Program (ChAMP)

# **MONOGRAPH**

# **Ivermectin 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			
<u>Dosage/Dosage</u> <u>Adjustments</u>	Administration	Compatibility	Monitoring

#### **DRUG CLASS**

Anthelmintic. (1, 2)

# INDICATIONS AND RESTRICTIONS

Ivermectin is used in the treatment of filariasis, onchocerciasis, strongyloidiasis, scabies (crusted or if topical treatment has failed), headlice (if refractory to topical treatment) and cutaneous larva migrans.<sup>(3-6)</sup>

## Oral: Monitored (orange) anthelmintic

Ivermectin is indicated for use as per the indications stipulated in <u>Formulary One</u>. For any other use, phone approval must be obtained from ChAMP before prescribing as per the <u>Children's Antimicrobial Management Program (ChAMP) Policy</u>.

### **CONTRAINDICATIONS**

Hypersensitivity to ivermectin or any component of the formulation. (3, 5, 7-9)

#### **PRECAUTIONS**

- Caution should be taken in patients with severe asthma, as there is the risk of worsening bronchial asthma.<sup>(7)</sup>
- Patients from Central or West Africa being treated for onchocerciasis should be assessed for co-infection with Loa loa (loiasis) due to the increased risk of serious or fatal encephalopathy precipitated by treatment if the microfilarial load is high. (2, 3, 5, 8)

- When used for hyperreactive onchodermatitis, there is an increased risk of serious adverse
  events, especially oedema due to allergic or inflammatory responses to the death of the
  parasite.<sup>(2, 8)</sup>
- Ivermectin does not kill the adult worm in onchocerciasis, therefore it is likely further treatment may be required. (2)

## **FORMULATIONS**

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

3 mg tablet

Imprest location: Formulary One

## **DOSAGE & DOSAGE ADJUSTMENTS**

**Neonates and children:** Not routinely used in neonates or children under 12 months old, contact infectious diseases (ID) for advice.

#### Scabies:

Oral: Children ≥ 12 months and < 2 years old and weighing < 15 kg<sup>(10-12)</sup>

Condition	Dose	Doses required
Scabies	3 mg as a single dose	Single dose then repeated 7 days later.

## Oral: Children ≥ 12 months and ≥ 15 kg

Condition	Dose	Doses required
Scabies	0.2 mg/kg/dose	Single dose on days 1 and 7. <sup>(1, 4-6)</sup>
Scabies (crusted):	0.2 mg/kg/dose	Contact Infectious Diseases. Topical treatment with permethrin and a keratolytic agent must be used in conjunction. Refer to Therapeutic Guidelines for options. <sup>(13)</sup>
		3, 5 or 7 dose course depending on severity. Give on days 1, 2, 8, 9, 15, 22 and 29 depending length of course. (4, 13)

#### Other infections:

Contact Infectious Diseases for advice for children < 2 years and <15kg

Oral: Children ≥ 2 years old and ≥ 15 kg

Condition	Dose	Doses required
Onchocerciasis	0.15 mg/kg/dose	Single dose then can be repeated every 3 to 12 months as required. <sup>(1, 4)</sup>
Strongyloidiasis (uncomplicated):	0.2 mg/kg/dose	Single dose then repeated 7 to 14 days later. (1, 6)
Strongyloidiasis	0.2 mg/kg/dose	Single dose on days 1, 2, 15 and 16. <sup>(6, 9)</sup>
(immunocompromised):		Contact Infectious Diseases for cases of hyperinfection or disseminated strongyloidiasis syndrome.(9)
Cutaneous larva migrans	0.2 mg/kg/dose	Once daily for 1 to 2 days. <sup>(1)</sup>
Refractory (to topical treatment) head lice	0.2 mg/kg/dose	Single dose then repeated 7 days later. (6)

#### Recommended dose bands

0.15 mg/kg/dose bands <sup>(3, 5, 9)</sup>		
Weight	Rounded dose	
15 - 25 kg	3 mg (1 tablet)	
26 - 44 kg	6 mg (2 tablets)	
45 - 64 kg	9 mg (3 tablets)	
65 - 84 kg	12 mg (4 tablets)	
≥ 85 kg	0.15 mg/kg	

0.2 mg/kg/dose bands <sup>(3-5, 9)</sup>		
Weight	Rounded dose	
15 - 24 kg	3 mg (1 tablet)	
25-35 kg	6 mg (2 tablets)	
36-50 kg	9 mg (3 tablets)	
51-65 kg	12 mg (4 tablets)	
66-79 kg	15 mg (5 tablets)	
≥ 80 kg	0.2 mg/kg	

## **Renal impairment:**

• There is limited information available regarding the use of ivermectin in renal impairment. Dose adjustment does not seem necessary due to negligible renal elimination.<sup>(7, 9)</sup>

# **Hepatic impairment:**

There is limited information available regarding the use of ivermectin in hepatic impairment.
 Care should be taken when administering ivermectin to patients with hepatic impairment as there is significant hepatic metabolism.<sup>(7, 9)</sup>

#### **ADMINISTRATION**

- Tablets may be crushed and mixed with soft food (e.g. yoghurt) or dispersed in water in patients unable to swallow tablets.<sup>(4, 14)</sup>
- Onchocerciasis: Tablets should be administered on an empty stomach, half an hour before food.<sup>(9)</sup>
- Strongyloidiasis, cutaneous larva migrans, scabies or refractory head lice: Tablets should be taken with a high fat meal to increase absorption. (1, 9, 14)

## **MONITORING**

- Liver function tests should be conducted for those patients on extended courses. (7, 9)
- Patients should be monitored for symptomatic improvement.<sup>(8)</sup>
- **Onchocerciasis:** Microfilarial counts of the skin and eye as well as ophthalmic exam should be performed at baseline and periodically during therapy. (7-9)
- **Strongyloidiasis:** Stools should be checked to ensure that the treatment was effective if previously positive (one stool culture per month for three months post therapy) (8)

## **ADVERSE EFFECTS**

Scabies:

Common: skin reactions (4, 7)

Infrequent: headache, fatigue, dizziness, abdominal pain, vomiting, diarrhoea<sup>(2)</sup>

Onchocerciasis:

**Common:** Mazotti reaction – generally worse if there is a high microfilariae count (arthralgia, lymphadenopathy, itch, oedema, rash, fever, tachycardia, hypotension, worsening of ocular symptoms)<sup>(2, 7)</sup>

Infrequent: headache<sup>(2)</sup>

Strongyloidiasis:

**Common:** diarrhoea, nausea, dizziness, somnolence, skin reactions (2, 4)

**Infrequent:** fatigue, abdominal pain, constipation, vomiting, tremor, rash, itch<sup>(2)</sup>

All indications:

**Infrequent:** Elevated liver enzymes

Rare: toxic epidermal necrolysis, neurotoxicity (confusion, impaired consciousness,

encephalopathy, seizures), ocular irritation(2,7)

#### **STORAGE**

Store tablets below 30°C.(3)

#### **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 **ivermectin**. 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

Health Facts – Scabies, Keeping our mob healthy

Health Facts - Scabies

#### References

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# This document can be made available in alternative formats on request.

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NSQHS Standards:

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Child Safe Standards: N/A

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# Healthy kids, healthy communities

Compassion

Excellence Collaboration Accountability

Respect

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