

# PRRT

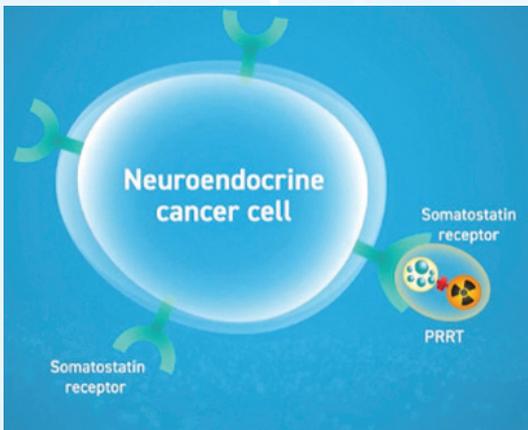
## What is Peptide Receptor Radionuclide Therapy (PRRT)?

PRRT is a targeted form of radiation treatment that can be used to treat neuroendocrine cancer.

### How does PRRT work?

Most neuroendocrine cancer cells have receptors on the outside of the cell. These are called somatostatin receptors. If there are adequate somatostatin receptors present on neuroendocrine cancer cells, it indicates PRRT may be a possible treatment option. To understand if there is adequate somatostatin receptors a Ga68 or Dototate PET scan is performed.

PRRT is administered via an infusion. A radioactive substance (e.g. lutetium-177) is attached to a somatostatin analogue drug (octreotide). The radioactive substance is carried by the somatostatin analogue directly to the neuroendocrine cancer cell and attaches to the receptors on the cell surface. This allows the radiation to enter and directly damage the neuroendocrine cancer cells.



### The aim of PRRT is:

- Reduce the size and number of tumours
- Slow tumour growth
- Provide relief from symptoms such as pain
- Reduce hormone release for some tumours
- Improve quality of life

### Before PRRT

If you are having somatostatin analogue (SSA) injections, such as lanreotide or octreotide, these may need to be delayed before your PRRT.

It will be important that you let your medical team know the date of your last SSA injection. Your treating team will give you information relevant to your personal circumstances.

A kidney scan and blood tests will be required before treatment and an echocardiogram may also be considered.

### During PRRT

**Location:** PRRT is given in the Nuclear Medicine Departments of Specialist Treatment Centres.

**Duration:** PRRT is generally given as day treatment over 5-6 hours. Admission may be required if you have carcinoid heart disease and or are at high risk of carcinoid crisis.

- A thin plastic tube called a cannula, is inserted into a vein (usually in the arm) to allow delivery of the radioactive substance as an infusion.
- Medication is given to stop you feeling sick.
- Amino acids are given by a drip into the vein over several hours to protect and reduce kidney injury.
- Then the infusion of radioactive therapy is given over approximately 20-30 minutes.

**Frequency:** every 8 weeks

**How many treatments:** Usually 4 treatments are given, however this can vary for each individual. If PRRT has worked well there may be potential for more treatment in the future.

If you feel unwell or have any symptoms it is important to notify the staff caring for you. During treatment you will be able to eat, drink and use electronic devices such as iPads, laptops. You will have restrictions on visitors during your time in Nuclear Medicine Department.



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## After PRRT

Your body will be radioactive following PRRT. For several days after treatment radioactive substances will leave the body through urine and faeces.

It is therefore important to take safety precautions as advised by your treating team

Your lifestyle and potential strategies to manage issues around treatment such as travel, returning to work, food preparation, laundry, contraception, and pregnancy will be discussed with you before treatment commences.

## Possible side effects

### Common side effects could include:

- Nausea
- Fatigue or tiredness
- Temporary increase in pain
- Temporary increase in carcinoid syndrome symptoms, such as flushing, sweating, diarrhoea, heart palpitations
- Kidney or liver problems
- Hair loss or thinning (mild to moderate)

## Rare side effects of PRRT

Carcinoid Crisis can occur in rare instances when large amounts of hormones and proteins are released by neuroendocrine cancer either during or after PRRT. Your treating team will screen you for this risk and if required as a precaution will have a prevention plan in place as required.

## Late side effects of PRRT

- *Low blood counts (myelodysplasia)*
- *Kidney problems (renal impairment)*

Always inform your health care team if you experience any of these symptoms.

Starting a new treatment can raise many questions.

If you need further information or support about PRRT or neuroendocrine cancer contact the **NET nurses at NeuroEndocrine Cancer Australia on 1300 287 363** Monday-Friday 9am-5pm.



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