BCEHS | BC Emergency Health Services
Provincial Health Services Authority

May 13, 2021

File #: 51500-01
CLIFF: 1062619

Standard Operating Procedure – HFNC – AIRVO 2

Indications:

- Refractory hypoxemia despite optimized conventional nasal cannula and/or non-rebreather mask O2 therapy in individuals with an intact, acceptable respiratory drive
- COVID confirmed or suspect with refractory hypoxemia is considered an indication
- Adults: SpO2 <90%
- COPD/CHF exacerbation requiring a minimal amount of PEEP
- Palliative respiratory support with no endotracheal intubation or non-invasive ventilation (NIV) support in the care plan

Contraindications:

- A definitive airway is required for airway protection and/or respiratory support characterized by acute respiratory acidosis
- Complete nasal airway obstruction
- Use with caution if there is a history of facial trauma, acute sinusitis or otitis

Complications:

- Unmeasured PEEP may result in pneumothorax or lung hyperinflation

Sending facility

- Confirm that patient is on ≤15L/min of oxygen. Note this is separate from the flow generated by the AIRVO unit that entrains ambient air. Most patients start at flows of 40L/min total with a titrated mixture of oxygen

- Confirm that patient can tolerate a 10 minute trial period off HFNC, using a non-rebreather facemask and conventional nasal cannula to determine patient tolerance when AC power is not available for HFNC; e.g. transfer between ambulance and hospital. A successful trial is confirmed by patient SpO2>88%.

IPAC

- HFNC is a *possible* AGMP. The literature and recommendations surrounding this is evolving. Maintain appropriate PPE for AGMP as per BCEHS guidelines (gloves, gown, face shield, respirator).

- Complete a Point of Care Assessment and/or follow additional precautions as identified by the receiving facility to indicate Personal Protective Equipment e.g. Contact, Droplet and/or airborne precautions.

- Perform routine cleaning and disinfection post transport IPAC100-3.pdf (bcas.ca)

PTN/CCP-A/EPOS

- Confirm that above parameters have been met

- Confirm that transport time will be 3 hours or less. The ground ambulances carry M-cylinders with a capacity of 3455 liters of oxygen when fully pressurized. At 15L/min oxygen flow rate, this allows for 230min or 3 hours 50min of oxygen flow.

- The wall oxygen flow meters can accurately measure to a flow rate of 15L within the ambulance. Above this, the measurements are inaccurate, possibly leading to significantly faster M-tank depletion

- A buffer needs to occur to account for unforeseen issues with transfer, which is why the transport is limited to 3 hours at max of 15L/min of oxygen delivery

- 2 D-cylinders (700L each) are available as backup oxygen supply in case of need. This should not be planned for as part of the overall oxygen supply, but as a backup

BCEHS Paramedics

- Confirm that above parameters have been met

- Prior to performing the interfacility transfer, ensure a fully pressurized M-cylinder tank is replaced into the ground ambulance as well as D-cylinders

- Follow the operational SOP for HFNC/AIRVO