Treating Nausea and Vomiting in Hospice

- May be only the 4th most common symptom/complaint at end of life, but it's one of the most disruptive for BOTH the patient and family members.
- Each person experiences nausea differently. For some, nausea is more debilitating than vomiting.
- Getting a good description of what the patient calls vomiting is important. Vomiting means different things to different people. "Vomiting" to one may be a small amount of regurgitation or simple expectoration versus a forceful purge. Understanding this will prevent unnecessary treatments.
- Vomiting may be present without nausea.

Complications if uncontrolled	*Occurs in 17-49% of patients*	*Mechanisms + Mediators*	*Non-pharmacacological treatments*
Dehydration	48% heart disease	Chemoreceptor Trigger Zone (CTZ) - $5HT_{2-4}$, D_2, M_1, H_1	Removal of stimuli (e.g., smells and spicy, salty foods)
Electrolyte imbalances	43-48% AIDS	Gastrointestinal System (GI System) - $5HT_{2-4}$, M_1	Good mouth care
Poor oral intake	33% ES renal disease	Vestibular Region - M_1, H_1	Relaxation and acupressure
Aspiration pneumonia	6-68% cancer - gastrointestinal, gynecological, breast, and blood	Cerebral Cortex - Learned response and pressure receptors	Cognitive behavioral therapy
Esophageal tears	Increases to 70% last week of life		Small frequent meals high in carbohydrates
Inability to perform			Parenteral or subcutaneous hydration
ADLs Poor quality of life			Ginger, Vitamin B6 or cool, fizzy drinks

Knowing a cause and/or having a good description can direct one to the most appropriate pharmacological managment with a 80-90% treatment success

Cause + Description	Mechanism	Treatment
Movement		
Nausea + vomiting with sudden movement	Vestibular	M_1, H_1 antiemetics
Mentation eg. anxiety		
Nausea triggered by stimulus, relieved when removed	Cerebral Cortex	Anti-Anxiety Medication, Marinol
Meningeal Irritation		
Vomiting with headache; especially in the morning	Cerebral Cortex + CTZ	Dexamethasone and $5HT_{2-4}$, D_2, M_1, H_1 antiemetics
Metastases eg: Cerebral, Liver		
"Cerebral - Vomiting with headache; especially in the morning Liver - Constant nausea with or without vomiting"	Cerebral Cortex + CTZ Toxin build up	Cerebral Cortex + CTZ Toxin build up
Medications eg: Opioids, Chemotherapy		
Constant nausea with or without vomiting	Opioids - CTZ, Vestibular, GI System Chemo - CTZ, GI System	Dexamethasone and $5HT_{2-4}$, D_2, M_1, H_1 antiemetics D_2, H_1 antiemetics
Mucosal Irritation e.g.,: NSAIDs, Hyperacidity, GERD		
Nausea triggered by stimulus, relieved when removed	GI System	Antacids, Ranitidine, Famotidine or use Mobic
Mechanical Obstruction e,g.,: Intraluminal, Extraluminal		
"Intraluminal - Intermittent nausea, fecal vomiting, abdominal pain Extraluminal - Large volume of vomit, relief after vomiting"	GI System, Cerebral Cortex	Reglan if still passing gas and stimulant laxatives Usually irreversible tumor - octreotide, dexamethasone

Cause + Description	Mechanism	Treatment
Motility		
Intermittent nausea, fecal vomiting, abdominal pain	GI System, Cerebral Cortex	Reglan if still passing gas and stimulant laxatives
Metabolic Imbalance		
Constant nausea with or without vomiting	CTZ	Correct electrolyte imbalance then D_2, H_1 antiemetics
Microbes		
"Acute GI infections - Large volume of vomit, relief after vomiting Systemic sepsis - Constant nausea with or without vomiting"	Acute Infection - GI System Sepsis - CTZ	Best practice not to treat with antiemetics D_2, H_1 antiemetics
Myocardial Dysfunction		
Constant nausea with or without vomiting	CTZ, Cerebral Cortex	D_2, H_1 antiemetics + Anti-anxiety, Morphine, and O_2

Serotonin ($5HT_{2-4}$)	Dopamine (D_2)	Anticholinergic (M_1)	Histamine (H_1)
Dolansetron*	Chlorpromazine*	Hyoscyamine	Diphenhydramine
Granisetron*	Haloperidol	Octreotide*	Dimenhydrinate
Hyoscyamine	Prochorperazine	Scopalamine*	Meclizine
Olanzapine*	Perphenazine	Chlorpromazine*	Hydroxyzine
Ondansetron	Metoclopramide	Promethazine	Promethazine
Palonosetron*	Promethazine	Diphenhydramine	Chlorpromazine*
Metoclopramine	Olanzapine*	Hydroxyzine	Olanzapine*
Mirtazapine		Prochlorperazine	Prochlorperazine
Haloperidol		Olanzapine*	Haloperidol
Prochlorperazine			Mirtazapine
			Scopalamine*

*Non-Formulary

A single anti-nausea drug can work with multiple mediators but at different potencies. Each color is a different potency; drugs are grouped from highest to lowest potency.

- Assess symptoms daily, especially for efficacy of treatment, side effects and complications to excessive vomiting
- Antiemetics should be stopped once the underlying cause is removed
- If first medication is ineffective, DO NOT discontinue! ADD second drug with different action
- Treating nausea and vomiting is complex and may require multiple treatment pathways to successfully manage
- Topical gels and creams like ABH have not been shown effective for the treatment of nausea and vomiting.
- Topical ABH is on a "Do NOT Use" list published by the American Acadamy of Hospice and Palliative Medicine