



# A Care Process Model to Deliver $^{177}\text{Lu}$ -Dotatate Peptide Receptor Radionuclide Therapy for Patients With Neuroendocrine Tumors

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## OPEN ACCESS

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### Specialty section:

This article was submitted to  
Radiation Oncology,  
a section of the journal  
Frontiers in Oncology

**Received:** 18 September 2018

**Accepted:** 13 December 2018

**Published:** 09 January 2019

### Citation:

Kasi PM, Maige CL, Shahjehan F, Rodgers JM, Aloszka DL, Ritter A, Andrus ML, Mcmillan JM, Mody K, Sharma A and Jain MK (2019) A Care Process Model to Deliver  $^{177}\text{Lu}$ -Dotatate Peptide Receptor Radionuclide Therapy for Patients With Neuroendocrine Tumors. *Front. Oncol.* 8:663. doi: 10.3389/fonc.2018.00663

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**Purpose:** To develop a care process model for the delivery of peptide receptor radionuclide therapy (PRRT) with lutetium-177 ( $^{177}\text{Lu}$ )-Dotatate for the treatment of somatostatin receptor-positive gastroenteropancreatic neuroendocrine tumors (GEP-NETs).

**Methods:** A multidisciplinary, structured PRRT process model was established. Over the last 9 months, meetings were held bi-weekly to discuss the logistics of clinical trials. Meetings are still held regularly at the Mayo Clinic Florida to discuss plans regarding commercially available PRRT treatments. The process model has evolved as we have treated patients on both clinical trials and commercial treatments.

**Results:** An effective process model was formulated. We had 5 patients on our Expanded Access Program (EAP) clinical trial. Our ability to be a part of the EAP allowed us to understand the mechanics of how to treat these patients, and what was involved before it became commercially available. Since commercial availability of the  $^{177}\text{Lu}$ -Dotatate, more than 50 treatments (>20 patients) have already been completed, with several new patients getting started on treatment every week. Our nuclear medicine department receives continual requests to schedule new patients for PRRT. This can be attributed to our streamlined approach in delivering PRRT to our patients.

**Conclusion:** A thorough procedural approach was formulated to provide patients with PRRT. Experiences and challenges led to refinement, which has allowed the process to advance. This development could lead to better patient outcomes, treatment efficiency, and a reference standard for other institutions trying to develop this at their location.

**Keywords:** peptide receptor radionuclide therapy, PRRT,  $^{177}\text{Lu}$ -Dotatate, neuroendocrine tumor, somatostatin receptor, NET, lutathera, theranostics