Endotracheal Intubation (ETI) - Adolescent

Consider Spinal Motion Restriction

Preoxygenate
Prepare all equipment
Prepare patient
Consider cricoid pressure
Consider bougie

ETT is confirmed to be in trachea

Inflate ETT cuff
Release cricoid pressure
Determine tube depth
Secure ETT
Insert bite block
Consider EGT

Ventilate as required

Monitor SaO2
Monitor EtCO2
Monitor tube depth

Patient remains unconscious

Consider sedation

Return to patient assessment & management

Consider BIAD or other device

TRANSPORT

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TRANSPORT
**INDICATIONS:**
- Patient is unconscious with no gag reflex and
  - Airway that is not patent and/or cannot be maintained and/or is not protected from aspiration
  - Not spontaneously breathing or spontaneous but inadequate
  - Patient is hypoxemic and hypoxemia cannot be corrected by other means

**CONTRAINDICATIONS:**
- None

**NOTES:**
- Pre-oxygenate with 100% O2 by BVM with an OPA and/or NPAs required. Rigid suction should be readily available.
- Prepare all equipment in standard fashion. Select the appropriate size laryngoscope and ETT as per appendix A.
- Remove any dental devices. Do not forcibly open clenched jaws. If cervical spine trauma is suspected, limit spinal motion while performing airway maneuvers.
- Cricoid pressure or BURP maneuver may be used to improve visualization of the glottis. If cricoid pressure is applied, do not release it until the ETT is placed within the trachea and the cuff is inflated.
- If the glottis cannot be directly visualized consider placing a gum elastic bougie in the trachea, and advancing the ETT over the bougie.
- Limit each attempt at ETT insertion to 30 seconds. Reoxygenate between attempts. A maximum of two attempts should be made. Discontinue attempts at insertion if patient gags or vomits, or patient otherwise resists insertion. Consider alternative device (such as LMA or supraglottic airway device) or continue with basic airway management technique.
- If placement within the trachea is achieved, inflate the cuff, and confirm correct position. Correct ETT placement can be confirmed by:
  - Direct visualization of placement through the vocal cords.
  - Water vapour appearing within the ETT.
  - Auscultation of breath sounds within the thorax.
  - Absence of breath sounds within the epigastrium.
  - Colorimetric change of an EtCO2 detector or appropriate waveform on capnometry.
  - Improvement or maintenance of oxygen saturation.
- If there is no confirmation of correct ETT position, remove the tube and consider alternative device (such as LMA or supraglottic airway device) or continue with basic airway management technique.
- Note ETT depth and adjust as necessary (see appendix A). If correct placement is confirmed, secure the ETT with an appropriate device or taping method. Consider inserting a commercial bite blocking device or OPA into the mouth alongside the ETT.

**ABBREVIATIONS:**
- BIAD – blind insertion airway device
- BURP – backward / upward / rightward pressure
- cm - centimeters
- EGT – endogastric tube
- EtCO2 – end tidal CO2
- ETT – endotracheal tube
- LMA – laryngeal mask airway
- NPA – nasopharyngeal airway
- OPA – oropharyngeal airway
## Appendix A:
Adolescent tracheal tube size and depth

<table>
<thead>
<tr>
<th>Age (yrs)</th>
<th>Laryngoscope blade</th>
<th>Straight blade</th>
<th>Curved blade</th>
<th>Endotracheal tube size (OD)</th>
<th>Depth (cm to lips)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 – 14</td>
<td>2, 3</td>
<td>X</td>
<td>X</td>
<td>5.5 – 6.0</td>
<td>14 - 16</td>
</tr>
<tr>
<td>14 - 17</td>
<td>3</td>
<td></td>
<td>X</td>
<td>6.0 – 7.0</td>
<td>16 - 20</td>
</tr>
</tbody>
</table>