Part 2: Pain and Symptom Management
Nausea and Vomiting

Effective Date: February 22, 2017

Key Recommendations

- Select anti-nausea medication based on the etiology of the nausea and vomiting.

Assessment

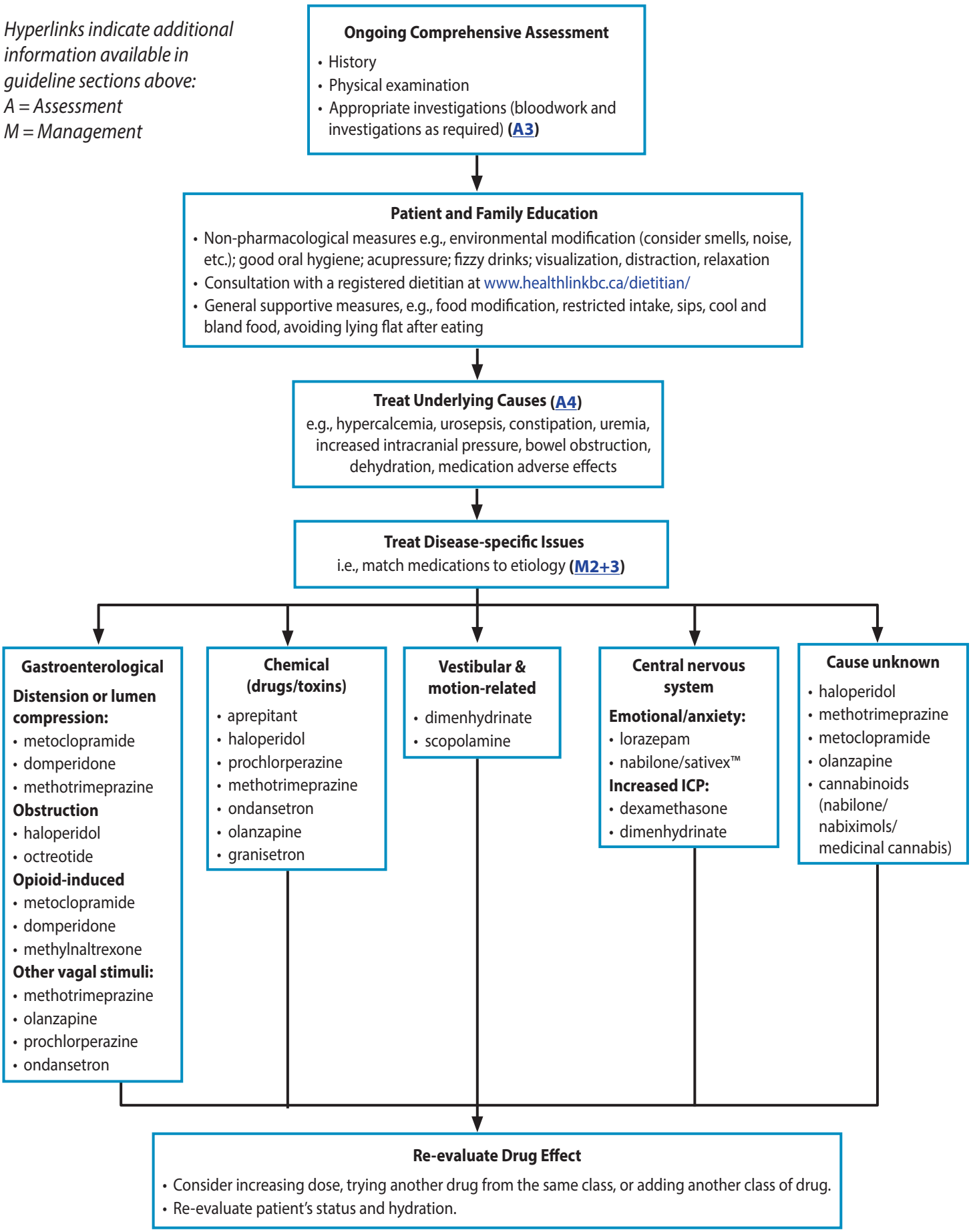
1. Nausea and vomiting are common, but can be controlled with antiemetics.
2. Identify and discontinue medications that may be the cause.
3. Further assessment may include lab tests and imaging to investigate (e.g., GI tract disturbance, electrolyte/calcium imbalance, intracranial disease, and sepsis).
4. Good symptom control may require rehydration, which can be carried out in the home, hospice, or residential care facility using hypodermoclysis, a simple, safe and effective technique that avoids venous access (refer to *Appendix A – Hypodermoclysis Protocol*).

