

Peptide Receptor Radionuclide Therapy (PRRT)

What is PRRT treatment?

This is a form of radiation treatment, but rather than the radiation coming from outside in standard radiotherapy, it is injected into your bloodstream. The radiation is attached to specific molecules called DOTATATE (think of like a key) which target receptors on the cancer cells (think of like locks). Once the key containing the radiation attaches to the lock, it gets taken into the cell and delivers the radiation directly to the cancer cell.

Before we can treat?

You will need an imaging scan and up-to-date blood tests before your clinic appointment with us. You will then be booked into one of our clinics to see a Nuclear Medicine Consultant and Specialist Nurse. We will assess your prior medical history including the treatment(s) you have received for your Neuroendocrine tumour. We will also want to confirm that there are no issues regarding the radiation risks to you or people around you, including understanding who you live with and whether you work. We will also need to assess whether there are any issues regarding your mobility, caring for yourself or toileting. Our radiation physics team will also speak to you to ascertain some of this information. Once you have been seen in clinic a date can be organised for you to come in for the PRRT treatment.

How is radiopeptide treatment given?

On the day of treatment, you will have a small plastic tube (cannula) inserted into a vein in your arm. We will then give you two medicines through the cannula – one is a steroid which will prevent any inflammation in your tumour and any unnecessary pain. The other is an anti-sickness medicine which will prevent any nausea. We will then connect a drip to the cannula and give you a fluid called Synthamin for 4 hours. This is used to protect your kidneys from any unwanted radiation. During this time, we will interrupt the drip to give the PRRT treatment. This is also given through the same cannula and takes about 30-40 minutes. After the infusion, the drip will be reconnected for the remainder of the 4 hours.

Are there any side effects?

Unlike chemotherapy and radiotherapy, the side effects are minimal. You may feel tired, lethargic and experience some nausea (feeling sick). There are some effects on your blood count. Your clinician will ask you to have regular blood tests which are arranged through your GP surgery.

Will I be radioactive?

Yes, for a short while. The type of radiation used in this treatment means you will be safe to go home once you have been checked by your doctor. The radioactivity in the tumour will last for some time to produce the maximum effect on the tumour cells but does not pose a risk to leave hospital.



Will I have to stay in hospital?

Yes, however, this is just for practical reasons as you will need to stay for various scans following the treatment. To ensure that you are cared for safely, we will ask you to stay in your single room until your doctor and the medical physics staff advise you to go home. This will be discussed on an individual basis, as everybody has different home circumstances.

Will there be any scans?

Following treatment, the next morning you will attend the Nuclear Medicine Department to undertake an “uptake scan” where the radiation distribution within you, is assessed.

How many treatments will I need?

PRRT treatment is usually given in 4 Cycles, 8–10 weeks apart. This will be discussed on an individual basis.

Following treatment

Following each treatment cycle, we will ask you to have blood tests every 2 weeks to monitor your liver, urinary and marrow function. Along with the blood tests, you will also be required to undertake a DOTATATE PET-CT and CT Thorax, Abdomen and Pelvis (TAP) and a CT Liver Dual Phase, after 2 and 4 treatment doses which is followed by a consultation with the doctor. This will give us an opportunity to assess how your disease may be responding to the treatment. We will also liaise with your oncologist regarding any medical support you may need whilst on treatment.

Further information and support

Neuroendocrine Cancer UK

Tel (general): 01926 883 487

Nurse helpline: 0800 434 6476

Website: www.neuroendocrinecancer.org.uk

Contact details

You should have been seen by a clinician and or a nurse before receiving targeted radionuclide therapy. They will provide you with their individual contact details. If you have any queries or further questions, please contact us (Monday-Friday, 09:00 – 17:00):

Sutton: 020 8661 3798 / 3286

Chelsea: 020 7811 8541

Alternatively, please contact:

The Royal Marsden Hotline: 020 8915 6899

(available 24 hours a day, 7 days a week)

Should you require information in an alternative format, please contact The Royal Marsden Help Centre.

