



MONOGRAPH

Captopril

Scope (Staff):	Medical, Pharmacy, Nursing, Anaesthetic Technicians
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](#)

! HIGH RISK MEDICINE !

QUICKLINKS

Dosage/Dosage Adjustments	Administration	Compatibility	Monitoring
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DRUG CLASS

Captopril is an angiotensin-converting enzyme inhibitor (ACE inhibitor)¹

Captopril is a [High Risk Medicine](#).

For all doses less than 1000 microgram (1 mg), the captopril 5000 microgram/mL (5 mg/mL) oral solution must be diluted. Refer to [Administration](#) section.

INDICATIONS AND RESTRICTIONS

- Hypertension²
- Heart failure²
- Proteinuria in nephritis³
- Diabetic nephropathy³

CONTRAINDICATIONS

- Hypersensitivity to captopril, any component of the formulation or other ACE inhibitor⁴
- Idiopathic/hereditary angioedema⁵
- History of angioedema with ACE inhibitor use⁵
- Pregnancy⁵

PRECAUTIONS

- Volume or sodium depletion¹
- May be less effective in Afro-Caribbean population¹
- Primary aldosteronism – may be ineffective¹
- Renovascular disease (e.g. renal artery stenosis)¹
- Renal impairment²
- Collagen vascular disorders¹
- Hypertrophic cardiomyopathy⁴
- Aortic stenosis⁴

FORMULATIONS

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

- Tablets 25 mg
- Oral solution: 5 mg/mL

Imprest location: [Formulary One](#)

DOSAGE & DOSAGE ADJUSTMENTS

Neonates: [Refer to Neonatal Medication Protocols](#)

For all doses less than 1000 microgram (1 mg), captopril 5000 microgram/mL (5 mg/mL) oral solution must be diluted. Refer to [Administration](#) section

Volume- or sodium-depleted (e.g. taking diuretics):

Halve initial dose², titrate dose more slowly²

Hypertension, proteinuria in nephritis^{2, 3, 6}

4 weeks -12 months

Initial (test) dose 0.05 to 0.1 mg/kg (maximum dose 6.25 mg), then if tolerated titrate to response, usual dose 0.1 to 0.3 mg/kg/dose 2 to 3 times daily.

Maximum dose: 6 mg/kg/**DAY**⁶, in 2 or 3 divided doses (up to 4 divided doses in hypertension⁶)

1-12 years

Initial (test) dose 0.1 mg/kg (maximum dose 6.25 mg), then if tolerated titrate to response, usual dose 0.3 to 0.5 mg/kg/dose 2 to 3 times daily.

Maximum dose: 6 mg/kg/**DAY** (up to 150 mg/**DAY**), in 2 or 3 divided doses

12-18 years

Initial (test) dose 6.25 mg, then if tolerated titrate to response, usual dose 12.5 to 25 mg/dose 2 to 3 times daily.

Maximum dose: 150 mg/**DAY** in 2 or 3 divided doses

Diabetic nephropathy³12-18 years

Initial (test) dose 6.25 mg, then if tolerated, 12.5 to 25 mg/dose 2 to 3 times daily. Increase as necessary to maximum of 100 mg/**DAY** in 2 or 3 divided doses

Heart failure²

Doses and titration as for hypertension but daily doses are **lower** in heart failure (e.g. up to 3 mg/kg/**DAY**² in 2 or 3 divided doses) than in hypertension.³

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

Renal impairment⁷:eGFR calculator

- CrCl > 50 mL/min/1.73m²: no dosage adjustment required
- CrCl 10 – 50 mL/min/1.73m²: reduce dose by 25%
- CrCl < 10 mL/min/1.73m², intermittent haemodialysis, peritoneal dialysis: reduce dose by 50%
- Continuous renal replacement therapy: reduce dose by 25%

Hepatic impairment:

- No dosage adjustment provided by manufacturer^{4, 5}

ADMINISTRATION

NOTE: Captopril is teratogenic. Do not crush or disperse tablets if you are pregnant⁵

- Administer on an empty stomach (1 hour before or 2 hours after food), **OR** give consistently in relation to food (oral absorption is reduced by 30-40% with food)⁴
- Tablet: Can be crushed and/or dispersed in water.^{5, 8}
- Oral liquid: Can be mixed with water or juice immediately prior to administration

- For all doses less than 1000 microgram (1 mg), the captopril 5000 microgram/mL (5 mg/mL) oral solution must be diluted as follow:

Dilute 0.2 mL of captopril 5 mg/mL oral solution (i.e. 1 mg) to total volume of 10 mL.
Final concentration is 100 **microgram**/mL. Give prescribed dose and discard excess.