Management

1. Non-pharmacological: modifications to diet (e.g., small bland meals) and environment (e.g., control smells and noise), relaxation and good oral hygiene, and acupressure (for chemotherapy-induced acute nausea, but not for delayed symptoms).
2. Pharmacological: match treatment to cause (e.g., if opioid-induced, metoclopramide (sometimes IV or SC initially) and domperidone are most effective). Most drugs are covered by the BC Palliative Care Drug Plan, except olanzapine and ondansetron (refer to *Appendix B – Medications Used in Palliative Care for Nausea and Vomiting*).
3. Consider pre-emptive use of anti-nauseates in opioid-naive patients.

Nausea and Vomiting Management Algorithm

Hyperlinks indicate additional information available in guideline sections above:
A = Assessment
M = Management



Resources

Abbreviations

GI	gastrointestinal
IV	intravenous
N&V	nausea & vomiting
SC	subcutaneous

Appendices

Appendix A – Hypodermoclysis Protocol
Appendix B – Medications Used in Palliative Care for Nausea and Vomiting

Appendix A: Hypodermoclysis Protocol

Hypodermoclysis is a simple, safe and effective technique for subcutaneously administering fluids to a patient who requires hydration. It avoids the need for venous access in patients who, at the end of life, often have very poor veins. In the home/hospice/residential care facility settings, it can be carried out without the need for fully IV credentialed nursing staff. Refer to the local Home and Community Care office (refer *Associated Document: Resource Guide for Practitioners*) for when and how to refer.

There are two critical considerations regarding initiating hypodermoclysis in palliative patients:

1. Objectives and timelines must be clear and agreed upon by the family and caregivers.
2. Will adding fluids to a patient whose organ function is failing precipitate cardiac failure and/or cause or worsen lung secretions?

Procedure:

- A 23-25 gauge butterfly needle is inserted under the skin at a 30–45 degree angle. Ask patients which site is preferred of the following choices:
  - For ambulatory patients, consider using chest (subclavicular area), back (infrascapular area) and upper abdominal wall (avoiding waist).
  - For bed-bound patients, use medial or lateral thighs or upper abdomen.
  - Avoid previously irradiated skin, anterior or lateral thigh if edema is present, abdomen if ascites is present, breast tissue, lateral placement near the shoulder, arms, and perineum/groin.
- The fluids used are commonly normal saline (0.9%), normal saline/dextrose (2/3-1/3) and Ringer's Lactate. Dextrose cannot be used as a hypodermoclysis solution.
- The infusion rate can be up to 75 ml/hr. Solutions are infused by gravity, i.e., a pump is usually not necessary.
- Some patients may only require 1 litre 3–4 times per week, rather than daily administration. A smaller volume (1 liter per day) is often adequate to maintain hydration in terminally ill patients requiring hydration for symptom control.
- Potassium chloride up to 40 mEq per litre may be added to the solution. Do not mix hypodermoclysis solutions with other medications. If medications are being administered by the SC route, use separate site(s).
- Change the solution bag every 24 hours. Change the tubing every 72 hours. Change the SC site if painful, red, hard or leaking.

Subcutaneous hypodermoclysis sites may last up to seven days. Daily assessment of client condition and insertion site is necessary.

Appendix B: Medications Used in Palliative Care for Nausea and Vomiting

Tailor dose to each patient; those who are elderly, cachectic, debilitated or with renal or hepatic dysfunction may require reduced dosages; consult most current product monograph for this information: http://www.hc-sc.gc.ca/dhp-mps/prodpharma/databasdon/index-eng.php

