Comprehensive Cancer Network : JNCCN 2012;10:724-64.
73. Rufini V, Calcagni ML, Baum RP. Imaging of neuroendocrine tumors. Seminars in nuclear medicine 2006;36:228-47.
74. Strosberg J, El-Haddad G, Wolin E, et al. Phase 3 Trial of 177Lu-Dotatate for Midgut Neuroendocrine Tumors. The New England journal of medicine 2017;376:125-35.

Appendix A

For the purposes of this practice parameter, the following definitions apply:

Neuroendocrine tumors (NETs): Neuroendocrine tumors comprise a heterogeneous group of neoplasms that arise from endocrine cells within the glands (eg, adrenomedullary, pituitary, parathyroid) or from endocrine islets in the pancreas, thyroid, respiratory system, and gastrointestinal system [81].

Somatostatin receptors (SSTRs): SSTRs are present on the cell surface of essentially all cells, but with especially high expression on neuroendocrine cells, providing a unique and specific molecular target for imaging. There are 5 major subtypes of SSTRs, referred to as SSTR1, SSTR2, SSTR3, SSTR4, and SSTR5. SSTR2 has 2 variants, SSTR2a and SSTR2b. The role of SSTR2b is poorly understood but is probably similar to SSTR2a. When SSTR2 is used in the context of medicine, it refers to SSTR2a, unless otherwise specified [1,82].

Somatostatin (SST): SST is the hormone ligand for SSTRs. SST is responsible for the "carcinoid" symptoms, such as wheezing, flushing, cramps, and diarrhea. Octreotide is an SST analog that binds with very high affinity to the SSTRs (especially subtypes 2 and 5) and can control these symptoms with very few, if any, side effects. Octreotide requires injection. Long-acting release (LAR) octreotide is very popular with patients because it lasts about 30 days with one intragluteal injection, obviating the need for daily injections with standard octreotide. Short-acting IV or sub-q octreotide is used to control "carcinoid crisis" and to supplement LAR octreotide if needed. A similar SST analog medication, lanreotide, has an LAR form given subcutaneously every 4 weeks. In addition to controlling symptoms, there is evidence that SST analogs can have antiproliferative effects on the NET.

Peptide-receptor radionuclide therapy (PRRT): A therapy used for neuroendocrine tumors with a high expression of SSTR2 using DOTATATE radiolabeled with lutetium-177 or yttrium-90 [83].

*Practice parameters and technical standards are published annually with an effective date of October 1 in the year in which amended, revised or approved by the ACR Council. For practice parameters and technical standards published before 1999, the effective date was January 1 following the year in which the practice parameter or technical standard was amended, revised, or approved by the ACR Council.

Development Chronology for This Practice Parameter

Adopted 2018(Resolution 32)

Amended 2018 (Resolution 44)

Revised 2023 (Resolution 24)