I. PURPOSE

To define and describe the accepted indications for Somatostatin Analog: Sandostatin (octreotide) and Somatuline (lanreotide) usage in the treatment of cancer supportive care.

II. DEFINITIONS

**Somatostatin Analog:** parenteral synthetic analog of the naturally occurring hormone somastatin. The activity of octreotide is similar to that of somatostatin. Octreotide, however, has a longer half-life, greater selectivity for inhibiting glucagon, growth hormone, and insulin release, and a lower incidence of rebound hypersecretion following discontinuation. Several mechanisms of actions have been suggested, including the inhibition of exocrine secretion in the digestive system (i.e. gastrin, serotonin), inhibition of endocrine secretion of hormones (i.e. growth hormone, insulin, glucagon), modulation of biliary and GI motility, acting as a neurotransmitter, and induction of apoptosis.

**Carcinoid Syndrome:** refers to the array of symptoms that occurs secondary to carcinoid tumors. The syndrome includes flushing and diarrhea, and less frequently, heart failure and bronchoconstriction. It is caused by endogenous secretion of mainly serotonin.

Sandostatin (octreotide) is FDA approved for the symptomatic treatment of neuroendocrine tumors including metastatic carcinoid tumors or vasoactive intestinal peptide tumors (VIPomas) where it suppresses or inhibits the severe diarrhea and flushing episodes associated with the disease.

Somatuline (lanreotide) is FDA approved for the treatment of patients with unresectable, well- or moderately-differentiated, locally advanced or metastatic gastroenteropancreatic neuroendocrine tumors (GEP-NETs).

Sandostatin (octreotide) is available in the following dosage formulations:

a. Ampuls: 50 mcg, 100 mcg, and 500 mcg
b. Multidose vials: 1 mg (1000 mcg) and 5 mg (5000 mcg)
c. LAR Depot (single use kits): 10 mg, 20 mg, and 30 mg.

Somatuline (lanreotide) is available in 60 mg, 90 mg, and 120 mg prefilled syringes.

III. POLICY

New Century is responsible for processing all medication requests from network ordering providers. Medications not authorized by New Century may be deemed as not approvable and therefore not reimbursable.
Treatment request outside the approved FDA manufacturer labeling or CMS approved compendia must be supported by, at minimum, two peer reviewed citations. If references are not produced, delays may occur to the processing of such request.

**Inclusion Criteria:** Somatostatin Analog may be considered medically necessary when any of the following selection criteria is met. New Century Health prefers the use of Sandostatin (octreotide) over Somatuline (lanreotide). The replacement of Somatuline (lanreotide) for Sandostatin (octreotide) is considered equally safe, effective, and therefore interchangeable.

1. **Neuroendocrine Tumors**
   a. The member has carcinoid tumor and Somatostatin Analog is being used in member with any of the following:
      i. Management of unresectable locoregional disease and/or distant metastases for the following:
         a) As symptom control in members with carcinoid syndrome
         b) For tumor control.
   b. The member has islet cell tumors and Somatostatin Analog is being used in members for treatment of symptoms related to hormone hypersecretion and for tumor control.
      The member has poorly differentiated large/small cell/atypical lung carcinoids and Somatostatin Analog is being used in member for symptom control.

2. **Thymomas and Thymic Carcinomas**
   a. The member has thymomas or thymic carcinomas and Sandostatin SQ or LAR depot (octreotide) is being used in member with the following:
      i. Second-line therapy with or without prednisone following radiation therapy for locally advanced unresectable disease.

**Exclusion Criteria:** Somatostatin Analog is not considered medically necessary when any of the following selection criteria is met:

1. Dosing exceeds single dose limit of 30 mg Sandostatin LAR depot (octreotide) or 500 mcg of Sandostatin SQ (Octreotide).
2. Dosing exceeds single dose limit Somatuline (lanreotide) 120 mg.
3. Somatuline (lanreotide) treatment exceeds duration limit of 96 weeks maximum.
4. Indications not supported by CMS recognized compendia or acceptable peer reviewed literature may be deemed as not approvable and therefore not reimbursable.

