Airway Management / General - 30.010

INDICATIONS:
Maintenance and support for airway control and protection and the adequate oxygenation and ventilation of patients.

DELIVERY SYSTEMS

A. Nasal Cannula
Flow rates are generally 4-6 liters/minute. It provides between 24-40% inspired oxygen.

B. Non-Rebreather Mask (NRB)
Provides approximately 90% inspired oxygen.

C. "Blow-By" Oxygen
Typically used in infants or toddlers or those who cannot tolerate a cannula or mask.

MAINTENANCE DEVICES

A. Nasopharyngeal Airway (NPA)
Used in patients who are unconscious or have an altered LOC and are unable to maintain their own airway and who will not accept an OPA.

B. Oropharyngeal Airway (OPA)
Used in patients who are unconscious or have an altered LOC and are unable to maintain their own airway.

C. Bag Valve Mask (BVM)
Used when respiratory drive is compromised and patient needs ventilatory assistance. Proper facial seal and head positioning are required to deliver maximum inspired oxygen and effectively ventilate the patient. Capnography and chest rise and fall should be monitored to ensure proper ventilation.

D. Extraglottic devices (ie Igel, King Airway, etc)
Used in conjunction with bag, oxygen source and waveform capnometry. If prolonged ventilatory assistance is needed, extraglottic devices or endotracheal tubes are preferred to BVM due to potential of gastric insufflation with prolonged BVM.

E. Endotracheal intubation
Used in conjunction with bag, oxygen source and waveform capnometry. If prolonged ventilatory assistance is needed and risk of aspiration is present, endotracheal intubation provides the most secure advanced airway.

F. Cricothyrotomy
Used as a rescue airway option when an advanced airway is required and BVM, extraglottic devices or endotracheal intubation is deemed to be futile. Can be performed with commercially made devices or via a surgical placement of an ET tube.

DIFFICULT AIRWAY ASSESSMENT

When planning for advanced airway management utilizing the listed maintenance devices, the provider will need to assess the potential for difficulty with each device. Based on this difficulty assessment, a primary, secondary (backup) and tertiary plans should be established for which airway management procedures will be performed and communicated with the team of medical providers. Below are considerations for assessing the potential for difficulty with each of the major airway procedure categories:

Difficult Bag Mask Ventilation: (ROMAN)

- R – Radiation/Restriction: prior radiation treatment to the neck, or airway/lung restrictions with conditions like COPD or ARDS
- O – Obesity/Obstruction
- M – Mask seal/Male/Mallampati: beards, blood, or facial debris, male gender and limited visibility of throat structures inside the mouth
- A – Age: patients over age 55
- N – No teeth

Difficult Extraglottic Device Ventilation: (RODS)

- R – Restricted mouth opening: adequate size mouth opening for device/fit
- O – Obstruction/Obesity: something blocking the airway at the level of the glottis
- D – Disrupted/Distorted Airway: injury/abnormality impeding the use of the device
- S – Stiff: stiff lungs from pmhx, airway burns, etc.

Difficult Laryngoscopy/Endotracheal Intubation: (LEMON)

- L – Look: gestalt. Do you think it is going to be a tough intubation?
- E – Evaluated 3-3-2: incisor distance <3 fingerbreaths, hyoid/mental distance <3 fingerbreaths, thyroid-to-mouth distance <2 fingerbreaths)
- M – Mallampati: ability to visualize structures in the upper airway
- O – Obstruction: presence of a condition that could cause an obstructed airway
- N – Neck mobility: limited neck mobility

Difficult Cricothyrotomy: (SMART)

- S – Surgery: previous neck surgery or previous cric/stoma
- M – Mass: hematoma or abscess obscuring ability to ID anatomy
- A – Access/anatomy problems: obesity, edema
- R – Radiation
- T – Tumor