



## MONOGRAPH

### Caspofungin Monograph - Paediatric

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](#)

#### QUICKLINKS

[Dosage/Dosage  
Adjustments](#)

[Administration](#)

[Compatibility](#)

[Monitoring](#)

#### DRUG CLASS

Echinocandin antifungal.<sup>(1-3)</sup>

#### INDICATIONS AND RESTRICTIONS

Caspofungin is used in the treatment of invasive fungal infections due to *Candida* and as second line therapy for invasive aspergillosis.<sup>(4-6)</sup>

##### IV: Protected (red) antifungal

ChAMP approval is required prior to prescription.

#### CONTRAINDICATIONS

- Hypersensitivity to caspofungin, other echinocandin antifungals, mannitol or any component of the formulation.<sup>(4-7)</sup>

#### PRECAUTIONS

- Caspofungin should be used with caution in patients with moderate hepatic impairment; an alternative antifungal agent may be required in significant hepatic impairment due to limited information on use in this setting.<sup>(4, 6, 7)</sup>

## FORMULATIONS

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

- 50 mg powder for injection vial

Imprest location: [Formulary One](#)

## DOSAGE & DOSAGE ADJUSTMENTS

**Neonates:** [Refer to Neonatal Medication Protocols](#). Micafungin is often the preferred echinocandin in neonates.<sup>(5)</sup>

Dosing of caspofungin is based on body surface area (BSA), calculate BSA with the following formula<sup>(4)</sup>:

$$\text{BSA (m}^2\text{)} = \sqrt{\frac{\text{Height (cm)} \times \text{weight (kg)}}{3600}}$$

### Intravenous:

- **≥ 4 weeks to < 3 months:** 25 mg/m<sup>2</sup> once daily.<sup>(1, 3, 5, 8)</sup>
- **≥ 3 months to < 12 months:** 50 mg/m<sup>2</sup> once daily.<sup>(1, 3, 8)</sup>
- **≥ 12 months to 18 years:** loading dose of 70 mg/m<sup>2</sup> (to a maximum of 70 mg) on day one, reduced to 50 mg/m<sup>2</sup> (to a maximum of 70 mg) once daily thereafter.<sup>(1, 3, 5, 8)</sup>
  - The dose may be increased again to 70 mg/m<sup>2</sup> (to a maximum of 70 mg) once daily if well tolerated but inadequate response or if being used in conjunction with CYP enzyme inducers (e.g. dexamethasone, rifampicin, phenytoin or carbamazepine).<sup>(1, 3, 5, 8)</sup>

**Dosing in Overweight and Obese Children:** Dose on actual body weight. Higher doses may be required in patients with obesity as other echinocandins suggest that clearance increases as a function of weight.<sup>(6)</sup>

### Renal impairment:

- No dosage adjustment required in renal impairment.<sup>(6)</sup>

### Hepatic impairment:

- There is limited information regarding the use of caspofungin in children with severe hepatic impairment. Consider an alternative agent.<sup>(3, 5, 6)</sup>
- For children over 12 months of age with moderate hepatic impairment give the standard loading dose (as above) then reduce to 35 mg/m<sup>2</sup>/day thereafter.<sup>(5)</sup>
- Contact ChAMP for advice in patients under 12 months of age with hepatic impairment.

**RECONSTITUTION & ADMINISTRATION****Reconstitution:**

- Allow the vial to come to room temperature before reconstitution.<sup>(4, 5, 8)</sup>
- Reconstitute the 50 mg vial with 10.5 mL of water for injection or sodium chloride 0.9% to give a final concentration of 5.2 mg/mL.<sup>(2, 4)</sup>
- Mix gently until the powder is dissolved, the solution should be clear and colourless.<sup>(2, 8)</sup>
- Dilute the dose to a final concentration of 0.5 mg/mL or weaker with sodium chloride 0.9% prior to administration.<sup>(2, 4, 5)</sup>

**IV infusion:**

- Infuse caspofungin at a final concentration of 0.5 mg/mL or less over 1 hour.<sup>(3-5)</sup>
- Caspofungin is **INCOMPATIBLE** with glucose containing solutions. IV lines should be flushed with sodium chloride 0.9% prior to administration.<sup>(3-6)</sup>

**COMPATIBILITY (LIST IS NOT EXHAUSTIVE)****Compatible fluids:**

- Sodium chloride 0.9%<sup>(2)</sup>
- Sodium chloride 0.45%<sup>(2)</sup>
- Hartmann's<sup>(2)</sup>

**Caspofungin is INCOMPATIBLE with glucose containing solutions. IV lines should be flushed with sodium chloride 0.9% prior to administration.**<sup>(2)</sup>

**Compatible at Y-site:**

[Compatibilities of IV drugs](#) must be checked when two or more drugs are given concurrently.

**MONITORING**

Hepatic and haematological function (including haemoglobin) and potassium should be monitored weekly with prolonged therapy (i.e. longer than 7 days).<sup>(6)</sup>

**ADVERSE EFFECTS**

**Common:** nausea, vomiting, diarrhoea, rash, hypokalaemia, increased liver enzymes, injection site reactions, eosinophilia, anaemia, increased urine protein, headache, arrhythmias, arthralgia, dyspnoea, electrolyte imbalance, fever, flushing, hyperhidrosis, hypotension.<sup>(3, 6, 8)</sup>

**Infrequent:** abdominal pain, anorexia, atrial fibrillation, coagulopathy, bradycardia, myocardial infarction, renal failure, seizures.<sup>(5, 6)</sup>

**Rare:** hepatic dysfunction, facial swelling, anaphylaxis, toxic epidermal necrolysis, Stevens-Johnson Syndrome.<sup>(3)</sup>

**Infusion related reactions:** may include fever, flushing, hypotension, chills, rash, urticaria, itch, bronchospasm and dyspnoea. Infusion related reactions can be reduced by a slow infusion rate.<sup>(3)</sup>

**STORAGE**

- Store vials and products prepared by Pharmacy Compounding Service (PCS) in the refrigerator between 2-8°C.<sup>(2, 4, 6)</sup>

**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 **caspofungin**. Any variations to the doses recommended should be clarified with the prescriber prior to administration\*\**

**Related CAHS internal policies, procedures and guidelines**

[Antimicrobial Stewardship Policy](#)





[ChAMP Empiric Guidelines and Monographs](#)

[KEMH Neonatal Medication Protocols](#)

**References**

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