This handout provides information for Lu-177 PSMA, also known as Pluvicto, for the treatment of metastatic castrate resistant prostate cancer.

**What is metastatic castrate resistant prostate cancer (mCRPC)?**
You have been diagnosed with a castrate resistant prostate cancer that has spread (metastasized) in the body. The metastases (areas where cancer has spread) have receptors on the cell-surface called prostate specific membrane antigen (PSMA). PSMA receptor is found in high amounts on prostate cancer cells.

We can see the PSMA receptors on prostate cancer cells using specific Positron Emission Tomography (PET) and Computed Tomography (CT) scanning. A PET/CT scan is a way to create pictures of organs and tissues inside the body. Having both scans at once shows the structure of cells and tissues and how well they are functioning.

**How does Pluvicto work?**
Pluvicto is a type of Radioisotope therapy, also called Peptide Receptor Radionuclide Therapy or PRRT. Radioisotope therapy delivers radiation directly into the cancer cells by adding radioactive material (radionuclides) to proteins that bind with the receptor on the surface of the cancer cells and destroys these specific cancer cells.

Pluvicto is a radionuclide drug administered by injection into a vein. As the medication enters the body, it binds onto the cancerous cells and delivers the
radioactive material directly to the areas where the cancer has spread (metastases).

Currently this treatment is approved by the FDA, since March 23rd, 2022, for treatment of metastatic castrate resistant prostate cancer.

**How will I take Pluvicto?**

Pluvicto is given through a small IV as a slow IV infusion in six cycles every 6 weeks. An IV is needle or a thin tube that is inserted into a vein. The dose is injected over 2-5 minutes. You may also receive prescriptions for medications to help you avoid nausea or vomiting.

**Am I a suitable candidate to receive Pluvicto treatment?**

Your referring doctor is recommending this treatment to manage your metastatic prostate cancer because you meet the following qualifications:

- PET/CT scans show high uptake of Ga68-PSMA
- Tumor is inoperable (cannot be treated with surgery)

You must have adequate bone marrow and kidney function, and general mobility (can handle self-care and not immobile or using a wheelchair) to receive this treatment:

- If treatment becomes toxic to your kidney or bone marrow, we will reduce your treatment dose or delay your treatment
- If these toxicities persist, it may be necessary to discontinue treatment
- Notify your therapy team if you have urinary incontinence

**Is there any special preparation for this treatment?**

Get your labs done approximately 2 weeks before any therapy appointment you have scheduled. We will test your kidney function (comprehensive metabolic
What are the benefits and efficacy of Pluvicto treatment?
Research has shown that treatment with Pluvicto is more effective than treatment without Pluvicto. One study showing the benefit of PRRT with Lu-177 PSMA is the VISION trial.

In the study, men with progressive, PSMA-positive mCRPC were put into two groups with the following treatments:
- Pluvicto plus the best care available
  - Patients received Pluvicto 7.4 GBq (200 mCi) every 6 weeks for up to a total of 6 doses
- Best care available without Pluvicto

In this study patients who took Pluvicto:
- Lived longer from start of treatment (overall survival or OS) – 4 months longer with Pluvicto than without
- Lived longer without their cancer growing or spreading (progression-free survival or PFS) – 5.3 months longer with Pluvicto than without

What are the risks and side effects of Pluvicto treatment?
The most common side effects that occurred in patients who received Pluvicto were:
- Fatigue,
- Dry mouth,
- Nausea,
- Anemia,
- Decreased appetite,
- Constipation.

Note: These side effects occurred in approximately 20 out of 100 people.
The most common laboratory results that worsened from baseline in patients who received Pluvicto were decreased:

- Lymphocytes
- Hemoglobin
- Leukocytes
- Platelets
- Calcium
- Sodium

**Note:** These abnormal labs occurred in approximately 30 out of 100 people.

The major potential severe side effects are **renal toxicity** (decrease in kidney function) and **myelosuppression** (decrease in bone marrow function).

**Myelosuppression**

Pluvicto can cause severe and life-threatening myelosuppression. This is why it is very important to have your oncologist continue to monitor you closely during your therapy. We will order and review complete blood counts (laboratory testing) before and during treatment with Pluvicto. We will assess if we need to withhold, reduce dose, or discontinue Pluvicto based on these results.

**Renal toxicity**

Pluvicto can cause severe renal toxicity. You should remain well hydrated and urinate frequently before and after Pluvicto treatment. We will order and review kidney function laboratory tests before and during treatment with Pluvicto. We will assess if we need to withhold, reduce dose, or discontinue Pluvicto based on these results.
Do I have to follow specific instruction to manage radiation exposure to family, friends or the general public?

Yes, this medicine is most effective in treating your prostate cancer metastases because it is radioactive. This is also the reason it is necessary to follow certain precautions to limit the exposure of the people around you.

It is estimated that the health risks to your family members and the general public are low. However, you must follow the precautions to maximize the safety of other persons. These precautions are the result of many years of experience in the use of radioactivity in medicine, and they include recommendations issued by international organizations.

Your clinic nurse will explain the precautions and give you a handout describing them.

Should I participate in imaging dosimetry?

Post-therapy imaging dosimetry is done using a SPECT/CT camera. Imaging dosimetry of Pluvicto is a technique used to examine the biodistribution of radionuclide within the body. This means where the medication is concentrated. It is also used to measure the amount of Pluvicto absorbed by the various tumor tissues, and within normal organ structures.

The goal of dosimetry is to learn how to maximize your radiation dose to tumor tissues while avoiding excessive toxicity to normal organs.

Although we know dosimetry in patients has provided valuable information on the concentration of Pluvicto in the body, we also know that individual exposures to normal organs may vary with the same injected doses due to the different ways injected radioactive medications behave in the body.