



## MONOGRAPH

### Atovaquone with Proguanil 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

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

Antimalarial.<sup>(1)</sup>

#### INDICATIONS AND RESTRICTIONS

- Together, atovaquone and proguanil have a synergistic effect.<sup>(1)</sup> They are used in the prophylaxis of malaria resistant to chloroquine or mefloquine and in the treatment of uncomplicated malaria.<sup>(1, 2)</sup>

#### Oral: Monitored (orange) antiprotozoal

- If the use is consistent with a standard approved indication, this must be communicated to ChAMP by documenting that indication on all prescriptions (inpatient and outpatient).
- The ChAMP team will review if ongoing therapy is required and/or if the order does not meet [ChAMP Standard Indications](#)
- If use is not for a standard approved indication, phone approval must be obtained from ChAMP before prescribing.

## CONTRAINDICATIONS

- Hypersensitivity to atovaquone, proguanil or any component of the formulation.<sup>(2, 3)</sup>
- Atovaquone with proguanil should not be used for malaria prophylaxis in patients with severe renal impairment (creatinine clearance <30 mL/minute) due to the increased risk of blood dyscrasias.<sup>(1-3)</sup>

## PRECAUTIONS

- Atovaquone with proguanil should not be used for the treatment of malaria in patients who took these agents as prophylaxis.<sup>(4)</sup>
- Caution should be taken in patients who are vomiting or who have diarrhoea, as there will be reduced absorption of the atovaquone component and the risk of treatment failure. A trial of an anti-emetic may be beneficial (although metoclopramide should be avoided as it reduces the absorption of atovaquone).<sup>(5)</sup>
- Patients with features of [severe malaria](#) should be treated using IV [artesunate](#).<sup>(4)</sup>

## FORMULATIONS

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

- Atovaquone 250 mg and Proguanil 100 mg tablets (Malarone®)
- Atovaquone 62.5 mg and Proguanil 25 mg tablets (Malarone Junior®).

Imprest location: [Formulary One](#)

## DOSAGE & DOSAGE ADJUSTMENTS

- Malaria in pregnant women is considered a medical emergency. Contact Infectious Diseases or Clinical Microbiology Consultant on call for advice.
- Atovaquone with proguanil should not be used for the treatment of malaria in patients who took these agents as prophylaxis.<sup>(4)</sup>
- One Malarone Junior® (62.5 mg/25 mg) tablet is equivalent to one-quarter of a Malarone® (250 mg/100 mg) tablet.<sup>(1)</sup>

### **Oral:**

#### **Neonates and infants less than 5 kg:**

- Not routinely used in neonates or infants less than 5kg; contact Infectious Diseases or Clinical Microbiology for advice.

**Children ≥ 5 kg****Treatment dose (uncomplicated malaria):**

- Treatment doses should be taken as single dose once daily for 3 consecutive days.<sup>(1, 4, 6)</sup>

Body weight	Dose <sup>(1, 5, 6)</sup>	Duration
< 5 kg	Contact Infectious Diseases Physician for advice	
≥ 5 to < 8 kg	2 tablets of Malarone Junior® (62.5 mg/25 mg) once daily	3 days
≥ 8 to < 10 kg	3 tablets of Malarone Junior® (62.5 mg/25 mg) once daily	3 days
≥ 10 to < 20 kg	1 tablet of Malarone® (250 mg/100 mg) once daily	3 days
≥ 20 to < 30 kg	2 tablets of Malarone® (250 mg/100 mg) once daily	3 days
≥ 30 to < 40 kg	3 tablets of Malarone® (250 mg/100 mg) once daily	3 days
≥ 40 kg	4 tablets of Malarone® (250 mg/100 mg) once daily	3 days
Treatment must be given in conjunction with or followed by a course of primaquine for <i>P. vivax</i> or <i>P. ovale</i> malaria. <sup>(1, 4)</sup>		

**Malaria prophylaxis dose**

- Start treatment 1-2 days before entering an endemic area and continue prophylaxis for 7 days after leaving the area.<sup>(1, 4, 6)</sup>

Body weight	Dose <sup>(1, 4, 5)</sup>
< 5 kg	Contact Infectious Diseases Physician for advice
≥ 5 to < 8 kg	Half a tablet of Malarone Junior® (62.5 mg/25 mg) once daily
≥ 8 to < 10 kg	Three quarters of a tablet of Malarone Junior® (62.5 mg/25 mg) once daily
≥ 10 to < 20 kg	1 tablet of Malarone Junior® (62.5 mg/25 mg) once daily
≥ 20 to < 30 kg	2 tablets of Malarone Junior® (62.5 mg/25 mg) once daily
≥ 30 to < 40 kg	3 tablets of Malarone Junior® (62.5 mg/25 mg) once daily
≥ 40kg	1 tablet of Malarone® (250 mg/100 mg) once daily

**Renal impairment:**

- [eGFR calculator](#)
- Dosage adjustment may be required in cases of impaired renal function (with creatinine clearance of less than 30 mL/minute). Renal impairment increases the risk of blood dyscrasias.<sup>(6)</sup>
- CrCl > 30mL/minute: normal dosing
- CrCl ≤ 30mL/minute: should not be used in prophylaxis. May be used with caution for the treatment of Malaria. Avoid unless potential benefits outweigh the risks.<sup>(2, 3)</sup>

### Hepatic impairment:

- No dosage adjustment is required for mild to moderate hepatic impairment. No data available for use in severe impairment.<sup>(2, 3, 6)</sup>

## RECONSTITUTION & ADMINISTRATION

- Atovaquone with proguanil should be taken with a high fat meal or a glass of full cream milk to increase absorption. If necessary, the tablets can be crushed and mixed with a small amount of milk to aid in administration.<sup>(1-4, 6)</sup>
- If the patient vomits within 1 hour of administration of the dose, an additional dose is required. Contact the Infectious Diseases team for further information.<sup>(1, 3, 6)</sup>

## MONITORING

- In patients undergoing treatment courses of atovaquone with proguanil, renal function (including serum sodium), hepatic function, full blood count and serum amylase should be monitored routinely.<sup>(3, 4)</sup>
- Malaria microscopy is recommended 7 and 28 days after completion of therapy.<sup>(4)</sup>
- Patients should be instructed to seek medical attention if they develop a fever or are ill up to 1 year after returning from an endemic area.

## ADVERSE EFFECTS

**Common:** nausea, vomiting, diarrhoea, headache, anaemia, neutropenia, anorexia, dizziness, abdominal pain, cough, sleep disorders, depression, fever, rash.<sup>(1, 4)</sup>

**Infrequent:** reversible alopecia, urticaria, mouth ulceration, palpitations, hyponatraemia, anxiety, blood disorders<sup>(1, 4)</sup>

**Rare:** stomatitis, hepatitis, cholestasis, allergic reactions (including angioedema and anaphylaxis), seizures, psychosis, pancytopenia (in patients with severe renal impairment), tachycardia, hallucinations, vasculitis, photosensitivity, Stevens-Johnson syndrome.<sup>(1, 4)</sup>

## STORAGE

- Tablets should be stored below 30°C.<sup>(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 **atovaquone with proguanil**. 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](#)

[Emergency Department Guidelines - Malaria](#)

## References

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4. Antibiotic Writing Group. Therapeutic Guidelines - Antibiotic. West Melbourne: Therapeutic Guidelines Ltd; 2022. Available from: <https://tgldcdp-tg-org-au.pklibresources.health.wa.gov.au/etgAccess>.
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