MONITORING

Immediately prior to administration: document vital signs and observations on the appropriate chart(s)

Initial dose (including 'test' dose) observations

1. Check blood pressure every 30 minutes for 2 hours
2. If the patient appears well and there is no clinically significant hypotension, continue as below

Continuing treatment observations

1. If the dose has been changed, check blood pressure every 30 minutes for 2 hours, then every 4 hours.
2. If the dose has not changed, check blood pressure every 4 hours.

Note: Medical team may dictate different observation requirements, depending on the patient's clinical condition

Recommended monitoring^{3, 4, 7}

Serum potassium, renal function, urine protein

ADVERSE EFFECTS

Common: Hypotension¹, vomiting¹, dry cough¹, headache¹, fatigue⁵, dizziness¹, hyperkalaemia¹, renal impairment¹, pruritus⁵, rash⁵, taste disturbance⁵, sleep disorders⁵,

Infrequent: Angioedema¹, neutropenia⁵, tachycardia⁵, anaemia⁵, flushing⁵, pallor⁵

Rare: Hepatitis (cholestatic or hepatocellular)^{1, 5}, pancreatitis^{1, 5}, hyponatraemia^{1, 5}, Stevens Johnson syndrome⁵

STORAGE⁵

Tablets: Store below 25°C

Oral solution (Syrimed®): Store below 30°C – Discard 21 days after opening

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

Related CAHS internal policies, procedures and guidelines

[Drug Dosing In Overweight And Obese Children](#)


[High Risk Medicines](#)

[Neonatal Medication Protocols](#)

References

1. Australian Medicines Handbook: Captopril [Internet]. 2023 [Available from: [Captopril - Australian Medicines Handbook \(health.wa.gov.au\)](https://www.austlii.edu.au/au/other/aukmi/au/other/amh/)]
2. AMH Children's Dosing Companion: Captopril [Internet]. 2023 [Available from: <https://childrens-amh-net-au.pklibresources.health.wa.gov.au/>]
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4. UpToDate. Captopril: Drug Information [Internet]. 2023 [Available from: https://www-uptodate-com.pklibresources.health.wa.gov.au/contents/captopril-drug-information?search=Captopril&source=panel_search_result&selectedTitle=2~134&usage_type=panel&kp_tab=drug_general&display_rank=1]
5. Captopril (CAPOTEN®) Full Product Information [Internet]. 2023 [updated 25/11/22. Available from: https://www-mimsonline-com-au.pklibresources.health.wa.gov.au/Search/DNC.aspx?ModuleName=Product%20Info&searchKeyword=Captopril&PreviousPage=~/Search/QuickSearch.aspx&SearchType=&ID=1430002_2]
6. Flynn JT. Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents. Pediatrics. 2017;140:e2017-1904.
7. Captopril Monograph [Internet]. 2023 [Available from: <https://www-clinicalkey-com.pklibresources.health.wa.gov.au/pharmacology/monograph/89?n=Captopril>]
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File Path:	W:\Safety & Quality\CAHS\CLOVERS MEDICAL Pharmacy\Procedures Protocols and Guidelines\Medication Monographs_Word\PCH.MED.Captopril.docx		
Document Owner:	Chief Pharmacist		
Reviewer / Team:	Senior Pharmacist, Nephrologist, Cardiologist, Senior Pharmacist		
Date First Issued:	Jun 2016	Last Reviewed:	Dec 2023
Amendment Dates:	Feb 2020, Dec 2023	Next Review Date:	Dec 2026
Approved by:	Medication Safety Committee	Date:	Jan 2024
Endorsed by:	Drugs and Therapeutics Committee	Date:	Feb 2024
Standards Applicable:	NSQHS Standards:   NSMHS: N/A Child Safe Standards: N/A		

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Healthy kids, healthy communities

Compassion

Excellence

Collaboration

Accountability

Equity

Respect

Neonatology | Community Health | Mental Health | Perth Children's Hospital