

Non-Hodgkin Lymphoma: Radioimmunotherapy (RIT)



What is radioimmunotherapy (RIT)?

Radioimmunotherapy (RIT) is a type of targeted radiation therapy. It is a combination of radiation therapy and immunotherapy. It uses radioactive molecules (called radioisotopes) to kill cancer cells. They are attached to lab-made (synthetic) proteins. These proteins are called monoclonal antibodies. They bind to cancer cells throughout your body. When they are injected into your blood, the antibodies attach the small doses of radiation directly to the lymphoma cells. This allows RIT to kill cancer cells while sparing many of your normal cells.

When is RIT used for non-Hodgkin lymphoma?

RIT might be used to treat some types of B-cell lymphomas. It may be part of the first treatment used. But it is more commonly used if other treatments are no longer working.

Getting ready for RIT

Ask your healthcare provider what you can expect to feel like during and after the treatment. Also ask if there are safety steps you will need to follow after treatment. The radiation stays in your body for a few days after treatment. It will come out in your body fluids. Because of this, it is important to wash your hands well after using the bathroom. You also may be told to use a condom during sex for a few weeks after RIT.

Be sure you understand any safety directions you must follow after treatment to protect the people around you.

How is RIT given?

This treatment might be done by a nuclear medicine healthcare provider or a radiation oncologist.

You'll be treated as an outpatient in a healthcare provider's office, a clinic, or in a hospital. This means you don't have to stay overnight. Treatment often takes a long time. It depends on your treatment plan.

RIT is put into your blood through an IV (intravenous) line in your hand or arm. On the first day of RIT, you'll get a small dose of the monoclonal antibody (immunotherapy) medicine that has no radiation. The medicine goes in very slowly. It may take about 6 hours. You will be watched for allergic reactions or signs of other problems. You'll also be given medicines before the treatment to help lower this risk.

About 1 week later, you will get another dose of the immunotherapy medicine with no radiation. If you do well with it, within a few hours you will get the form of the medicine that has radiation. It can take 1 whole day to get the treatment.

Possible side effects of RIT

Be sure to discuss all possible side effects, risks, and benefits with your healthcare provider. Some side effects can be a lot like an allergic reaction. They most often happen during or shortly after treatment and can include:

- Tiredness
- Flu-like symptoms, like fever, chills, and nausea
- Headache
- Flushed skin
- Feeling lightheaded
- Sores in the mouth, nose, or in other mucous membranes

- Rash or hives and rare skin reactions
- Swelling in your throat or chest tightness
- Diarrhea

Some people have more severe allergic reactions. In rare cases, these can lead to low blood pressure and trouble breathing. You will be given medicines before your RIT treatment to help lower the risk of allergic reactions. Discuss the risks and benefits with your healthcare provider.

RIT can increase your risk of some infections for many months after treatment. If you were infected with hepatitis B in the past, it can make the virus flare up. You may need a blood test for hepatitis before starting this medicine.

The treatment can also affect your bone marrow. This may not start until 2 to 3 weeks after treatment. It can lead to low white blood cell and platelet counts. This increases your risk for infection, bruising, and bleeding. This can be very serious. You may need blood or platelet transfusions if your counts get too low. Your blood counts will be checked often after treatment. Within about 10 weeks, they should be close to normal again.

RIT side effects can be treated to keep them from getting worse. They go away over time after treatment ends.

Working with your healthcare provider

Talk with your healthcare provider about what symptoms to watch for and when to call them. For instance, if your blood counts drop, it can make you more likely to get infections. You may be told to check your temperature and stay away from people who are sick. You may need to call if you have a fever or chills. Make sure you know what number to call with problems or questions. Ask how you can get help after office hours and on holidays and weekends.

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