- Consider tracheostomy exchange
  - If the tracheostomy is greater than 7 days old (eg, an established track)
    - Can perform blind replacement of tracheostomy.
      - Consider using a smaller size trach for ease of placement.
      - If no trach kits available, can place a 6-0 ETT.
      - Can place bougie into stoma and place trach or ETT over bougie.
    - If a fiberoptic scope is available, can remove an obstructed tracheostomy tube and place a new one (or 6-0 endotracheal tube) over the fiberoptic scope.

PEARLS

- If the tracheostomy is less than 7 days old, creation of a false passage with blind placement is a distinct possibility.

    - Ideally, should place a new tracheostomy tube over the fiberoptic scope in order to directly visualize the placement in the airway.
    - If able to bag the patient from above, the best approach may be to wait for a consultant with fiberoptic scope if not available to you.
- Consider oral intubation
  - Consider contraindications (eg, upper airway tumor).
  - Have a second operator remove the tracheostomy as the first operator passes the endotracheal tube (ETT) through the cords.

PITFALLS

- Remember not to get hyperfocused on the tracheostomy as the patient can have other causes (pneumonia, pneumothorax, pulmonary embolism) for their hypoxemia.

Related Content:
CorePendium chapter - Complications of Tracheostomies:
https://www.emrap.org/corependium/chapter/reckOdDn9Ljn7sBLy/Complications-of-Tracheostomies

Critical Care Mailbag: Crashing Aortic Stenosis

Scott Weingart and Anand Swaminathan

- Patients with critical aortic stenosis can be extremely challenging to manage.
- Aortic stenosis with cardiogenic shock
  - Blood pressure management

- Fluid administration: For most patients, giving too much fluid can be a problem. Using vasopressors will improve the venous return and increase blood return to the right side.
- Phenylephrine is useful because there is no increase in heart rate.
  - It causes direct afterload constriction to increase coronary artery filling and hopefully cardiac performance.
  - Should be careful with phenylephrine if the patient already has bradycardia.
- Vasopressin can be an alternate first-line agent.
  - Start at 0.04 units/min.
  - If it is being used as a lone agent, it can be titrated to a maximum of 0.06 units/min (should titrate back to 0.04 units/min if a second agent is added).
  - It has similar hemodynamic effects to phenylephrine.

PERSPECTIVES

- Scott's typical approach:
  - Start with vasopressin and add phenylephrine or norepinephrine, if needed.

- Inotropic agents are typically not needed unless the patient has poor contractility in addition to critical aortic stenosis.
- Consultation with cardiothoracic surgery and interventional cardiology is recommended.
  - Patients are often too critically ill to survive major surgery immediately.
  - Valvuloplasty with interventional cardiology can be extremely useful in stabilizing patients by increasing aortic valve diameter.
  - Ideally, the interventionist and/or cardiothoracic surgeon should evaluate the patient at bedside to determine next steps in management.
- Question: does giving vasoactive medications increase afterload and, as a result, decrease left ventricular function and cardiac output?
  - Important to first get MAP to around 65 mmHg to ensure coronary artery perfusion as this may markedly improve cardiac function.
  - After MAP > 65 mmHg, reassess with point-of-care ultrasound to evaluate cardiac function to help guide next steps in management.

- Aortic stenosis with sympathetic crashing acute pulmonary edema (SCAPE)
  - **If the patient has sympathetic overdrive, fentanyl may be useful in lysing intrinsic catecholamines.**

    - **Non-invasive ventilation (CPAP) may be beneficial as well.**
    - If inadequate afterload reduction after these maneuvers, add a vasodilator.
        - Clevidipine is the ideal agent
            - Rapid on and rapid off.
            - Afterload reduction only (no preload reduction).
            - If the patient has a drop in blood pressure, it can be turned off and the medication will metabolize rapidly out of the system.
        - Problems with other medications
            - Nicardipine
                - Not short-acting
            - Nitroglycerin
                - Rapid on and effective in afterload reduction at high doses.
                - It is a venodilator and will decrease preload which can be deleterious.
- Critical aortic stenosis patient that requires airway management
    - Start with non-invasive ventilation (CPAP).
        - Can add fentanyl to help the patient tolerate CPAP, if necessary.
        - Often will result in enough improvement that intubation is not necessary.
    - Approach to intubation if necessary:
        - Utilize an awake intubation technique.
        - Ideally, complete full topicalization with local anesthetics.
        - Back up option would be to use ketamine to facilitate intubation.
            - Ketamine 0.5 mg/kg (and titrate additional doses if necessary).
            - Avoid paralytics as they can remove a patient's intrinsic catecholamines and apnea can be disastrous.

Related Content:
CorePendium chapter - Valvular Disorders:
https://www.emrap.org/corependium/chapter/recmjhoXPW5Y0w06n/Valvular-Disorders