



Drug Therapy Protocols: Oxygen

Policy code	DTP_OXYG_0722
Date	July, 2022
Purpose	To ensure a consistent procedural approach to oxygen administration.
Scope	Applies to all Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless specifically mentioned.
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Oxygen

July, 2022

Drug class

Gas

Pharmacology

A colourless, odourless gas essential for the production of cellular energy.

Metabolism

N/A.

Indications ^[1-5]

- A wide range of conditions resulting in, or potentially resulting in systematic AND/OR localised hypoxia.

Contraindications

- Known paraquat poisoning with SpO₂ equal to or greater than 88%
- History of bleomycin therapy with SpO₂ equal to or greater than 88%

Precautions

- Patients with paraquat poisoning or bleomycin lung injury may be harmed by supplemental oxygen. Avoid oxygen unless the patient is hypoxaemic – target 88–92%.^[1]
- Prolonged administration to premature neonates.
- Newly born infants will have low SpO₂ for the first 10 minutes following birth – refer to *CPG: Resuscitation – Newly born*.
- Patients with cyanotic heart disease may have saturation targets between 75% to 85%. Clinicians should attempt to ascertain optimal target saturation levels for these patients from carers or health professional.
- A BVM will not supply adequate oxygen unless IPPV is provided.
- The use of high flow oxygen in an attempt to protect against subsequent hypoxaemia in the event of deterioration has the potential to delay the recognition of such a deterioration. This may provide a false reassurance that the patient is stable.

Side effects

- Hypoventilation in some COPD patients with hypoxic drive.
- Drying of airway mucous membranes

Presentation

- Size C Cylinder, 450 L *medical oxygen*
- Size D Cylinder, 1600 L *medical oxygen*

Onset	Duration	Half-life
Immediate	N/A	N/A

Schedule

- Unscheduled.

Routes of administration

Inhalation (INH)

- Nasal cannulae (NC)
- Nebuliser mask (NEB)
- Simple face mask (SFM)
- Non-rebreather reservoir mask (NRBM)
- Bag-valve mask (BVM)
- Supraglottic airway device (SAD)
- Endotracheal tube (ETT)
- Continuous Positive Airway Pressure (CPAP)



Special notes⁽¹⁻⁴⁾

- The administration of oxygen to correct hypoxaemia is evidence based, severe hypoxaemia is harmful. The provision of suprathreshold amounts of oxygen in a number of conditions including reversible cardiac ischaemia have been associated with poorer outcomes.
- Diving accidents are **NOT** covered by this DTP – **officers must administer high flow oxygen.**
- QAS oxygen saturation monitors are unable to differentiate between carboxyhaemoglobin and oxyhaemoglobin, therefore patients with carbon monoxide poisoning must be administered the maximum oxygen dose irrespective of SpO₂ readings.
- For patients with COPD, nebulised salbutamol must be delivered via nebuliser mask at a rate of 6 L/minute. For all other patients 8 L/minute is appropriate for nebulising drugs.
- The FiO₂ levels delivered by the different delivery systems may vary considerably between patients and be influenced by a number of factors, including respiratory rate and whether the patient's mouth is open or closed.

Adult/Paediatric dosages

- Intra-arrest
- CO poisoning
- Cyanide poisoning
- Preoxygenation for RSI

FR PTO AT P ACP1 ACP2 CCP

INH Administer 100% O₂

- Paraquat toxicity
- Bleomycin treatment
- Obesity
- COPD
- Cystic fibrosis
- Neuromuscular disease

FR PTO AT P ACP1 ACP2 CCP

INH Titrate oxygen to achieve SpO₂ 88–92%

All other presentations NOT listed above

FR PTO AT P ACP1 ACP2 CCP

INH Titrate oxygen to achieve SpO₂ 92–96%

