



**KERNGENEESKUNDE / NUCLEAR MEDICINE
TYGERBERG HOSPITAAL / TYGERBERG HOSPITAL**



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Lu-177 DOTATATE THERAPY PATIENT INFORMATION

You / your relative / child have been booked for Lu-177 DOTATATE therapy, which will be done at Tygerberg Hospital.

Please read the information in this leaflet carefully. If you have any further questions you are welcome to ask a doctor during your treatment, or phone us before your treatment.

What is Lu-177 DOTATATE treatment?

Lutetium-177 (Lu-177) DOTATATE therapy is often an effective way of treating **neuroendocrine tumours** (NETs) including carcinoid tumours, GEP-NETs, paragangliomas, neuroblastomas, and certain types of thyroid cancer that cannot be cured by surgery and/or that have not responded to medical treatment.

Although Lu-177 is a radioactive substance, it is safe to use. Once in your body, the Lu-177 DOTATATE attaches to tumour cells and destroys these cancerous cells. Any Lu-177 DOTATATE that is not absorbed by the tumour cells is excreted by your body in your urine and stools.

Investigations that will be needed for the treatment

You will need to undergo a specific scan called a gallium-68 DOTANOC/-TATE PET/CT scan to check whether you are a candidate for the treatment. You may already have had this scan. If not, we can perform the scan.

Your doctor will arrange blood tests approximately 2 weeks before the treatment and again around 6 weeks after the treatment

Is there any preparation before the treatment?

If you are receiving long acting octreotide injections (e.g. Sandostatin LAR) every 4 weeks, ensure that this is stopped 6 weeks before you are due to receive lutetium treatment. You may require short acting subcutaneous octreotide (e.g. Sandostatin 100 mg 3 times per day) in the 6 weeks leading up to the therapy. The short acting octreotide should be stopped 24 hours before the treatment.

If you feel unwell before the date of the treatment please inform us on one of the numbers at the end of this document, or send us an e-mail at nmtherapy@sun.ac.za. You may have a light breakfast with juice or tea, but please limit coffee and any fatty foods as this may result in nausea during the treatment.

How is Lu-177 treatment given?

You will first be given medicine to prevent nausea and vomiting. You will then be started on two intravenous drips. Through the first drip you will receive a fluid solution containing amino acids (proteins). This drip runs for about four hours and helps to protect your kidneys from the effect of radiation. Through the second drip you will receive the Lu-177 DOTATATE. This drip will be started about an hour after the first drip and will run for 30 minutes.

What happens after the procedure?

You will remain in hospital in an isolated private room due to the radiation in your body. During the first 12 hours after the treatment a large amount of the radioactivity leaves your body through your urine. Five scans will be performed after the treatment has been given: two on the same day, one the next day (24 h later), and one each at 48 h and 72 h after therapy. The majority of patients can be discharged after the single overnight stay.

Will there be any danger to my family or friends?

You will usually be discharged the morning after treatment. Lu-177 DOTATATE delivers its radiation within your body and only very small amounts exit your body. However, as a precaution during the treatment no visitors are allowed. Following discharge your family and friends are not at risk, but we recommend some sensible precautions:

- Always flush the toilet twice after use for one week after the treatment.
- Avoid physical contact with young children and pregnant women for 3 days.
- Limit close contact with other adults for 3 days.
- Avoid sharing a bed with another person for 3 days.

On the day of treatment, the doctor will give you specific advice. This advice depends on the amount of treatment your doctor prescribes for you.

Can I have treatment if I am pregnant or breast-feeding?

No. Women who are pregnant or breast-feeding must not be given treatment. Lu-177 DOTATATE is radioactive and is not given if you are pregnant. If there are any concerns about pregnancy, a pregnancy test will be done. Reliable birth control should be used until treatment has finished and for at least 6 months afterwards.

Men are advised not to father a child for the same period. If you are breast-feeding, you should discuss this with your doctor as you will need to stop breast-feeding before you have therapy.

How many treatments will I need?

Usually 3-4 treatments are given 8-10 weeks apart, but your health and response to therapy will be reassessed after each treatment cycle. Subsequent treatments will depend on the effect that the therapy had on your blood cells, kidneys and liver.

Subsequent clinical assessments (including blood values) are required 2 weeks before the next treatment cycle.

Are there any risks or side effects?

In general, the side effects of this treatment are much milder than those people experience with chemotherapy. Nevertheless, some side effects, as explained below, may occur.

Common, temporary side-effects that may occur in the **short term**:

- Nausea and/or vomiting (we will give you medicines to prevent/treat this). This usually occurs on the first day. Diarrhoea or indigestion may also occur.
- Tiredness
- Allergic reactions (itching, anaphylaxis) to the amino acid infusion. We can treat this if necessary.
- Temporary hair loss (but not baldness). If this occurs, hair will start to re-grow once the treatment cycles have been completed.

- If your cancer is functionally active (secreting hormones or hormone-like substances), you may experience symptoms related to the release of these substances into the blood stream as the tumour cells die. If this occurs, it will be treated actively and may sometimes require short-acting Sandostatin.

Common side effects that may occur in the **medium term**: Temporary reduction in the number of blood cells and platelets. This is the most frequent side effect, but is rarely serious. Usually, you would not even be aware of it.

Over the **longer term**, a few patients may experience more serious side effects. These are rare, but include:

- Myelodysplastic syndrome (an early form of leukaemia) (less than 1% of patients)
- Serious deterioration in kidney function (less than 1% of patients)
- Serious deterioration in liver function (rare)

Where will I be admitted?

Because you need to be isolated, we will admit you in a Radiation Oncology isolation ward in the Gene Louw building of Tygerberg Hospital. Please report to the reception area in this building between 07:00 – 07:30.

If you have any questions/emergency, please call one of the following numbers: During office hours: 021 938-4265 / 021 938-4268 / 021 938-4352 / 021 931-1519; After-hours: 021 938 4911 (ask for Nuclear Medicine Physician on call). You can also send an e-mail to nmtherapy@sun.ac.za. We will then either call you back or communicate via e-mail.

FIND US

If you have any questions, please do not hesitate to ask.

CONTACT US:

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Leaflet compiled based on:

1. *Nuclear Medicine, University of Pretoria*
2. *IAEA publication: Practical Guidance on PRRT for NETs*