

Antiemetic Regimens

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 This protocol is currently being updated (please refer to history tab for more information) .

High Emetogenic Risk (>90%)*

Antineoplastic Agent

Carmustine >250 mg/m ²	Cisplatin
Cyclophosphamide ≥1500 mg/m ²	Cyclophosphamide <1500 mg/m ² with anthracycline
Dacarbazine	Dactinomycin
Procarbazine	Streptozocin

* percentage of patients who experience emesis in the absence of effective antiemetic prophylaxis

Recommended antiemetic regimen for highly emetogenic chemotherapy

For the purpose of this document, it is recommended that all oral and intravenous antiemetics are administered 60 minutes and 30 minutes respectively, before chemotherapy.

Acute emesis (Day 1)

Aprepitant 125 mg PO or fosaprepitant 115 mg IV **PLUS**

Dexamethasone 12 mg* PO or IV (20 mg when used without aprepitant or fosaprepitant) **PLUS**

5HT₃ receptor antagonist. Refer to the table below for the recommended 5HT₃ antagonists and doses for acute emesis.

* in clinical practice, many institutions use lower doses of dexamethasone for acute emesis. The 12 mg dose is the only dose that is tested with aprepitant in large randomised trials.

	Intravenously	or	Orally
Dolasetron	Not recommended (due to potential QT interval prolongation)	or	100 mg
Granisetron	3 mg	or	2 mg
Ondansetron	8 mg	or	16 mg (in divided doses)
Palonosetron	0.25 mg	or	0.5 mg (not currently available in Australia)
Tropisetron	5 mg	or	5 mg

Delayed emesis (from Day 2)

Aprepitant 80 mg PO on days 2 and 3 **PLUS**

Dexamethasone 8 mg PO or IV ONCE daily for 3 to 4 days post chemotherapy (Dexamethasone 8 mg PO or IV TWICE daily for 3 to 4 days post chemotherapy when used without aprepitant or fosaprepitant)


Moderate Emetogenic Risk (30 to 90%)*

Antineoplastic Agent

Aldesleukin >12 to 15 million units/m ²	Epirubicin
Amsacrine	Fotemustine
Arsenic trioxide	Idarubicin
Azacitidine	Ifosfamide
Busulfan >4 mg/day	Imatinib**
Carboplatin	Irinotecan
Carmustine ≤250 mg/m ²	Lomustine
Cyclophosphamide (oral)	Melphalan IV >50 mg/m ²
Cyclophosphamide IV ≤1500 mg/m ² <u>without</u> anthracycline	Methotrexate 250 mg/m ² to 1000 mg/m ²
Cytarabine >1000 mg/m ²	Oxaliplatin
Daunorubicin	Raltitrexed ⁵
Doxorubicin	Temozolamide
	Vinorelbine (oral)

* percentage of patients who experience emesis in the absence of effective antiemetic prophylaxis

** daily use of antiemetics is not recommended based on clinical experience¹

Note: Patients receiving a combination of anthracycline plus cyclophosphamide are at particularly great risk of vomiting and nausea. This patient population should be treated with the  **High** emetogenic risk regimen.

Recommended antiemetic regimen for moderately emetogenic chemotherapy

For the purpose of this document, it is recommended that all oral and intravenous antiemetics are administered 60 minutes and 30 minutes respectively, before chemotherapy.

Acute emesis (Day 1)

Dexamethasone 8 mg PO or IV **PLUS**

Palonosetron (preferred 5HT₃ antagonist) 0.25 mg IV or 0.5 mg PO (PO formulation is not available in Australia)

Delayed emesis (from Day 2)

Dexamethasone 8 mg PO or IV ONCE daily (or in divided doses) for 2 to 3 days post chemotherapy

Low Emetogenic Risk (10 to 30%)*


Antineoplastic Agent

Bortezomib**	Methotrexate 50 mg/m ² to 250 mg/m ²
Capecitabine	Mitomycin
Cetuximab	Mitoxantrone
Cytarabine ≤1000 mg/m ²	Paclitaxel
Docetaxel	nab-Paclitaxel
Etoposide (IV and oral)	Panitumumab
Everolimus	Pemetrexed

Antiemetic Regimens

Fludarabine oral	Sunitinib
Fluorouracil	Temsirolimus
Gemcitabine	Tenoposide
Liposomal Doxorubicin	Thiotepa
	Topotecan

*percentage of patients who experience emesis in the absence of effective antiemetic prophylaxis

In clinical practice bortezomib may have a greater emetogenic risk than 10 to 30%. Consider using the  **Moderate antiemetic prophylaxis regimen if required (Consensus from Haematology RCM May 2009)

Recommended antiemetic regimen for low emetogenic chemotherapy

For the purpose of this document, it is recommended that all oral and intravenous antiemetics are administered 60 minutes and 30 minutes respectively, before chemotherapy.

Acute emesis (Day 1)

Dexamethasone 4 mg to 8 mg PO or IV **OR**

Metoclopramide 10 mg to 20 mg PO or IV **OR**

Prochlorperazine 10 mg PO or 12.5 mg IV

Delayed emesis (from Day 2)

Antiemetics for delayed emesis are not routinely required

Minimal Emetogenic Risk (<10%)*

Antineoplastic Agent

Alemtuzumab	Lapatinib
Asparaginase - Colaspase	Lenalidomide
Bevacizumab	Melphalan (oral)
Bleomycin	Mercaptopurine
Busulfan ≤ 4 mg	Methotrexate ≤ 50 mg/m ²
Chlorambucil	Methotrexate (oral)
Cladribine	Rituximab
Dasatinib	Sorafenib
Decitabine	Thalidomide
Erlotinib	Thioguanine
Fludarabine (IV)	Trastuzumab
Gefitinib	Vinblastine
Gemtuzumab ozogamicin	Vincristine
Hydroxyurea	Vinorelbine (IV)
Interferon alfa	

*percentage of patients who experience emesis in the absence of effective antiemetic prophylaxis

No antiemetic should be routinely administered before chemotherapy in patients without a history of nausea and vomiting. If

patients experience nausea and/or vomiting, consider using the  **Low**

Breakthrough Emesis

Practice Points

NOTE: The literature on breakthrough emesis management is limited. These guidelines have been adapted directly from the NCCN Clinical Practice Guidelines in Oncology - Antiemesis V.1 2012¹ and the product information for the individual drugs.