**IV. PROCEDURE**

Requests for Somatostatin Analog shall be reviewed for appropriateness per FDA approved product labeling, the National Comprehensive Cancer Network (NCCN) and American Society of Clinical Oncology (ASCO) clinical guidelines, or CMS approved compendia.

1. **Dosing and Administration**
   a. Carcinoid Tumor
i. Initial treatment should start with Sandostatin SQ (Octreotide): 100-600 mcg/day SQ/IV in 2-4 divided doses for 2 weeks. After 2 weeks, may switch to Sandostatin LAR depot (octreotide) 20 mg IM at 4-week intervals for 2 months.

ii. Maintenance treatment with Sandostatin SQ (Octreotide): 450 mcg/day SQ/IV in 3 divided doses (range 50-1500 mcg/day).

b. Vasoactive Intestinal Peptide-Secreting Tumor (VIPoma)
   i. Initial treatment should start with Sandostatin SQ (Octreotide): 200-300 mcg/day SQ/IV in 2-4 divided doses for 2 weeks (range 150 to 750 mcg). After 2 weeks, may switch to Sandostatin LAR depot (octreotide) 20 mg IM at 4-week intervals for 2 months.

   ii. Maintenance treatment Sandostatin SQ (Octreotide): maintenance dose must be individualized and adjusted to achieve response; doses above 450mcg/day SQ/IV are usually not required.

c. Gastroenteropancreatic neuroendocrine tumors
   i. Somatuline (lanreotide): 120 mg deep SQ injection every 4 weeks.

2. Dosage Adjustments

   a. After 2 months of initial therapy, increase dose to 30 mg IM every 4 weeks if symptoms not adequately controlled (Sandostatin LAR depot).

   b. After 2 months of initial therapy, decrease dose to 10 mg IM in member who achieve good symptom control; then increase dose to 20 mg IM every 4 weeks if symptoms recur (Sandostatin LAR depot).

   c. Sandostatin LAR depot: Dosages higher than 30 mg are not recommended.

   d. In member with renal failure requiring dialysis, the starting dose should be 10 mg every 4 weeks. In other member with renal impairment, the starting dose should be similar to a non-renal member (i.e. Sandostatin LAR depot 20 mg every 4 weeks).

   e. In member with established cirrhosis of the liver, the starting dose should be Sandostatin LAR depot 10 mg every 4 weeks.

3. Monitoring

   a. Somatostatin Analog alter the balance between the counter-regulatory hormones, insulin, glucagon, and growth hormone, which may result in hypoglycemia or hyperglycemia. Blood glucose levels should be monitored when Somatostatin Analog treatments are initiated, or when the dose is altered. Antidiabetic treatment should be adjusted accordingly.

   b. Somatostatin Analog suppress the secretion of thyroid-stimulating hormone, which may result in hypothyroidism. Baseline and periodic assessment of thyroid function (TSH, total and/or free T4) is recommended during chronic Somatostatin Analog therapy.

   c. Based on diagnosis, measurement of the following substances may be useful in monitoring the progress of therapy:
      i. Carcinoid Tumor: 5-HIAA (urinary 5-hydroxyindole acetic acid), plasma serotonin, plasma Substance P
      ii. Vasoactive Intestinal Peptide-Secreting Tumor (VIPoma): VIP (plasma vasoactive intestinal peptide) levels
d. Somatuline (lanreotide): Cardiovascular bradycardia, arrhythmias, conduction abnormalities, and other ECG changes have been reported; dosage adjustment in concurrent beta-blocker therapy may be required.

V. APPROVAL AUTHORITY
   1. Review – UM Department
   2. Final Approval – UM Committee

VI. ATTACHMENTS
   None

VII. REFERENCES