PROTOCOL

SUBJECT: Adult Tracheostomy Decannulation for Non-ventilated Patients

Number: 45
Business: Madonna Rehabilitation Specialty Hospital - Lincoln
Date of Origin: 11/8/2018
System: Patient Care
Date of Last Revision: 11/8/2018
Department: Respiratory Therapy
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SCOPE: Licensed Respiratory Care Practitioner

CLINICAL CRITERIA/CONDITION: Non-ventilated tracheostomy

INTERVENTIONS:

Speaking valve, trach cap, stoma stent, tracheostomy tube downsizing, decannulation

ASSESSMENT REQUIREMENTS:

Assessment for readiness to decannulate following 2 days for liberation from mechanical ventilation will include all criteria in the step 1 box.

1. Free of respiratory distress post ventilator liberation for 2 days
2. Stable vital signs and absence of fever, sepsis, or untreated infections
3. Maximum expiratory pressure ≥40cmH2O (MEP). Contact physician if patient unable to perform MEP.
4. Arterial Blood gas will be obtained and evaluated for PaCO2 of ≤ 60mmHg prior to starting protocol unless done in step S6 of the vent wean protocol.
5. SpO2 of ≥ 90% on less than .35 FiO2 or ≤ 4LPM nasal cannula or previous home oxygen regimen.
6. Absence of known upper airway obstruction or airway disorder such as but not limited to tracheal stenosis and tracheomalacia
7. Spinal cord injury inhibiting a qualifying MEP does not prevent the patient from trach weaning trials if they can clear their airway with a physically/manually assisted cough (quad cough).

TRACH CAP TRIALS

Initial non-ventilator dependent patient trach cap trial steps with speech therapist include: *RT may cap trach to obtain MEP measurement prior to initial trach cap trial with speech therapist. Uncap trach after MEP measurement.

- RT will deflate trach cuff and apply trach cap. Patient's tolerance of the trach cap will be measured using these "STOP" criteria
- "STOP" Criteria but not limited to:

Systomatic Bradycardia: diaphoresis, pallor, cyanosis, use of accessory muscles for breathing, nausea/vomiting, claudication, palpitations, weakness, fatigue, dizziness, lightheadedness, angina.

  - HR ↑ > 20 beats/min
  - RR > 35 breaths/min
  - FiO2 ≥ 60% to maintain SpO2 > 90% (60% to trial but not to advance via protocol)
  - RPD > 6 (Rating of Perceived Dyspnea)
- Initial trach capping trial may advance up to 24 hours as patient tolerates with scheduled BID trach patient assessment for tolerance.
- An additional 48 hours of capping may be trialed if patient tolerates with continued BID trach patient assessment.
- If patient is tolerating trach capping well for 72 hours obtain and assess ABG values and call physician with recommendation.
- RT may request physician order to decannulate once tolerance of the trach cap is achieved per protocol.

Patients that do not tolerate the use of a trach cap may require additional "downsizing" of tracheostomy tube. The trach can be downsized by one size per day but no more than 2 sizes total without a physician consult. A cuffless trach may also be considered at this time. All aspects of a trach tube (I.D., O.D. and length) must be considered when selecting a new trach tube.

Patients requiring tracheal suctioning 2 or more times a day but otherwise meet trach weaning advancement should trial a stoma stent. Stoma stent will be trialed for up to 72 hours followed by obtaining ABG and assessment of those values. Call physician with recommendation.

PMV Assessment/Trial (initial assessment with speech therapy)

- Review of patient's medical history and admitting diagnosis
- Position patient upright or semi-fowler position, note level of consciousness and/or additional factors that may interfere with patient's respiratory drive.
- RT will assess breath sounds and tracheal/oral suction as needed.
- RT will slowly deflate trach cuff and assess for signs and symptoms of respiratory distress/insufficiency.
- Trach cuff may remain deflated in the absence of "STOP" Criteria unless otherwise contraindicated or ordered by physician
- PMV trialed up to 16 hours. PMV use is for waking hours only. Once patient is tolerating 16 hours of PMV proceed to section 2a, capping trials up to 24 hours.
- If patient is unable to tolerate PMV use proceed to step 4a, downsizing of trach by one size (per day, no more than 2 sized total) or transition to tight to shaft (TTS) style trach with a lower limit of a size 6 trach before consulting with a physician.

