Kittitas County Prehospital EMS Protocols

SUBJECT: BLS AIRWAY MANAGEMENT, to include SUPRAGLOTTIC AIRWAY for EMTs with SGA endorsement (I-Gel), & HIGH-RISK SITUATIONS

A. **General Airway Management & Oxygenation Guidelines**:

I. Oxygen Administration:

- Stable Patients "Not Sick" (medical or trauma) that may benefit from O2 administration = NC 4-6 lpm, to maintain a SPO2 94-99%
- Unstable Patients "Sick" (medical or trauma) = NRB mask 10-15 lpm or BVM w/O2 when indicated
  - Any Respiratory Distress or SPO2 < 94 (medical or trauma) = NRB mask 10-15 lpm or BVM w/O2 when indicated
  - Head Trauma (not including stroke) = High flow oxygen is indicated via NRB mask or BVM w/O2 when indicated
  - Exceptions:
    a. Stroke patients = If SPO2 < 94, apply NC 4-6 lpm to maintain 94. Adjust as needed.
    b. COPD patients = Start with NC 2-4 lpm and increase if needed or switch to NRB mask.
- Oxygen saturation goal is between 92-94%. Higher than 94% is okay for medical patients.

II. Pulse Oximetry (record as vital sign):

- Indications for Use: Any time oxygen is in use or is to be administered to the patient based on their complaint or condition, pulse oximetry may be applied (not required equipment at this time). Saturation goal is 94-99% in most patients. This may include patients with the following:
  - Shortness of breath
  - Chest pain
  - Altered level of consciousness
  - Chest trauma
  - Any trauma patient with a GCS of 10 or less.
  - Active labor
  - Or any other time the EMT feels the oxygen level of the patient needs to be monitored.

NOTE: Pulse oximetry is inaccurate in the following clinical situations:

- Shock
- Carbon monoxide poisoning (smoke inhalation)
- Jaundice
- Nail polish

- Pediatric patients < 3 years of age, use Pediatric Pulse Oximetry if available.

III. **Suction:** The prevention of aspiration is critical. Suctioning equipment, both hand powered, and battery powered, should always be readily available. Having both types of suction available is a good back up system.
   - Hand Powered: Start at back of throat and suction out no more than 15 seconds.
   - Battery powered: Attach soft catheter to hose that is connected to machine. Place finger over hole, place at back of throat, remove finger from hole, suction out no more than 15 seconds.

NOTE:
- Stable "Not Sick" = Physiologically stable – Administer O2 via NC if provider thinks patient may benefit
- Unstable "Sick" = Physiologically unstable – Administer O2 via NRB or BVM if indicated
- EMS providers will not compromise patient care with the administration of Oxygen over the short term. EMS providers are more likely to compromise patient care by not administering oxygen when it is needed.
- Remember to look at and speak to your patient. When in doubt, administer oxygen per guidelines.

B. **Cardiac Arrest Patients** - Pre-oxygenate the patient with 100% supplemental oxygen to allow for complete oxygen saturation and nitrogen "washout" prior to ALS endotracheal intubation.

I. With NPA adjuncts in place (if tolerated by patient), apply a nasal cannula connected to supplemental oxygen at 15 LPM per High Performance Airway Management.

II. With OPA adjunct in place (if tolerated by patient), hyperventilate the patient with a BVM device connected to high flow supplemental oxygen.

III. Ideally, the patient should be oxygenated in this manner so that 100% SPO2 is maintained for at least 2 minutes, recognizing that this is not always possible due to the patient's clinical presentation. Resuscitation should be continued during and after.

C. **I-Gel Supraglottic Airway Device (EMT with SGA endorsement only)** –
   I. Indications – Airway management of unconscious and unresponsive patient; may be used as primary advanced airway or rescue device when ALS is unavailable, delayed, or ALS ETT has failed.
   II. Contraindications –

- Responsive patient with intact gag reflex.
- Facial trauma or distorted airway prevents glottic seal.

III. Procedure

- Select appropriate size I-Gel, reference cart below, according to the manufacturer's weight-based chart and general guidelines.

I-Gel Size	Patient Size	Patient Weight (lbs)
White 2.5	Large Pediatric	55-77
Yellow 3	Small Adult	65-130
Green 4	Medium Adult	110-200
Orange 5	Large Adult	200+

- Apply light layer of water-soluble lubricant to all sides of the cuff as well as front and back of the stem. Ensure no large amounts of lubricant obstructing distal airway.
- Grasp lubricated I-Gel firmly along integral bite block and position device with the cuff opening directed upward (anterior).
- With the patient in a "sniffing" position, gently pull chin to open mouth or use the jaw thrust maneuver in c-spine precaution patients.
- Insert the device so that the outlet of the device will come to a rest against the anterior aspect of the airway.
- Glide the device downwards and backwards along the hard palate with a continuous, but **gentle push** until a definitive resistance is felt. The cuff should seat the glottic opening and the patient's teeth should be resting on the integral bite block.
    - **DO NOT** apply excessive force during insertion or if definitive resistance is felt. If resistance is felt prior to the device becoming seated in the appropriate location, attempt to rotate the device slightly as you gently push past the resistance.
    - In the correct position, the tip of the device should be located in the upper esophageal opening, the outlet should be located against the laryngeal framework, and the incisors should be resting on the integral bite block, on or near the indication line below the recommended weight for the device.
- Ventilate with supplemental 02 and confirm proper placement with chest rise, bilateral lung sounds, mist in tube and ETC02 check with color capnography device (GOLD is GOOD).
- Once confirmed, secure I-Gel using standard methods (adhesive tape or a commercial device).

- If suction is needed once I-Gel is placed, use 12-gauge French Soft Catheter on side port of or down main tube of I-Gel.
- If two attempts at Supraglottic Airway placement have failed, ventilate with a BVM and airway adjuncts until spontaneous respirations return or ALS takes over.

D. **High Risk Airway Management Precautions** (during flu season, pandemic, or other high-risk respiratory transmission concern) - Airway management can produce aerosolized (airborne) patient secretions and increase the risk of transmission of disease. Consequently, EMS providers need to don PPE whenever undertaking airway management. EMS providers need to exercise judgment.

The following treatments should be prioritized for management of shortness of breath and to limit aerosolized contamination of the workspace during high-risk situations. Treatment shall be based on clinical judgement and patient condition.

1. Breathing Treatments:

   - Trial low or high flow O2, no greater than 6L/min with a mask placed over the patients face or over the top of the Nasal Cannula (NC) or non-rebreather mask (NRB) (do not routinely use NRB).

2. Airway Interventions:

   - Attempt simple ventilation management with BVM and OPA/NPA.
   - Placement of I-Gel on unconscious/unresponsive patients if airway not secure.
   - Avoid use of CPAP due to aerosolization concerns (if approved training).

3. **Other precautions for high-risk patients/situations:**

   - Perform procedures away from contaminated environment and bystanders, when possible, outside in fresh or in the back of unit with doors open, HVAC system on and driver's compartment blowers on high.
   - Use HEPA filters on all airway management procedures potentially producing aerosolized droplets when available.
   - Placing a mask and/or draping a towel over port of device or BVM while bagging a patient may also be used to reduce aerosolization.
   - Place golf tee (if available) in iGel port to prevent aerosolization unless needed for patient care.