Regimen Monograph

A - Regimen Name

OCTR Regimen

Octreotide

Disease Site	Gastrointestinal - Neuroendocrine (GI) Lung - Neuroendocrine (Lung)
Intent	Palliative
Regimen Category	**Evidence-Informed :** Regimen is considered appropriate as part of the standard care of patients; meaningfully improves outcomes (survival, quality of life), tolerability or costs compared to alternatives (recommended by the Disease Site Team and national consensus body e.g. pan-Canadian Oncology Drug Review, pCODR). Recommendation is based on an appropriately conducted phase III clinical trial relevant to the Canadian context OR (where phase III trials are not feasible) an appropriately sized phase II trial. Regimens where one or more drugs are not approved by Health Canada for any indication will be identified under Rationale and Use.
Rationale and Uses	Treatment of choice for neuroendocrine symptom control in patients with neuroendocrine tumours, especially carcinoid syndrome, where symptoms are debilitating or chemotherapy has not provided symptom relief
Supplementary Public Funding	**octreotide** ODB - General Benefit (octreotide)

back to top

B - Drug Regimen

octreotide	50-100 mcg	Subcut	BID to TID
(short acting formulation)			
THEN			
octreotide*	10-30 mg	IM	Day 1
(long-acting, LAR formulation)			

*Start when symptoms controlled on short-acting octreotide (continue short-acting octreotide for at least 2 weeks).

back to top

C - Cycle Frequency

CONTINUOUS TREATMENT

(octreotide- short acting)

REPEAT EVERY 28 DAYS

(octreotide LAR)

back to top

D - Premedication and Supportive Measures

Antiemetic Regimen: Not applicable

back to top

E - Dose Modifications

Doses should be modified according to the protocol by which the patient is being treated. The following recommendations have been adapted from clinical trials or product monographs and may be considered.

Octreotide short-acting:

- Titrate dose by 50-100 mcg every 8-12 hourly until symptom control
- Typical dose range in carcinoid: 100-600 mcg/day
- Typical dose range in VIPomas: 200-300 mcg/day

Dosage with toxicity

Clearance reduced in the elderly; dose adjustment may be required.

Hepatic Impairment

Clearance reduced in cirrhosis; dose adjustment may be required.

Renal Impairment

Clearance reduced in severe renal impairment; dose adjustment may be required.

back to top

F - Adverse Effects

Refer to octreotide drug monograph(s) for additional details of adverse effects

Most Common Side Effects	Less Common Side Effects, but may be Severe or Life-Threatening
• Nausea/vomiting • Diarrhea • Cholelithiasis, cholecystitis • Injection site reactions	• Conduction abnormalities, arrhythmia, ischemia, CHF • Arterial/venous thromboembolism • Hypo/hyperglycemia • ↑ LFTs, hepatitis (rare) • Anaphylaxis

	• Pancreatitis • Malabsorption

back to top

G - Interactions

Refer to octreotide drug monograph(s) for additional details

back to top

H - Drug Administration and Special Precautions

Refer to octreotide drug monograph(s) for additional details

Administration:

- Keep refrigerated; protect from light.

Short Acting (sc ampoules or multidose vials):

- Subcutaneous self-administration (or administered by home caregiver); drug available by outpatient prescription.
- Rotate injection sites; multiple SC injections at the same site within short periods of time should be avoided.
- For day-to-day use, may be stored at room temperature for up to 2 weeks, protected from light. Open ampoule(s) just prior to administration and discard unused portion
- Incompatible in TPN solutions.
- For IV infusion (emergency treatment for carcinoid syndrome only): further dilute in NS (preferred) or D5W.

Long Acting (ie. Sandostatin LAR®):

- May only be administered by deep intragluteal injection
- To be injected at doctor's office or cancer centre. Drug available by outpatient prescription.
- Alternate between left and right gluteal muscles for subsequent injections.
- Vials can remain at room temperature, protected from light, on the day of the injection
- Reconstitute with supplied diluent as directed. Suspension must be prepared immediately

before IM injection.
- Patients switching over to the long-acting injection may need to continue to receive SC octreotide (short acting) for approximately 2 weeks, and some individuals may need additional rescue SC octreotide (short acting) for up to 2 to 3 months because of the time required to reach steady-state octreotide levels, as the drug is slowly released from the microspheres.

Contraindications/precautions:

- contraindicated in patients with hypersensitivity to octreotide or to any component of the formulation.
- In **insulin dependent diabetics**, reduction of insulin requirements may result following initiation of octreotide therapy.
- Safety in **pregnancy** or effects on **fertility** has not been established, although no effects have been seen in animals.
- **Breastfeeding** is not recommended since octreotide can be secreted into animal milk.

back to top

I - Recommended Clinical Monitoring

Treating physicians may decide to monitor more or less frequently for individual patients but should always consider recommendations from the product monograph.

