Clinical Practice Procedures: Drug administration/Inhalation – Metered Dose Inhaler (MDI) with spacer

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<thead>
<tr>
<th>Date</th>
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<tr>
<td>Purpose</td>
<td>To ensure a consistent procedural approach for the Metered Dose Inhaler (MDI) with spacer.</td>
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<td>Scope</td>
<td>Applies to all QAS clinical staff.</td>
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<tr>
<td>Author</td>
<td>Clinical Quality &amp; Patient Safety Unit, QAS</td>
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<td>Information security</td>
<td>This document has been security classified using the Queensland Government Information Security Classification Framework (QGISCF) as UNCLASSIFIED and will be managed according to the requirements of the QGISF.</td>
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**Inhalation – Metered Dose Inhaler (MDI) with spacer**

A **Metered Dose Inhaler (MDI)** is a device used to deliver a short burst of inhaled aerosolised medication to the patient's lungs. An MDI consists of three major components: a canister containing propellant with drug suspension, a metered valve and a plastic holder with mouthpiece.

**Indications**
- For the delivery of inhalation medications requiring a MDI and spacer

**Contraindications**
- Foreign body airway obstruction

**Complications**
- Poor procedural compliance reducing drug delivery

When the canister is pressed, the MDI will release a predetermined metered aerosol dose. The release of medication is timed with inspiration, allowing for medication delivery deep within the patient's lungs.

A MDI used in conjunction with a spacer/holding chamber will reduce oropharyngeal disposition, improve distal medication delivery and minimise the importance of ‘hand-breath’ coordination.[6]
1. Remove the MDI that contains the medication from packaging.
2. Remove the mouthpiece cap.
3. Hold MDI upright and shake well.
4. Prime MDI by releasing two metered doses into the air.
5. Remove the LiteAire® valve holding chamber from the packaging.
6. Firmly grasp the LiteAire® valved holding chamber with your thumb and forefinger on either side and squeeze to form a supported chamber.
7. Insert the MDI mouthpiece into the LiteAire® inhalation port.
**Procedure** – Metered Dose Inhaler (MDI) with spacer

8. Instruct the patient to place their lips around the small holes of the LiteAire® mouthpiece. Ensure the patient’s lips cover the entire mouthpiece so there are no gaps.

9. Encourage the patient to gently **exhale** into the mouthpiece.

10. Press the puffer ONCE to release a dose of medication into the spacer. Instruct the patient to breath in and out 4–5 times without removing the mouthpiece between breaths (there is a 2-way valve system which will prevent the medication from escaping from the spacer).

11. Repeat steps 8–12 to deliver the required dose of medication as per DTP: Salbutamol.

**Additional information**

- The LiteAire® mouthpiece and internal chamber should be inspected before each use to ensure no foreign bodies are present.
- Each LiteAire® can be used for multiple administrations in the same patient, however should be immediately discarded if wet, crushed, contaminated or discoloured.
- All used MDIs are to be discarded in accordance with the QAS Drug Management Code of Practice.