Stoma Stent Assessment/Trial

- Visual assessment of tracheal stoma including stoma depth measurement, stoma tract shape, presence of a deep inferior carotid triangle (ICT).
- The patient's body position should be in a seated posture unless this creates difficulty accessing the stoma by the LRCP or physician.
- Most patients will tolerate or not tolerate stoma stent placement within moments of placement. Assessment of breath sounds, work of breathing, stoma stent seating with strong cough, vocalization (if applicable) and passage of air through the uncapped stoma stent.

Other/Medical and Problem Solving:

If a patient is unable to wear the PMV without signs/symptoms of respiratory distress consider a tracheostomy tube change with the following in mind:

- There are multiple choices of trach tubes and trach tube cuffs. When changing size/type of trach tubes consider inner diameter (I.D.), outer diameter (O.D.) and length.
- Unless a patient's secretions are copious and/or tenacious, consider the use of a single cannula trach tube to decrease airway resistance on inhalation.
- Consider the use of a trach tube cuff that will "hug" the body of the trach when deflated (e.g. Bivona TTS), to maximize the space needed for exhalation around the trach through the upper airway.
- Avoid "downsizing" by more than 1 trach size at a time to allow proper closing of stoma around the new tube and to avoid unwanted leakage around the stoma
- Maintain appropriate inner diameter for potential bronchoscopy and/or the need for mechanical ventilation
- Collaboration and assessment with nursing daily regarding any condition prohibiting advancement or initiation of this protocol.

CONTRAINDICATIONS:

Absolute Contraindications: Severe upper airway obstruction, medical instability.
Relative Contraindications: Severe aspiration risk, thick, excessive or otherwise unmanageable secretions and minimally conscious.

INFECTION PREVENTION:

Gloves, masks and protective eyewear will be used with all open-trach procedures.

