relieve symptoms if you have bone lesions from multiple myeloma. The recommended guidelines for the number of treatments for palliative radiation therapy for multiple myeloma are:

- Bone sites where the goal is symptom relief:
  - Hypofractionation (larger doses of radiation given less often): 1 to 10 fractions.
  - Conventional fractionation: 10 to 15 fractions.
- Spinal cord compression treatment: 10 to 15 fractions.

What are the side effects of radiation?

Some of the side effects from radiation may include:

- Skin changes in the treatment area.
- Feeling tired (fatigue).
- Nausea.
- Diarrhea (if treatment area includes the stomach or pelvis).
- Low blood counts.