Clinical Practice Procedures: Airway management/Laryngeal manipulation

<table>
<thead>
<tr>
<th>Policy code</th>
<th>CPP_AM_LAM_0120</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>January, 2020</td>
</tr>
<tr>
<td>Purpose</td>
<td>To ensure a consistent procedural approach to laryngeal manipulation.</td>
</tr>
<tr>
<td>Scope</td>
<td>Applies to Queensland Ambulance Service (QAS) clinical staff.</td>
</tr>
<tr>
<td>Health care setting</td>
<td>Pre-hospital assessment and treatment.</td>
</tr>
<tr>
<td>Population</td>
<td>Applies to all ages unless stated otherwise.</td>
</tr>
<tr>
<td>Source of funding</td>
<td>Internal – 100%</td>
</tr>
<tr>
<td>Author</td>
<td>Clinical Quality &amp; Patient Safety Unit, QAS</td>
</tr>
<tr>
<td>Review date</td>
<td>January, 2023</td>
</tr>
</tbody>
</table>

While the QAS has attempted to contact all copyright owners, this has not always been possible. The QAS would welcome notification from any copyright holder who has been omitted or incorrectly acknowledged.

All feedback and suggestions are welcome. Please forward to: Clinical.Guidelines@ambulance.qld.gov.au

Disclaimer

The Digital Clinical Practice Manual is expressly intended for use by QAS paramedics when performing duties and delivering ambulance services for, and on behalf of, the QAS.

The QAS disclaims, to the maximum extent permitted by law, all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs incurred for any reason associated with the use of this manual, including the materials within or referred to throughout this document being in any way inaccurate, out of context, incomplete or unavailable.


This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives V4.0 International License

You are free to copy and communicate the work in its current form for non-commercial purposes, as long as you attribute the State of Queensland, Queensland Ambulance Service and comply with the licence terms. If you alter the work, you may not share or distribute the modified work. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-nd/4.0/deed.en

For copyright permissions beyond the scope of this license please contact: Clinical.Guidelines@ambulance.qld.gov.au
Laryngeal manipulation improves visualisation of the larynx during direct laryngoscopy. Two (2) main techniques are described in the literature:

External Laryngeal Manipulation (ELM):[1] allows for the directional movement of the larynx to improve visualisation.

Backwards, Upwards, Rightwards, Pressure (BURP) technique:[2] displaces the larynx superiorly, posteriorly and rightward laterally to improve visualisation.

ELM and BURP will usually be performed by the airway clinician until optimal visualisation has occurred, at which time responsibility will be handed over to an airway assistant.[3,4]

**Indications**
- Sub-optimal visualisation of the larynx during direct laryngoscopy

**Contraindications**
- Active vomiting

**Complications**
- Incorrect application
- May worsen visualisation of the larynx
- Potential for airway trauma
Procedure – Laryngeal manipulation

**ELM**

1. Whilst performing laryngoscopy, the intubating officer gently grasps the thyroid cartilage between the thumb and index and/or middle finger.
2. The thyroid cartilage is directed posteriorly and cephalad until optimal visualisation has been achieved.
3. Responsibility for the maintenance of laryngeal pressure is then delegated to the airway assistant.
4. Following confirmation of successful endotracheal tube placement (appropriate EtCO$_2$ detection) and on direction of the intubating officer, ELM may be removed.

**BURP**

1. Whilst performing laryngoscopy the intubating officer gently grasps the thyroid cartilage between the thumb and index and/or middle finger.
2. Smooth, gentle pressure is applied in the following manner until optimal visualisation has been achieved:
   - Backwards (to abut the larynx against the cervical vertebrae)
   - Upwards until mild resistance is felt
   - Rightwards (0.5–2 cm).
3. Responsibility for the maintenance of laryngeal pressure is then delegated to the airway assistant.
4. Following confirmation of successful endotracheal tube placement (appropriate EtCO$_2$ detection) and on direction of the intubating officer, BURP may be removed.

**Additional information**

- Cricoid pressure is a technique performed to reduce gastric content aspiration during intubation. It involves placing firm pressure over the patient’s cricoid cartilage to occlude the oesophagus. Due to the lack of supporting evidence the QAS does not recommend the routine use of cricoid pressure during intubation.[3]