



MONOGRAPH

GLYCOPYRRONIUM (Glycopyrrolate)

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](#)

QUICKLINKS

Dosage/Dosage Adjustments	Administration	Compatibility	Monitoring
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DRUG CLASS¹

Anticholinergic (antimuscarinic) agent.

INDICATIONS AND RESTRICTIONS^{2, 3}

- Severe drooling in neurological conditions.
- Control of chronic secretions.
- Preoperative reduction of salivary, tracheobronchial and pharyngeal secretions.
- Perioperative bradycardia.
- Prevention and reversal of muscarinic effects of cholinergic agents.

CONTRAINDICATIONS³

- Hypersensitivity to glycopyrronium or any component of the formulation.
- Medical conditions that preclude use of anticholinergic medications (e.g. severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, glaucoma, obstructive uropathy, myasthenia gravis, paralytic ileus, obstructive disease of GI tract).

PRECAUTIONS⁴

- Constipation, severe inflammatory GI disease, delirium, tachycardia, fever (from any cause), prostatism.

- Use cautiously in patients with hyperthyroidism, coronary artery disease, congestive heart failure, hypertension or cardiac arrhythmias – may worsen condition.

FORMULATIONS

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

- Glycopyrronium (Glycopyrrolate) 200 microg/mL solution
- Glycopyrronium (Glycopyrrolate) 200 microg/1 mL ampoule

Imprest location: [Formulary One](#)

DOSAGE & DOSAGE ADJUSTMENTS ^{2, 3}

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

Chronic drooling:

- ≥ 3 years: PO Initially 20 microg/kg/dose 3 times daily; titrate in increments of 20 microg/kg/dose every 5-7 days as tolerated to a maximum dose of 100 microg/kg (maximum 3 mg) 3 times daily.

Preoperative reduction of secretions: Give IV just before (or IM 30-60 minutes before) induction of anaesthesia as a single dose.

- 4 weeks-12 years: IV/IM 4-10 microg/kg (maximum 200 microg).
- 12-18 years: IV/IM 200-400 microg.

Reversal of bradycardia, vagal reflexes (intraoperative):

- 4 weeks-12 years: IV 4-10 microg/kg (maximum 200 microg). Repeat if necessary.
- 12-18 years: IV 200-400 microg. Repeat if necessary.

Prevention of neostigmine muscarinic effects:

Give simultaneously with neostigmine.

- 4 weeks-12 years: IV 10 microg/kg.
- 12-18 years: IV 200 microg per 1 mg of neostigmine.

Reversal of muscarinic effects of cholinergic agents:

- ≥ 4 weeks: IV 0.2 mg for each 1 mg of neostigmine or 5 mg of pyridostigmine administered.

Renal impairment:

- Duration of effect may be prolonged in patients with renal impairment. Dosage adjustment may be necessary, use with caution. [eGFR calculator](#)

Hepatic impairment:

- No dosage adjustment required.

ADMINISTRATION^{1, 3, 5, 7}

- **Oral formulations:** Administer on an empty stomach at least 1 hour before or 2 hours after meals.
- **IV:** Give undiluted over at least 1 minute (maximum rate: 200 microg/minute) or dilute to a convenient volume with a compatible fluid and infuse over 15 to 30 minutes.
- **IM:** Suitable. No dilution necessary.
- **Subcutaneous:** Suitable. Give undiluted or dilute to a convenient volume and give by intermittent injection. Can be given as a continuous subcutaneous infusion.
- The injection may be given orally.

COMPATIBILITY (LIST IS NOT EXHAUSTIVE)^{1, 5, 7}

Compatible fluids: Sodium Chloride 0.9%, Glucose 5%, Glucose 5% and sodium chloride 0.9%, Glucose 5% and sodium chloride 0.45%, Glucose 10%.

Compatible at Y-site: Aciclovir, Alfentanil, Amikacin, Aminophylline, Amiodarone, Calcium chloride, Calcium gluconate, Caspofungin, Cefazolin, Cefotaxime, Ceftazidime, Ceftriaxone, Cefuroxime, Ciclosporin, Clindamycin, Dexmedetomidine, Digoxin, Dobutamine, Fentanyl, Fluconazole, Gentamicin, Heparin sodium, Hydromorphone, Labetalol, Linezolid, Methylprednisolone sodium succinate, Metoclopramide, Metronidazole, Morphine, Ondansetron, Palonosetron, Promethazine, Tobramycin, Vancomycin.

Only commonly used drugs are listed below. This is not a complete list of incompatible drugs. [Compatibilities of IV drugs](#) must be checked when two or more drugs are given concurrently.

INCOMPATIBLE drugs: Diazepam, Furosemide (frusemide), Pantoprazole, Phenytoin, Piperacillin-Tazobactam, Trimethoprim-Sulfamethoxazole.

MONITORING³

Heart rate, anticholinergic effects, bowel sounds and movements, effects on drooling.

ADVERSE EFFECTS^{1, 3, 4, 7}

Common: Drowsiness, dizziness, headache, insomnia, tachycardia, dry mouth, urinary retention, impotence, constipation, inhibition of sweating.

Infrequent: Confusion, giddiness, nausea, vomiting, seizures, nystagmus, dysgeusia or other taste disturbances, agitation, aggression, impulse control disorder, paradoxical hyperexcitability.

Rare: Angle closure glaucoma.

STORAGE ^{3, 7}

Solution and Ampoules: Store below 25°C.

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

References

1. Clinical Pharmacology. 2024 [Available from: [Glycopyrrolate Monograph - Clinical Pharmacology \(health.wa.gov.au\)](#)]
2. Australian Medicines Handbook: Children's Dosing Companion. Glycopyrronium [Internet]. Adelaide (SA): Australian Medicines Handbook Pty Ltd.; 2024 [cited 2024 Sep 10]. Available from: [Glycopyrronium - AMH Children's Dosing Companion \(health.wa.gov.au\)](#)
3. Lexicomp Editorial Advisory Panel. Glycopyrrolate (glycopyrronium) Pediatric Drug Information [Internet]. Wolters Kluwer: UpToDate; 2024 [cited 2024 Sep 10]. Available from: [Glycopyrrolate \(glycopyrronium\) \(systemic\): Pediatric drug information - UpToDate \(health.wa.gov.au\)](#)
4. Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists., Pharmaceutical Society of Australia., The Royal Australian College of General Practitioners. Australian medicines handbook, 2024. Adelaide SA: Australian Medicines Handbook.
5. Lilley L, Legge D. Paediatric Injectable Guidelines, 2024. Flemington, Vic: The Royal Children's Hospital. Available from: [Glycopyrronium \(glycopyrrolate\) | Paediatric Injectable Guidelines Online \(health.wa.gov.au\)](#)
6. MIMS Australia. MIMS Online St Leonards, N.S.W: MIMS Australia Pty Ltd.; 2024. Available from: [MIMS | MIMS | Full Product Information \(health.wa.gov.au\)](#)
7. Burridge N, Collard N, Symons K. Society of Hospital Pharmacists of Australia. Australian Injectable Drugs Handbook: Health Communication Network; 2024. Available from: [AIDH - GLYCOPYRRONIUM BROMIDE \(health.wa.gov.au\)](#).

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