



WE'RE HERE TO HELP

We appreciate the opportunity to participate in your care. The more you understand your treatment, the more you become an active partner in helping us create and deliver the most effective treatment possible. Please don't hesitate to ask a member of your clinical care team if you have questions or concerns about your treatment.

RADIOPHARMACEUTICAL THERAPY



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CANCER INSTITUTE
Wayne State University

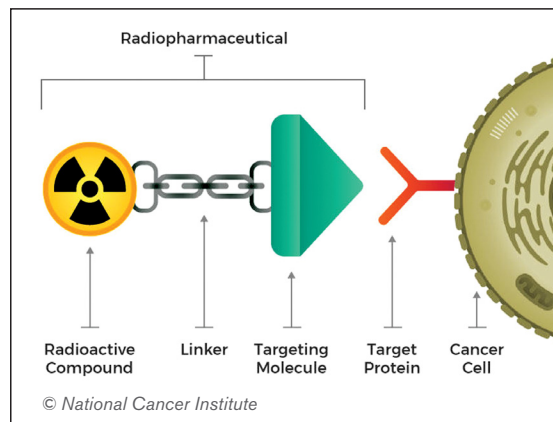


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WHAT IS RADIOPHARMACEUTICAL THERAPY?

Radiopharmaceutical therapy (RPT) involves a drug that carries a radioactive compound that targets cancer cells. When patients receive conventional radiation therapy, X-rays are targeted at the tumor and delivered using external beams. During delivery, the radiation has to travel through healthy tissue on the path to the disease. When the cancer has spread throughout the body, treating multiple parts of the body with traditional external beams of radiation can increase the risk of significant side effects.

With RPT, the molecules within the radioactive drug find the tumor cell and release the radioactive payload. Only the cells around the targeted tumor are damaged when the radiation is emitted, reducing damage to surrounding healthy tissue.



HOW DOES RADIOPHARMACEUTICAL THERAPY WORK?

RPT relies on the ability of a drug to collect in and around particular cells. This can be accomplished by targeting specific tumor receptors on the cancer cells, as shown in the picture. This is the method of treatment for neuroendocrine tumors (Lutathera®) and metastatic prostate cancer (Pluvicto®), respectively, both of which use the radioactive emitter Lu-177 to deliver the dose to cells with these tumor receptors.

Radiopharmaceuticals can also detect the amount and location of the cancer cells. In this case they are also sometimes called “theranostics,” meaning they can perform both diagnosis and therapy. A PET scan is needed for both Lutathera® and Pluvicto® to image the disease. For this PET scan, an imaging drug is used instead of the therapeutic radiation emitter. This scan then allows us to determine whether the tumor receptor is present and, if so, where the cancer cells are located. Next, the therapeutic radiation emitter Lu-177 is attached to the targeting molecule and administered to the patient. The drug will then find and bind to the tumor cells and release DNA-damaging radiation to kill the cancer.

Additional cancer imaging and treatment drugs are currently under investigation at the Karmanos Cancer Institute to help develop future treatments.

WILL I BE RADIOACTIVE AFTER THE TREATMENT?

Yes, you will carry radioactivity within your body and release some of it through your urine, feces, sweat, and other bodily excretions. The amount of time you will be radioactive depends on the time it takes for the radioactive emitter to release its energy. You will be given specific instructions to help you minimize the exposure to those around you.

WHAT ARE THE POSSIBLE SIDE EFFECTS OF TREATMENT?

Side effects are specific to the type of radiopharmaceutical used. General side effects include, but are not limited to, fatigue, nausea, vomiting, low blood counts, and decreased kidney and liver function.

WHAT IF I'M NOT CHOSEN TO RECEIVE RADIOPHARMACEUTICAL TREATMENT?

RPT is only available for specific cancer types. Karmanos evaluates all patients with these types of cancers to determine whether RPT is right for them. If you are a candidate for radiopharmaceutical therapy, your radiation oncologist will discuss the treatment with you. You can rest assured that you will receive the most accurate, highest-quality treatment we can provide.