MONOGRAPH

Phenoxymethylpenicillin (penicillin V) 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

DRUG CLASS

Penicillin antibiotic.[1]

INDICATIONS AND RESTRICTIONS

- Phenoxymethylpenicillin is indicated for **treatment** of dental infections (in combination with metronidazole), acute rheumatic fever (ARF) (if intolerant of intramuscular benzathine benzylpenicillin), and acute pharyngitis or tonsillitis due to *Streptococcus pyogenes* (in moderate / severe cases and or to prevent ARF) and Scarlet fever.[1-7] Refer to The 2020 Australian guideline for prevention, diagnosis and management of ARF and RHD (3.2 edition).[8]
- Phenoxymethylpenicillin is indicated for **prophylaxis** against infection due to encapsulated organisms in susceptible hosts (e.g. asplenia, post haematopoietic stem cell transplantation) and as secondary prophylaxis for ARF (if intolerant to intramuscular benzathine benzylpenicillin).[1-3, 8]

Oral: Unrestricted (green) antibiotic

This is not a restricted agent. Follow standard ChAMP guidelines where appropriate.

CONTRAINDICATIONS

- Hypersensitivity to phenoxymethylpenicillin, any component of the formulation or a history of high-risk allergy to other penicillins.[1, 3-6]

PRECAUTIONS

- Phenoxymethylpenicillin may be prescribed in selected patients with high-risk allergy to another Beta-lactam sub-class (e.g. some cephalosporins, carbapenems) in discussion with Immunology.[6]
- In patients with a previous low risk reaction to phenoxymethylpenicillin or another penicillin (delayed rash [>1hr after initial exposure] without mucosal or systemic involvement) the risk of subsequent reaction is low. Re-challenge may be acceptable in discussion with Immunology.[3, 4, 6]
- In patients with renal impairment, prolonged high doses may result in electrolyte disturbance or neurotoxicity (e.g. seizures, coma), and may increase risk of neutropenia.[1, 4]

FORMULATIONS

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

- 250 mg tablets and capsules
- 50 mg/mL powder for suspension

Imprest location: Formulary One

DOSAGE & DOSAGE ADJUSTMENTS

Neonates: Refer to Neonatal Medication Protocols

Treatment

Indication	Dose
Treatment of acute pharyngitis or tonsillitis due to *S. pyogenes* (including scarlet fever)	**Child ≥ 4 weeks – 18 years:** 15 mg/kg/dose (to a maximum of 500 mg) 12 hourly for **10 days**.[1, 2, 8, 9] The full 10 day course is required to eradicate *S. pyogenes* from the nasopharynx.[1, 2]
Note: Antibiotics are **not** indicated for mild tonsillitis in children not at risk of ARF.[1, 9]	
Treatment of ARF (if intolerant of intramuscular benzathine benzylpenicillin)	**Child ≥ 4 weeks – 18 years:** 15 mg/kg/dose (to a maximum of 500 mg) 12 hourly for **10 days**.[8, 9]
Dental infections (severe superficial infections)	**Child ≥ 4 weeks – 18 years:** 12.5 mg/kg/dose (to a maximum of 500 mg) four times a day for **5 days** in combination with metronidazole.[1, 7]

Prophylaxis

Indication	Dose
Secondary prophylaxis for ARF	**Child ≥ 4 weeks – 18 years**: 250 mg/dose twice daily for 10 years.[1, 8, 9]
Note: IM Benzathine benzylpenicillin is preferred for treatment and prophylaxis of ARF/Rheumatic Heart Disease (RHD) due to improved efficacy and patient compliance.[1, 8, 9]	
Prophylaxis in asplenia, sickle cell anaemia, functional hyposplenia, post splenectomy or post Haematopoietic stem cell transplantation (HSCT)	**Child <1 year old**: 62.5 mg/dose twice daily.[2, 6] **Child 1- < 5 years old**: 125 mg/dose twice daily.[2, 6] **Children ≥ 5 old**: 250mg/dose twice daily.[2, 6] Note: Amoxicillin is often preferred for this indication as it is administered once daily. Refer to ChAMP Medical Prophylaxis Guideline and Asplenia, Hyposplenia and Complement Deficiency Vaccination and Prophylaxis

Dosing in Overweight and Obese Children: Dose based on measured body weight.[10]

Renal impairment:

- No dosage adjustment is required in renal impairment; however, the half-life may be prolonged in significant renal impairment.[3, 4]
- The potassium content of the preparation should be considered in patients with severe renal impairment.[11]

Hepatic impairment:

- There are no specific recommendations for dosage adjustment in patients with hepatic impairment. It appears that no dose adjustment is necessary.[3, 4]

RECONSTITUTION & ADMINISTRATION

- May be given without regard to food, however absorption may be slightly higher if administered on an empty stomach.[3, 5]

Oral powder for suspension 50mg/mL

- Reconstitute as per the product information with water as follows: Tap bottle until all the powder flows freely, add the total volume of water for reconstitution and shake vigorously to suspend the powder. Store the reconstituted suspension in a refrigerator between 2°C and 8°C and discard any remaining suspension after 10 days.[11]

MONITORING

Renal, hepatic and haematological function should be monitored with prolonged, high dose therapy (i.e. treatment doses for longer than 10 days).[1, 4]

ADVERSE EFFECTS

Common: diarrhoea, nausea, immunological reactions (allergy, rash, erythema, urticaria, contact dermatitis, fever, angioedema, bronchospasm, interstitial nephritis, haemolytic anaemia, eosinophilia, serum sickness-like syndrome, exfoliative dermatitis, Stevens-Johnson syndrome and toxic epidermal necrolysis).[1, 6]

Infrequent: vomiting, *Clostridioides difficile* associated disease.[1, 6]

Rare: black tongue, electrolyte disturbances, neurotoxicity (with high dose e.g. drowsiness, hallucinations, coma, seizures), bleeding, blood dyscrasias (e.g. thrombocytopenia, neutropenia).[1, 6]

STORAGE

50 mg/mL oral powder for suspension:

- Prior to reconstitution: Store below 25°C.[11]
- After reconstitution: Refrigerate (between 2-8°C).[11]
- Refer to packaging for storage conditions as this may differ between brands and strengths.

Tablets and capsules:

- Store below 25°C (refer to packaging for storage conditions as this may differ between brands and strengths).[11]

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 **phenoxymethylpenicillin (penicillin V)**. 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
ChAMP Medical Prophylaxis Guideline
Asplenia, Hyposplenia and Complement Deficiency Vaccination and Prophylaxis

References

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