- breakthrough nausea and vomiting poses a difficult scenario. It is generally far easier to prevent nausea and vomiting than it is to treat it.
- the principle of breakthrough treatment is to give an additional agent from a different drug class. No one agent is better than the other for controlling break through emesis
- consider regular around the clock administration rather than as required dosing
- if nausea and vomiting is still not controlled consider changing the antiemetic therapy to a higher level eg from a low to a moderate regimen
- changing to a different 5HT₃ antagonist may be efficacious in some patients, although there is limited anecdotal evidence
- patients with dyspepsia may benefit from antacid therapy with a proton pump inhibitor or H₂ antagonist. Many patients have difficulty differentiating between nausea and dyspepsia

Drug Class	Drug	Dose
Benzodiazapine	Lorazepam	0.5 mg to 2 mg <i>orally</i> every 4 to 6 hours
Corticosteroid	Dexamethasone	4 mg to 8 mg <i>orally</i> or <i>intravenously</i> TWICE daily
5HT ₃ receptor antagonists	Dolasetron	100 mg <i>orally</i> ONCE daily (IV dolasetron is not recommended due to potential QT interval prolongation)
	Granisetron	2 mg <i>orally</i> ONCE daily or 1 mg to 3 mg <i>intravenously</i> ONCE daily (additional 1 mg IV doses may be given at intervals >10 minutes up to maximum of 9 mg/24 hours)
	Ondansetron	8 mg <i>orally/sublingually</i> or <i>intravenously</i> TWICE daily (additional doses may be given up to maximum of 32 mg/24 hours)
	Tropisetron	5mg <i>orally</i> or <i>intravenously</i> ONCE daily
Dopamine receptor antagonists	Haloperidol	0.5 mg to 2 mg <i>orally</i> every 4 to 6 hours
	Metoclopramide	10 mg to 20 mg <i>orally</i> or <i>intravenously</i> every 4 to 6 hours
	Prochlorperazine	10 mg <i>orally</i> or 12.5 mg <i>intravenously</i> every 4 to 6 hours 25 mg <i>rectally</i> every 12 hours
	Promethazine	12.5 mg to 25 mg <i>orally</i> or <i>intravenously</i> every 4 hours

Anticipatory Emesis

Practice Points

- the best management of anticipatory emesis is to ensure best possible control of acute and delayed emesis with optimal antiemetics
- management should first include behavioural/psychological techniques
- an alternative or additional management is the use of benzodiazepines:

Lorazepam 0.5 mg to 2 mg *orally* on the night before and the morning of treatment

Antiemetics for Multi-day Chemotherapy Protocols

Practice Points

NOTE: The literature on antiemetic treatment for multi-day chemotherapy protocols is limited. These guidelines have been adapted directly from the NCCN Clinical Practice Guidelines in Oncology - Antiemesis V.1 2012¹ and the MASCC Antiemetic Guidelines April 2011².

- patients receiving fractionated chemotherapy will require the acute phase anti-emetics to be administered on each day that chemotherapy is given
- acute and delayed nausea and emesis from multi-day chemotherapy protocols is based upon the individual drugs' emetogenic potential and the sequence in which they are administered
- acute and delayed emesis may overlap throughout the chemotherapy protocol, and the period of risk for delayed emesis after the chemotherapy protocol has finished depends on the specific chemotherapy protocol and the emetogenic potential of the last chemotherapy drug administered
- **it is therefore difficult to recommend a specific antiemetic regimen for multi-day chemotherapy protocols**

The NCCN 2012¹ and MASCC 2011 Antiemetic Guidelines² recommend:

- a 5HT₃ antagonist prior to each days first dose of moderately or highly emetogenic chemotherapy **AND**
- dexamethasone (PO or IV) once daily for every day of moderately or highly emetogenic chemotherapy and for 2 to 3 days after chemotherapy for protocols likely to cause significant delayed emesis (not for protocols already including a corticosteroid)
- aprepitant may be used for multi-day chemotherapy protocols likely to be highly emetogenic and associated with significant delayed emesis
- although phase II data indicates that aprepitant may be administered safely on days 4 and 5, it is not yet known whether aprepitant administration beyond day 3 improves emetic control in the clinical setting

References

1. **Clinical Practice Guidelines in Oncology - Antiemesis V.1.2012. National Comprehensive Cancer Network (NCCN) 2012 - Link to external article** [↗](#)
2. **MASCC/ESMO Antiemetic Guidelines, April 2011. Multinational Association of Supportive Care in Cancer - Link to external article** [↗](#)
3. **Basch, E., A. A. Prestrud, P. J. Hesketh, et al. 2011. "Antiemetics: American Society of Clinical Oncology clinical practice guideline update." J Clin Oncol 29(31):4189-4198.**
4. **Cancer therapy and nausea and vomiting. Gastrointestinal Therapeutic Guidelines version 5 (2011)**
5. **Australian Medicines Handbook Pty Ltd. January 2012 Edition**
6. **MIMS Point of Care Online, CMP Medica Australia Pty Ltd 2012.**

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