



## MONOGRAPH

# Caspofungin Monograph - Paediatric

<b>Scope (Staff):</b>	Medical, Pharmacy, Nursing
<b>Scope (Area):</b>	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

<a href="#">Dosage/Dosage Adjustments</a>	<a href="#">Administration</a>	<a href="#">Compatibility</a>	<a href="#">Monitoring</a>
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### DRUG CLASS

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

### INDICATIONS AND RESTRICTIONS

Caspofungin is used in the treatment of invasive fungal infections due to *Candida* and *Aspergillus*.<sup>(1, 2)</sup>

#### IV: Restricted (red) antifungal

ChAMP approval is required prior to prescription.

### CONTRAINDICATIONS

- Hypersensitivity to caspofungin, other echinocandin antifungals, mannitol or any component of the formulation.<sup>(3-5)</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>(6)</sup>

## FORMULATIONS

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

- 50mg 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.

### IV:

- **Child 1 to 3 months:** 25mg/m<sup>2</sup> once daily.<sup>(1, 6, 7)</sup>
- **≥ 3month to 12 months:** 50mg/m<sup>2</sup> once daily.<sup>(1, 6, 7)</sup>
- **≥ 1 year to 18 years:** loading dose of 70mg/m<sup>2</sup> (to a maximum of 70mg) on day one, reduced to 50mg/m<sup>2</sup>/dose (to a maximum of 70mg) once daily thereafter.<sup>(1, 6, 7)</sup>

The dose may be increased again to 70mg/m<sup>2</sup> (to a maximum of 70mg) once daily if well tolerated but inadequate response or if being used in conjunction with enzyme inducers (e.g. dexamethasone or rifampicin).<sup>(7, 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>(4)</sup>

### Renal impairment:

- No dosage adjustment required in renal impairment.<sup>(5, 6)</sup>

### Hepatic impairment:

- There is limited information regarding the use of caspofungin in children with significant hepatic impairment. Consider an alternative agent.<sup>(6, 7)</sup>
- For children over 12 months of age with moderate hepatic impairment give the standard loading dose (as above) then reduce to 35mg/m<sup>2</sup>/day thereafter.<sup>(6)</sup>
- Contact ChAMP for advice in patients under 12 months of age with moderate to severe hepatic impairment.

## RECONSTITUTION & ADMINISTRATION

### Reconstitution:

- Allow the vial to come to room temperature before reconstitution.<sup>(7)</sup>
- Reconstitute the 50mg vial with 10.5mL of water for injection or sodium chloride 0.9% to give a final concentration of 5.2mg/mL.<sup>(3, 7, 9)</sup>
- Mix gently until the powder is dissolved. Do **NOT** shake the vial.<sup>(3, 7, 9)</sup>
- Dilute the dose to a final concentration of 0.5mg/mL or weaker with sodium chloride 0.9% prior to administration. <sup>(3, 7, 9)</sup>

- Do not use if the solution becomes cloudy, coloured or if there is a precipitant.<sup>(9)</sup>

**IV infusion:**

- Infuse caspofungin at a final concentration of 0.5mg/mL or less over 1 hour.<sup>(4, 5, 7, 9)</sup>
- Caspofungin is **INCOMPATIBLE** with glucose containing solutions - IV lines should be flushed with sodium chloride 0.9% prior to administration.<sup>(7, 9)</sup>

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

- Sodium chloride 0.9%
- Sodium chloride 0.45%
- Hartmann's<sup>(9)</sup>

**Caspofungin is INCOMPATIBLE with glucose containing solutions - IV lines should be flushed with sodium chloride 0.9% prior to administration.**<sup>(5, 9)</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>(4)</sup>

**ADVERSE EFFECTS**

**Common:** nausea, vomiting, diarrhoea, rash, hypokalaemia, increased liver enzymes, injection site reactions, eosinophilia, anaemia, increased urine protein, headache.<sup>(1)</sup>

**Infrequent:** abdominal pain, anorexia, atrial fibrillation, coagulopathy, bradycardia<sup>(6)</sup>

**Rare:** hepatic dysfunction, facial swelling, anaphylaxis, toxic epidermal necrolysis, Stevens-Johnson Syndrome, infusion related reactions (including fever, flushing, hypotension, chills, rash, urticaria, itch, bronchospasm and dyspnoea). Infusion related reactions can be reduced by a slow infusion rate.<sup>(1, 5)</sup>

**STORAGE**

- Store vials and products prepared by Pharmacy Compounding Service (PCS) in the refrigerator between 2-8°C.<sup>(3, 9)</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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8. Royal Australian College of General Practitioners, Pharmaceutical Society of Australia, Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists. AMH: Children's Dosing Companion. Adelaide: Australian Medicines Handbook Pty Ltd; 2020.
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