Recommended Clinical Monitoring

- Baseline and periodic serum glucose levels, especially in diabetic patients
- Ultrasonograph of the gall bladder and bile ducts, to assess the presence of gallstones (during long-term therapy, every 6 – 12 months)
- Baseline and periodic thyroid function tests with long term usage
- Periodic assessment of fat malabsorption and vitamin B12 levels with long term use
- Periodic monitoring of zinc levels in patients on TPN, as serum zinc may rise excessively with reversal of fluid loss
- Clinical toxicity assessment (including GI, hepatobiliary); at each visit
- Grade toxicity using the current NCI-CTCAE (Common Terminology Criteria for Adverse Events) version

Suggested Clinical Monitoring

Assessment of fat malabsorption and vitamin B12 levels with long term use; Periodic
Monitoring of zinc levels in patients on TPN, as serum zinc may rise excessively with reversal of fluid loss; Periodic
Thyroid function tests, with long term usage; Baseline and periodic

back to top

J - Administrative Information

Outpatient prescription

SC: for home administration by patient or caregiver

IM: for administration at physician's office or Cancer Centre

back to top

K - References

Jacobsen MB, Hanssen LE. Clinical effects of octreotide compared to placebo in patients with gastrointestinal neuroendocrine tumours. Report on a double-blind, randomized trial. J Intern Med 1995;237:269-75.

Kvols LK, Moertel C, O'Connel M et al. Treatment of malignant carcinoid syndrome: evaluation of a long acting somatostatin analog. NEJM. 1986.315:663-6.

National Comprehensive Cancer Network. NCCN clinical practice guidelines in oncology: Neuroendocrine tumors, v3.2017.

Öberg K, Norheim I, Theodorsson E, Ahlman H, Lundqvist G, Wide L. The effects of octreotide on basal and stimulated hormone levels in patients with carcinoid syndrome. J Clin Endocrinol Metab 1989;68:796-800.

O'Toole D, Ducreux M, Bommelaer G, et al. Treatment of carcinoid syndrome: a prospective crossover evaluation of lanreotide versus octreotide in terms of efficacy, patient acceptability, and tolerance. Cancer 2000;88:770-6.

Rinke A, Müller HH, Schade-Brittinger C, et al. Placebo-controlled, double-blind, prospective, randomized study on the effect of octreotide LAR in the control of tumor growth in patients with metastatic neuroendocrine midgut tumors: a report from the PROMID Study Group. J Clin Oncol 2009;27(28):4656-63.

Rubin J, Ajani J, Schirmer W, Venook AP, Bukowski R, Pommier R, et al. Octreotide acetate long-acting formulation versus open-label subcutaneous octreotide acetate in malignant carcinoid syndrome. J Clin Oncol 1999;17:600-606.

Saslow SB, O'Brien MD, Camilleri M, von der Ohe M, Homburger HA, Klee GG, et al. Octreotide inhibition of flushing and colonic motor dysfunction in carcinoid syndrome. Am J Gastroenterol 1997;92:2250-6.

PEBC Advice Documents or Guidelines

- Systemic Therapy of Incurable Gastroenteropancreatic Neuroendocrine Tumours

June 2019 Updated emetic risk category

back to top

L - Other Notes

Patients will need training on how to prepare their doses and how to self-administer SC doses; training may be started by the oncology primary care team or by home care nursing.

back to top

M - Disclaimer

Regimen Abstracts

A Regimen Abstract is an abbreviated version of a Regimen Monograph and contains only top level information on usage, dosing, schedule, cycle length and special notes (if available). It is intended for healthcare providers and is to be used for informational purposes only. It is not intended to constitute or be a substitute for medical advice, and all uses of the Regimen Abstract are subject to clinical judgment. Such information is provided on an "as-is" basis, without any representation, warranty, or condition, whether express, or implied, statutory or otherwise, as to the information's quality, accuracy, currency, completeness, or reliability, and Cancer Care Ontario disclaims all liability for the use of this information, and for any claims, actions, demands or suits that arise from such use.

Information in regimen abstracts is accurate to the extent of the ST-QBP regimen master listings, and has not undergone the full review process of a regimen monograph. Full regimen monographs will be published for each ST-QBP regimen as they are developed.

Regimen Monographs

Refer to the New Drug Funding Program or Ontario Public Drug Programs websites for the most up-to-date public funding information.

The information set out in the drug monographs, regimen monographs, appendices and symptom management information (for health professionals) contained in the Drug Formulary (the "Formulary") is intended for healthcare providers and is to be used for informational purposes only. The information is not intended to cover all possible uses, directions, precautions, drug interactions or adverse effects of a particular drug, nor should it be construed to indicate that use of a particular drug is safe, appropriate or effective for a given condition. The information in the Formulary is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. All uses of the Formulary are subject to clinical judgment and actual prescribing patterns may not follow the information provided in the Formulary.

The format and content of the drug monographs, regimen monographs, appendices and symptom management

information contained in the Formulary will change as they are reviewed and revised on a periodic basis. The date of last revision will be visible on each page of the monograph and regimen. Since standards of usage are constantly evolving, it is advised that the Formulary not be used as the sole source of information. It is strongly recommended that original references or product monograph be consulted prior to using a chemotherapy regimen for the first time.

Some Formulary documents, such as the medication information sheets, regimen information sheets and symptom management information (for patients), are intended for patients. Patients should always consult with their healthcare provider if they have questions regarding any information set out in the Formulary documents.

While care has been taken in the preparation of the information contained in the Formulary, such information is provided on an "as-is" basis, without any representation, warranty, or condition, whether express, or implied, statutory or otherwise, as to the information's quality, accuracy, currency, completeness, or reliability.

CCO and the Formulary's content providers shall have no liability, whether direct, indirect, consequential, contingent, special, or incidental, related to or arising from the information in the Formulary or its use thereof, whether based on breach of contract or tort (including negligence), and even if advised of the possibility thereof. Anyone using the information in the Formulary does so at his or her own risk, and by using such information, agrees to indemnify CCO and its content providers from any and all liability, loss, damages, costs and expenses (including legal fees and expenses) arising from such person's use of the information in the Formulary.

back to top