MONOGRAPH

Droperidol

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

DRUG CLASS

Droperidol is a first generation antipsychotic[1].

Droperidol blocks dopamine receptors at the chemoreceptor trigger zone [2,3].

It also exhibits its effects through binding to post synaptic gamma-aminobutyric acid (GABA) receptors in the central nervous system, leading to sedative and anxiolytic effects [2,3].

Droperidol is a High Risk Medicine.

INDICATIONS AND RESTRICTIONS

- Severe acute anxiety, agitation or disturbed behaviour as per as per Emergency Department Guidelines: Behavioural Problems or when other intramuscular therapies have failed.
- Third line treatment for postoperative nausea and vomiting (PONV)[1].

CONTRAINDICATIONS

- Hypersensitivity to droperidol or any component of the formulation [3,4,5].
- Suspected or known QT prolongation, including those with congenital long QT syndrome[3,4,5].

PRECAUTIONS [3,4,5]

- Cardiac conditions that may pre-dispose to increased risk of QT prolongation
    - May include bradycardia, atrioventricular block, heart failure, stress related cardiomyopathy, myocardial infarction.
- Current treatment with other medications known or suspected to prolong QT interval.
- Hypomagnesaemia or hypokalaemia.
- Current treatment with other medications likely to cause electrolyte disturbances.
- Worsening of extrapyramidal side effects (EPSE) - particularly movement disturbances such as parkinsonism, akathisia and acute dystonic reactions.
- Central nervous system (CNS) depression – excessive sedation.
- Diagnosed or suspected pheochromocytoma – severe hypertension and tachycardia.
- Seizure disorders or history of seizure disorder – may lower seizure threshold.
- Current treatment with other medications causing sedation – can potentiate central nervous system depression.

FORMULATIONS

Listed below are products available at PCH. Other formulations may be available - check with pharmacy if required:

All clinical areas

- Droperidol 1 mg/mL vial (Phebra).

For use in Emergency High Acuity or under specialist psychiatry supervision ONLY for acute behavioural disturbances

- Droperidol 2.5 mg/mL ampoule (Panpharma).

Imprest location: Formulary One

DOSAGE & DOSAGE ADJUSTMENTS

Postoperative nausea and vomiting

Children 2–18 years old: 0.01 mg/kg – 0.02 mg/kg IV, up to a maximum of 0.625 mg as a single dose. Use lower dose initially to avoid sedation [6,7, 8] .

Can be repeated after 6 hours if required or switch to a different anti-emetic [6,7].

Higher maximum doses can be used under the direct supervision of medical consultant [8, 9,10].

Refer to Postoperative Nausea and Vomiting (PONV) Management in Children.

Acute behavioural disturbance

An Electrocardiogram (ECG) should be performed if feasible prior to administration for patients with cardiovascular disease / significant risk factors for cardiac arrythmia [3, 11,12]. When used for behavioural disturbances, ECG is recommended once acute symptoms have resolved[12].

- *Children 6-18 years old: 0.03 - 0.07 mg/kg IM/IV (maximum 5 mg) [6].*
- *Doses can be repeated every 30 minutes to a maximum of 4 doses in 24 hours [6, 13].*
- *Maximum daily dose is 20 mg [6].*

Higher dosages, e.g. 0.1 – 0.3 mg/kg IM/IV (maximum 10 mg) can be used in the emergency department [6, 13, 14]. Refer to Emergency Department Guidelines: Behavioural Problems

Review Intramuscular sedation after 30 minutes to assess efficacy before attempting further sedation. Continue physical restraint until sedation is achieved. Refer to Arousal and Agitation Drug Management. for antipsychotic monitoring guidance and post sedation care.

Droperidol is a high potency rapid acting antipsychotic. When it is required to be concurrently administered with intramuscular benzodiazepines, this should be under the supervision of a consultant on general medical and mental health wards. Ideally these medications should be separated by at least ONE hour in these areas.

Fourth line acute behavioural disturbance in delirium (PCC only)

An Electrocardiogram (ECG) should be performed if feasible prior to administration for patients with cardiovascular disease / significant risk factors for cardiac arrythmia [3, 11, 12]. When being used for behavioural disturbances, an ECG is recommended once acute symptoms have resolved[12].

Consider droperidol, only if unable to administer enteral medication and after trialling intravenous clonidine[15].

If given, a Nasogastric Tube should be placed to facilitate subsequent enteral pharmacotherapy[15].

Refer to Delirium Assessment and Management.

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- *Doses can be repeated every 30 minutes to a maximum of 4 doses in 24 hours [6].*
- *Maximum daily dose is 20 mg [6].*

Hepatic impairment:

- Use with caution, consider dose reduction[1].