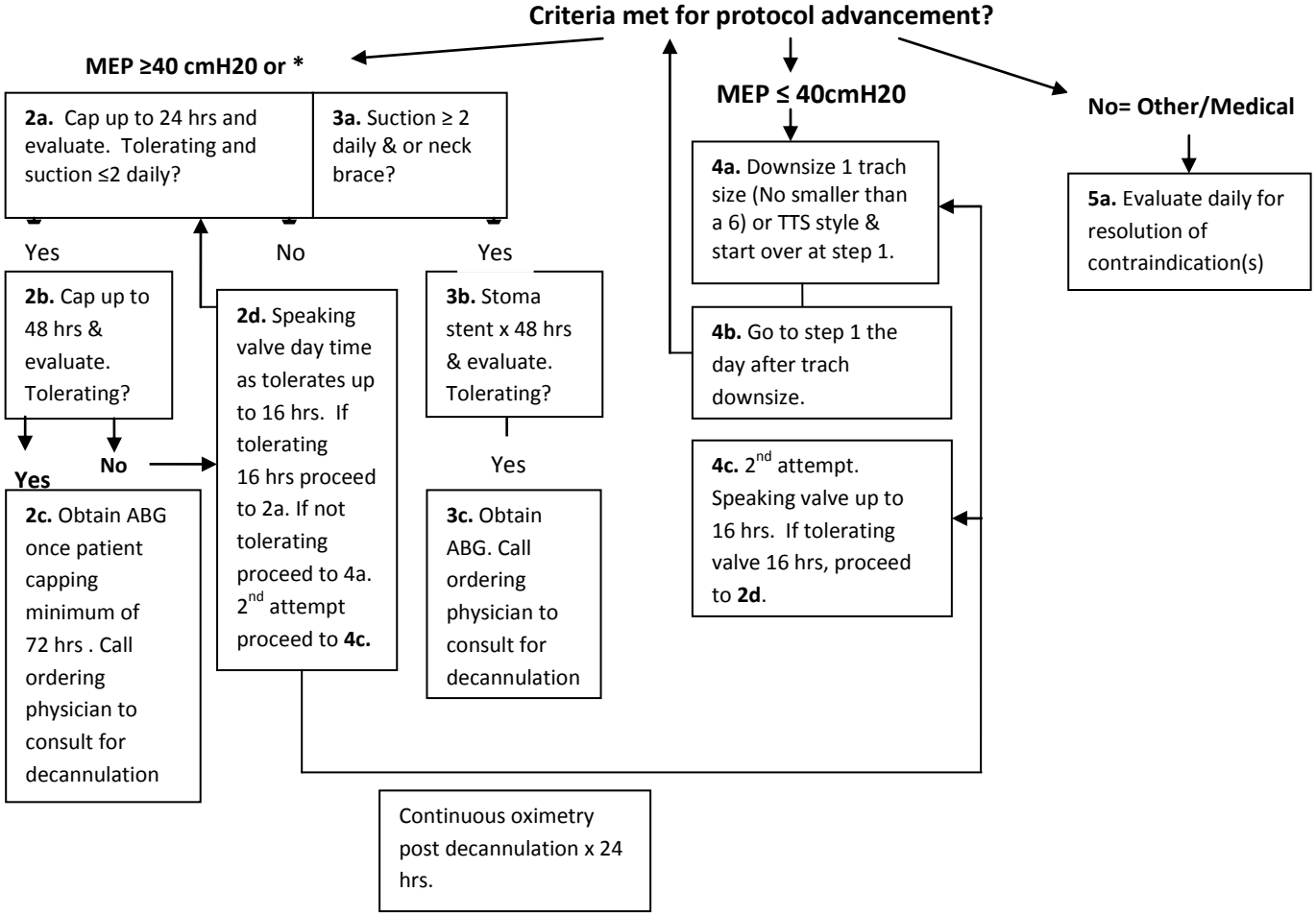
NOTIFICATION REQUIREMENTS:

Once the patient reaches steps 2c and 3c and shows readiness to decannulate as shown by acceptable arterial blood gases and physical patient assessment, call the ordering physician or physician partner on service with recommendation to decannulate. If the patient is unable to cap on the 3rd day (step following 4c), contact the ordering physician with your assessment for a recommended tracheostomy plan.

Madonna Rehabilitation Hospital Tracheostomy Decannulation Protocol
For non-ventilated patients

Step 1. Criteria for tracheostomy decannulation protocol initiation following successful liberation form mechanical ventilation

- Free of respiratory distress post ventilator liberation for 2 days
- Stable vital signs and absence of fever, sepsis, or untreated infections
- Maximum expiratory pressure ≥40cmH2O (MEP). Notify Physician if patient unable to perform MEP.
- Obtain ABG PCO2 of ≤ 60mmHg prior to starting protocol unless done in step S6 of the vent wean protocol
- SpO2 of ≥ 90% on less than .35 FiO2 or 4LPM nasal cannula or previous home O2 regimen
- Absence of known upper airway obstruction or airway disorder such as but not limited to tracheal stenosis and tracheomalacia
- *Spinal cord injury must show ability to clear secretions with manually assisted (Quad) cough.*



- Trach decannulation no sooner than 5th day post ventilator liberation.
- If patient is unable to cap on day 3, contact physician for recommendation.
- With protocol assessment a patient may advance to the step they are currently weaning however decannulation no sooner than 5 days post ventilation dependence without physician order.
- Physician must be called upon completion of trach wean protocol and readiness to decannulate for final decannulation order.
- This protocol is a physician order for trach capping and speaking valve use as detailed in this protocol.
- Speaking valves are never for use during sleep.