ANTI-EMETICS[A]						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose	Drug Plan Coverage[B]		Approx. cost per 30 days[C]
				Palliative Care	Fair PharmaCare	
dimenhydrinate	Gravol®, G	**IR caps/tabs:** 15, 50 mg	50 mg PO q6h to q4h	Yes, LCA	No	$3–4 (G)
		L/A caplets: 100 mg	100 mg PO q12h to q8h	Yes	No	$22–33
		Inj: 50 mg per mL	50 mg IM/IV/SC[D] q6h to q4h	Yes, LCA	No	$140–210 (G) $157–235
		Supps: 25, 50, 100 mg	50 to 100 mg PR q12h to q8h	Yes	No	$35–53 (G) $38–100
domperidone	G	**Tab:** 10 mg	10 to 20 mg PO tid to qid	Yes, LCA	Yes, LCA	$6–16 (G)
methotrimeprazine	G	**Tabs:** 2, 5, 25, 50 mg	5 to 12.5 mg PO q4h to q24h	Yes, LCA	Yes, LCA	$3–25 (G)
	Nozinan®	**Inj:** 25 mg per mL	6.25 to 25 mg SC[D] q4h to q24h	Yes	Yes	$112–673
metoclopramide	G	**Tab:** 5, 10 mg	5 to 20 mg PO qid	Yes, LCA	Yes, LCA	$8–16 (G)
		Inj: 5 mg per mL	10 to 20 mg SC[D]/IV q6h	Yes, LCA	Yes, LCA	$13–1759 (G)
haloperidol[E]	G	**Tabs:** 0.5, 1, 2, 5, 10 mg	0.5 mg PO/SC[D]/IV bid to 2.5 mg q6h	Yes, LCA	Yes, LCA	$8–31 (G)
		Inj: 5 mg per mL		Yes, LCA	Yes, LCA	$312–625 (G)
prochlorperazine	G	Tabs: 5, 10 mg	5 to 10 mg PO/PR tid-qid	Yes, LCA	Yes, LCA	$16–27 (G)
		Supp: 10 mg				$154–207 (G)
dexamethasone	G	**Tabs:** 0.5, 0.75, 2, 4 mg	2 mg PO/SC[D]/ IV daily to 8 mg bid (AM & noon)	Yes, LCA	Yes, LCA	$16–124 (G)
		Inj: 4, 10 mg per mL				$6–22 (G)
nabilone	Cesamet®, G	**Caps:** 0.25, 0.5, 1 mg	1 to 2 mg PO bid	No	Yes, LCA	$100–201 (G) $430–861
scopolamine[E]	Transderm V®	**Patch:** 1.5 mg	1 to 2[F] patches applied to skin every 72 hours	Yes	Yes	$44–88
olanzapine	Zyprexa®, G	**Tab:** 2.5, 5, 7.5, 10, 15, 20 mg	5 to 10 mg PO q8h prn	No	Special Authority, LCA	$62–124 (G) $118–235
	Zyprexa Zydis®, G	**ODT:** 5, 10, 15, 20 mg				$63–125 (G) $117–234

ANTI-EMETICS[A]						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose	Drug Plan Coverage[B]		Approx. cost per 30 days[C]
				Palliative Care	Fair PharmaCare	
octreotide[E]	Sandostatin®, G	**Inj:** 50, 100, 200, 500 mcg per mL	50 to 200 mcg SC q8h	Yes, LCA	No	$170–616 (G) $485–1761
	Sandostatin LAR®	**Inj LAR:**10, 20, 30 mg per vial	10 to 30 mg IM every 4 weeks	No	No	$1427–2365
ondansetron	Zofran®, G	**IR tabs:** 4, 8 mg	4 to 8 mg PO/SC q8h to q12h	No	Special Authority, LCA	$212–485 (G) $868–1987
		ODT: 4, 8 mg				$212–485 (G) $848–1941
		Inj: 2mg per mL				$448–1343 G) $692–2077
granisetron	G	**Tab:** 1 mg	1 mg to 2 mg PO/IV/SC[D] daily or 1 mg bid	No	Special Authority, LCA	$554–1108 (G)
		Inj: 1 mg per mL		No	No	$1134–2264 (G)
cannabidiol, D-9-T	Sativex®	**Buccal spray:** single combination product strength	1 spray buccally/ sublingual BID, increase by 1 spray per day up to 8 to 12 sprays per day	No	No	$588–882
aprepitant	Emend®	**Caps:** 80, 125 mg	125 mg PO to start, then 80 mg PO once daily	No	Special Authority	$1050

Abbreviations: caps capsules; **D-9-T** Delta-9-Tetrahydrocannabinol; **G** generics; **Inj** injection; **IM** intramuscular; **IR** immediate release; **IV** intravenous; **LCA** subject to Low Cost Alternative Program; **L/A** Long acting (combined immediate and sustained release); **LAR** slow release (injection); **PR** per rectum; **ODT** orally disintegrating tablet; **PO** by mouth; **SC** subcutaneous; **supps** suppositories (rectal); **tabs** tablets

[A] Refer to guideline and/or algorithm for recommended order of use.
[B] PharmaCare coverage as of October 2016 (subject to revision). Obtain current coverage, eligibility, and coverage information from the online BC PharmaCare Formulary Search page at pharmacareformularysearch.gov.bc.ca
[C] Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).
[D] This route of administration commonly used in Palliative Care, but not approved by Health Canada
[E] This indication (i.e. nausea and vomiting) used in practice, but not approved for marketing by Health Canada.
[F] Dose of 2 patches of scopolamine transdermal patch (applied simultaneously) used in practice, but not approved for marketing by Health Canada.