ADMINISTRATION

- **IV administration:** Inject the dose slowly over at least 2 minutes. Inject undiluted or diluted with a compatible fluid[12].
- **IM administration:** Inject deeply into well-developed muscle. Aspirate prior to injection to avoid injecting into blood vessel[12].

COMPATIBILITY *(LIST IS NOT EXHAUSTIVE)*

Compatible fluids[12]:

Glucose 5%, Hartmann's solution, Sodium Chloride 0.9%

Emergency department acute agitation and arousal: Droperidol can be combined with midazolam in the same syringe. This is ONLY permitted in the emergency department as part of the Emergency Department Guidelines: Behavioural Problems [5, 14].

Compatible at Y-site [5, 12]: Paracetamol, dopamine, glycopyrronium, hydromorphone, lorazepam, potassium chloride

Incompatible drugs [5, 12] : Calcium folinate, cefepime, ertapenem, foscarnet, furosemide, heparin sodium, piperacillin-tazobactam, potassium acetate

Only commonly used drugs are listed above. This is not a complete list of incompatible drugs.

Compatibilities of IV drugs must be checked when two or more drugs are given concurrently.

MONITORING

General monitoring for ALL patients

- Vital signs including blood pressure, respiratory depression and excess sedation as per Paediatric Acute Recognition and Response Observation Tool (PARROT)
- Extra pyramidal side effects (EPSE) as described below
- Cardiac monitoring should be considered in repeat doses (exceeding 2.5mg in 24 hours) or patients with pre-existing cardiac risk factors [8, 11]

Additional monitoring for patients sedated for acute behavioural disturbances

- Serum potassium and magnesium [3]
- ECG monitoring required for 2-3 hours after administration, particularly in patients with cardiovascular risk factors

  Children and adolescents are more prone to acute dystonic side effects including life threatening laryngospasms – close monitoring for these side effects is required [16]
- Extra Pyramidal Side Effects
  - Akinesia: finding it hard to start a movement
  - Akathisia: finding it hard to keep still

- Dyskinesia: unusual movement or twitches (usually of the face that may be repetitive)
- Oculogyric crisis: unusual eye movements, most commonly with eyes turning upwards
- Parkinsonism: symptoms mimic those of Parkinson's disease e.g. tremor/stiffness
- Dystonia: muscle stiffness

Use an Abnormal Involuntary Movement Scale (AIMS) to assist in examining for EPSE.

Reversal agents for EPSE are detailed in Arousal and Agitation Drug Management guideline.

When using for behavioural disturbance, if decreased level of consciousness:

Commence 1:1 nursing observation of patient and document on the PARROT; escalate to medical referral as appropriate.

1. Check:
   A) Conscious state
   B) Vital signs
   C) Cardiac monitoring
   D) Respiratory function
   E) Signs of upper airway obstruction
   F) Extrapyramidal side effects
2. Support airway and supplement oxygen as per hospital protocol
3. Place patient in recovery position
4. Perform physical examination
5. Take collateral history

Sedated patients should be monitored in an appropriate clinical area with resuscitation facilities

Suggested frequency:

- Initial continuous observation during first 10 minutes
- Then every 10 minutes for 30 minutes
- Then every 15 minutes for 30 minutes
- Then every 30 minutes for 60 minutes
- Then hourly for 4 hours or until awake

ADVERSE EFFECTS

Common: Hypotension, drowsiness/sedation, anxiety, dysphoria, restlessness [5].

Infrequent: Prolonged QTc, dystonia, akathisia, respiratory depression[1].

Rare: Torsades de pointes, sudden cardiac death, Neuroleptic Malignant Syndrome[1,3].

Neuroleptic malignant syndrome:

A potentially fatal condition characterised by fever, marked muscle rigidity, altered consciousness and autonomic instability; usually progresses rapidly over 24-72 hours. Elevation of serum creatine kinase concentration (skeletal muscle origin) and leucocytosis often occur. There is a higher incidence of occurrence in young males[1].

STORAGE

Store below 25˚C [12].

Protect from light [12].

INTERACTIONS

- Caution with drugs that prolong QTc or disrupt electrolyte balance [3, 5].
- Caution with other sedating medication [3, 5].

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

Related CAHS internal policies, procedures and guidelines

Abnormal Involuntary Movement Scale (AIMS)

Arousal and Agitation Drug Management.

Delirium Assessment and Management

High Risk Medicines

Intramuscular (IM) Injections

Medication Preparation, Checking and Administration

Medication Safety

PCH Emergency Department Guidelines – Behavioural Problems

Postoperative Nausea and Vomiting Management in Children

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