Procedure Guidelines

<table>
<thead>
<tr>
<th>Protocol Title</th>
<th>Endotracheal Intubation</th>
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</thead>
<tbody>
<tr>
<td>Original Adoption Date</td>
<td>05/2001</td>
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<td>Date of Most Recent Update</td>
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<tr>
<td>Medical Director</td>
<td>Chad Torstenson M.D.</td>
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</tbody>
</table>

Indications:
1. Patient with respiratory compromise, deep coma, respiratory arrest, or cardiopulmonary arrest
2. Patient where complete obstruction of the airway appears imminent (i.e. respiratory burns)

Contraindications:
1. Patient with intact gag reflex
2. Patient with preexisting condition that may cause laryngeal spasm (i.e. epiglottitis, croup)

Possible Complications:
1. Accidental intubation of the esophagus
2. Oropharyngeal trauma
3. Fractured teeth or dentures
4. Spasm of the vocal cords

Procedure:
1. Prepare and check equipment, consider ETT lubrication.
2. Pre Oxygenate patient with 100% oxygen
3. Utilize pulse oximetry
4. Place the patient in the sniffing position with the head extended, unless c-spine injury is present or suspected. If so, maintain in-line neutral position during intubation.
5. Insert laryngoscope into mouth and visualize cords. *See manual below for directions on using the KingVision Video Laryngoscope*
6. Insert ETT while maintaining visualization as the tube passes through the laryngeal opening.
7. Inflate cuff with 5-10 ml of air
8. Ventilate and check tube placement by auscultation of both chest and abdomen.
9. Confirm ETT placement with “Tube Check” or End-Tidal CO2 detector or monitor
10. Secure tube with appropriated device or tape.
After intubation, monitor the patient with ETCO2 to ensure proper ventilation and endotracheal tube placement.

*Note* Endotracheal Intubation attempts shall be limited to two using a conventional laryngoscope. In the case where two unsuccessful attempts have been made, one attempt may be made using a video-laryngoscope before moving to another airway device such as the King LT. The definition of an Endotracheal Intubation attempt is “Anytime direct laryngoscopy is made with the intent to place the endotracheal tube.”

**KING Vision Video Laryngoscopy**

**Product Overview and Description**
The King Vision™ Video Laryngoscope is a portable, battery operated, rigid, digital video laryngoscope system that incorporates an integrated reusable display with disposable blades designed to visualize the airway while aiding in the placement of airway devices.

**Product Components**
The King Vision Laryngoscope consists of two primary components:
1) A durable integrated reusable display
2) Disposable blade with a channel for tracheal tube guidance

**Instructions for Use:**
Important: The King Vision Display must be “OFF” before attaching a blade; Otherwise, the video image will become distorted. If this happens, simply turn the Display “OFF” then back “ON”.

1. **Preparing the King Vision Video Laryngoscope**
   a. Select the channeled blade to be used.
   b. Install the display into the blade (only goes together one way). Listen for a “click” to signify that the display is fully engaged with the Blade. Note that the front and back of the parts are color-coded to facilitate proper orientation.
   c. The size #3 (Adult) Channeled blade is designed to be used with standard ETT sizes 6.0 to 8.0. No stylet is needed.
i. Lubricate the ETT, the guiding channel of the Channeled Blade and the distal tip of the blade using a water soluble lubricant. Take care to avoid covering the imaging element of the blade with lubricant.

ii. Note: The bougie may also be used with the King Vision as another tool to assist with the intubation.

iii. The ETT may be preloaded into the guiding channel with its distal tip aligned with the end of the channel. Note that the ETT tip should not be evident on the screen when loaded properly. Alternatively, the ETT can be inserted into the channel after the blade has been inserted into the mouth and the vocal cords have been visualized.

2. Powering On
   a. Press the power button on the back of the King Vision Display.
   b. The King Vision Display should turn “ON” immediately AND display shows a moving image

   c. Confirm the imaging of the King Vision is working properly.

   IMPORTANT: If the LED Battery indicator light in the upper left hand corner of the King Vision Display is FLASHING RED, the battery life remaining is limited and the batteries should be replaced as soon as possible

3. Insertion of King Vision Blade into the Mouth
   a. Open the patient’s mouth using standard technique.
   b. In the presence of excessive secretions/blood, suction the patient’s airway prior to introducing the blade into the mouth.
   c. Insert the blade into the mouth following the midline. Take care to avoid pushing the tongue toward the larynx.
d. As the Blade is advanced into the oropharynx, use an anterior approach toward the base of the tongue. Watch for the epiglottis and direct the blade tip towards the vallecula to facilitate visualization of the glottis on the display’s video screen. The King Vision Blade tip can be placed in the vallecula like a Macintosh (curved) blade or can be used to lift the epiglottis like a Miller (straight) blade. For best results, center the vocal cords in the middle of the Display’s video screen.

e. If the lens becomes obstructed (e.g., blood/secretions), remove the blade from the patient’s mouth and clear the lens.

f. Avoid putting pressure on the teeth with the King Vision Video Laryngoscope.

4. ETT Insertion

a. After you can see the vocal cords in the center of the King Vision Display, advance the ETT slowly and watch for the cuff to pass through the vocal cords. Note that minor manipulation of the blade may be needed to align the ETT tip with the vocal cords.

User Tips for ETT Advancement into the Trachea

- The most common issue associated with ETT placement with any video laryngoscope is that the blade tip has been advanced too far; there may be a good close-up image of the vocal cords, but the ETT cannot be advanced because the blade/camera is obstructing ETT passage.
- To address this:
  - Place the Blade tip in the vallecula or, if too close to the vocal cords, withdraw the Blade slightly and gently lift in an anterior direction prior to attempting to advance the ETT

5. Blade Removal

a. Stabilize/hold the ETT laterally and remove the King Vision Video Laryngoscope from the mouth by rotating the handle toward the patient’s chest. As the blade exits the mouth, the ETT should easily separate from the flexible lateral opening of the channel.
6. **Separation and Disposal of the King Vision Parts after use**
   a. After the procedure is complete, separate the King Vision Display from the Blade. Dispose of the Blade and clean/disinfect the Display.

**NOTE: Do not dispose of the King Vision Display!**

**Cleaning and Disinfecting of the Reusable King Vision Display**

**CAUTION:**

- **Do not submerge the KING Vision Display in any liquid as this can damage the Display.**
- The King Vision Display is designed for easy cleaning and disinfection. The surfaces of the Display are specifically designed to allow proper cleaning without the need for any specialized equipment or supplies.
- The KING Vision Display is intended to have minimal direct patient contact during normal use.

**Cleaning / Disinfection Steps**

If the Display is visibly soiled or contamination is suspected, follow the cleaning steps outlined below:

- To prevent liquid from entering the King Vision Display, orient the device with the video screen above the battery compartment (upright/vertical orientation).
- Prepare a mild soap/disinfecting solution. Clean the entire outer surface of the Display with the cleaning solution. A cotton swab may be used to clean the crevices of the purple sealing gasket and the ON/OFF button. Take care to avoid getting fluid inside the opening at the bottom of the battery compartment where the electrical connection is located.
- Remove the battery cover and clean the outer edge on either side of the battery compartment with a cotton swab, taking care to avoid the batteries and their contacts. Clean the battery cover.
- After cleaning, remove any residue with a damp wipe or gauze.
• Use a dry wipe/gauze to remove water or allow the device to air dry.
• Replace battery cover.
• Store the King Vision Display in the supplied storage case or other similar pouch, bag or tray to protect from the environment until it is used again.