



MONOGRAPH

Etoposide

**Etoposide should not be confused with Etoposide PHOSPHATE
– these two medications are not interchangeable.**

Scope (Staff):	Medical, Pharmacy, Nursing
Scope (Area):	All Clinical Areas

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [DISCLAIMER](#)

! HIGH RISK MEDICINE !

QUICKLINKS

Dosage/Dosage Adjustments	Administration	Compatibility	Monitoring
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DRUG CLASS

Podophyllotoxin¹

Etoposide is a [High Risk Medicine](#)

Etoposide is a [Cytotoxic Medicine](#).

Extravasation: Etoposide is an irritant. Refer to [Extravasation of Antineoplastic \(Cytotoxic\) Agents Policy](#).

Emetogenic Rating Variable by dose or combination with other agents. Refer to [Anti-Cancer Therapy Induced Nausea and Vomiting \(AINV\) Management Guideline](#).

INDICATIONS AND RESTRICTIONS

- Etoposide can only be prescribed by oncologists or haematologists as per protocol for the treatment of malignancy.

CONTRAINDICATIONS

- Hypersensitivity to etoposide or any component of the formulation^{1, 2, 3}
- Severe hepatic or renal dysfunction^{2, 4}
- Severe bone marrow failure (white blood cell count less than 2,000 cells/mm³ or platelet count less than 75,000 cells/mm³) not due to malignant disease^{2, 4}
- Concomitant use of yellow fever vaccine or other live vaccines in immunocompromised patients²

PRECAUTIONS

**Etoposide should not be confused with Etoposide PHOSPHATE
– these two medications are not interchangeable.**

- Etoposide is a cytotoxic medication and must be handled with care. See [PCH Medication Management Manual – Cytotoxic and/or Biotherapy Agents Safety](#).
- Anaphylactic reactions manifest by chills, fever, tachycardia, bronchospasm, dyspnoea and hypotension^{2, 4}
- Hypotension may occur due to rapid administration; infuse slowly over at least 30 to 60 minutes^{2, 4}
- Injection site reactions may occur during administration.² Given the possibility of extravasation, monitor the infusion site closely for possible infiltration during drug administration.²
- Supportive care should be prescribed as per patient's protocol and/or institutional guidelines.

FORMULATIONS

Listed below are products available at PCH, other formulations may be available, check with pharmacy if required:

- Parenteral: 100 mg/5mL
- Oral capsule: 100 mg

A 10 mg/mL oral solution can be compounded by PCH Pharmacy Compounding Services – contact your Clinical Pharmacist for advice.

Imprest location: [Formulary One](#)

DOSAGE & DOSAGE ADJUSTMENTS

Dosage as per treatment protocol in the OIMS (Oncology Information Management System).

Renal impairment:

- Consider dose reduction in renal impairment – consult treatment protocol^{1, 2, 3, 4, 5}
- [eGFR calculator](#)

Hepatic impairment:

- Consider dose reduction in hepatic impairment – consult treatment protocol. Manufacturer contraindicates use in severe impairment^{1, 3} It should be used with caution in patients with mild to moderate hepatic impairment.²

Treatment related toxicity:

- Dose adjustment as per treatment protocol.

RECONSTITUTION & ADMINISTRATION

- Handle as [cytotoxic](#).
- Etoposide must be compounded in a cytotoxic drug safety cabinet by pharmacy personnel who have appropriate training and validation in aseptic and cytotoxic drug reconstitution and handling techniques.
- Etoposide must not be given by intra-cavity injection²

Intravenous infusion:

- Dilute prescribed dose with a compatible IV fluid to a concentration of 0.2 - 0.4 mg/mL.^{4, 6} Solution of concentration greater than 0.4 mg/mL may precipitate.^{4, 6}
- Visually inspect the infusion bag for any signs of drug precipitation before hanging. If there is any precipitation, do not hang and contact oncology pharmacy for a replacement dose.
- Infuse over 30 to 120 minutes as per protocol. Reduce rate of administration if hypotension occurs.^{6, 7}

Oral Solution:

- The 10 mg/mL solution is compounded by PCH Pharmacy Compounding Services and the prescribed dose will be drawn up into an oral syringe and capped.⁴
- Prior to oral administration, mix the prescribed dose in a closed syringe system with fruit juice (orange, apple or lemon; NOT grapefruit juice) to a concentration of <0.4 mg/mL.⁴ Once mixed with fruit juice, use within 3 hours.⁴

Oral Capsule:

- Capsules should be swallowed whole and not punctured. To be given with or without regard to food.⁴

COMPATIBILITY (LIST IS NOT EXHAUSTIVE)

Compatible fluids:

Glucose 5%; Hartmann's; Sodium Chloride 0.9%⁶

Compatible and INCOMPATIBLE drugs:

Antineoplastic therapies are not routinely administered with other medications. Consult two or more drugs references ([Compatibilities of IV drugs](#)) or pharmacy when there is a requirement for medications to be given concurrently.

MONITORING

- Monitor blood pressure and pulse every 15 minutes for the first hour, then hourly thereafter if the infusion is administered over 2 hours.
- Monitor for hypersensitivity and anaphylactic reactions manifested by chills, fever, tachycardia, bronchospasm, dyspnoea and hypotension.^{2, 5}
- If infusion-related reaction occurs, consider prolonging infusion to 2 - 4 hours or substitute with etoposide phosphate⁷
- For longer infusions, monitor with regular 4 hourly observations as per the age-appropriate Observation and Response Chart or as clinically indicated.
- Hypotension usually responds by stopping the infusion and administering fluids and supportive care; consider restarting infusion at a slower rate.^{1, 2, 4}
- Monitor complete blood count with differential and platelets, bilirubin, liver function tests and renal function tests as per protocol.^{1, 2, 4, 5}

ADVERSE EFFECTS**Common:**

Nausea, vomiting, diarrhoea, myelosuppression (anaemia, leukopenia), alopecia, oral mucositis, anorexia, hypersensitivity reactions, abdominal pain, weakness, malaise, hypotension (with rapid infusion)^{1, 5}

Infrequent:

Peripheral neuropathy¹

Rare:

Rash, urticaria, Stevens-Johnson syndrome, inflammation and/or necrosis due to extravasation, anaphylaxis (chills, fever, tachycardia, dyspnoea, bronchospasm, hypotension), hepatotoxicity, chest pain, thrombophlebitis, congestive heart failure, dystonia, ovarian failure, amenorrhoea, anovulatory cycles, hypomenorrhea, onycholysis of nails, secondary malignancy^{1, 5}

STORAGE

Vial: Store below 25°C. Protect from light.⁶

Diluted IV solution: Stable for up to 4 days at concentration less than 0.4 mg/mL. Store at room temperature – **Do not refrigerate.**⁸

Oral Solution: The 10 mg/mL solution is stable in plastic oral syringes for 22 days at room temperature. Once diluted to < 0.4 mg/mL, use within 3 hours.^{4, 9}

Capsule: Store below 25°C²

INTERACTIONS

This medication may interact with other medications; consult PCH approved references (e.g. [Clinical Pharmacology](#)), a clinical pharmacist or PCH Medicines Information Service on extension 63546 for more information.

Please note: The information contained in this guideline is to assist with the preparation and administration of **Etoposide**. Any variations to the doses recommended should be clarified with the prescriber prior to administration

Related CAHS internal policies, procedures and guidelines



[Anti-cancer therapy Nausea and Vomiting Management](#)

[Antineoplastic \(Cytotoxic\) Agents](#)

References

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