Imagine…

A 5-month-old child in your practice (you care for the siblings) is about to be discharged home after a long hospital stay with a tracheotomy

WHAT DO YOU NEED TO KNOW?
Q 1. Why does patient have trach?

Most common reasons:

- Ventilator dependence
- Airway obstruction - BVCP, SGS, micrognathia, lymphatic malformation
- Inability to clear lower airway secretions – CP, immobility, muscular dystrophy
- Inability to swallow (aspiration)
Parts of Trach Tube

Q2. Type of Trach?

Neonatal Shiley 4.0 uncuffed  Pediatric Bivona 4.0 TTS
Emergency Equipment – *Should Be with Patient at All Times*

- Trach tube – current size
- Downsize trach
- Supplies to change trach
- Suction machine
- Suction catheters
- Resuscitation bag with face mask and adapters

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**Q3. Does the Family have Appropriate Equipment?**

- Emergency trach supplies
- Medications
- Portable suction machine
- Ventilator, power cords and batteries
- Monitoring devices
- Portable oxygen
- Emergency contact numbers
What is the Status of Home Equipment?

**Home**
- Pulse oximeter (when sleeping and prn)
- Humidified air (or oxygen)
- Suction machine
- Trach tubes & ties, suction catheters

Q4. Who Will be Caring for the Patient with a Trach? (and have they been trained?)

- Ideally- 24/7 observation by someone who knows how to suction and change the trach in an emergency
- Options
  - Parents
  - Relatives
  - Home nursing
  - Chronic care facility
### Trach Emergencies

*3% mortality* due to trach complications
- Plugging
- Decannulation

The younger the patient, the higher the risk
- Airway smaller
- Less room around trach if it is plugged
- Infant unable to get help

Higher risk if airway obstruction above trach tube

### Recognizing Breathing Problems in Trach Patients

- Flared nostrils
- Rapid breathing or use of accessory muscles to breathe (retractions)
- *Noisy breathing/ squeaky noise from trach*
- Clammy and sweaty skin
- Restlessness
- Cyanosis
If There are Signs of Respiratory Distress

1. Suction to the correct depth.
2. Bag through the tracheostomy.
3. Change the trach tube. If the regular size does not work, try the smaller sized tracheostomy. If the smaller size doesn’t work, bag the mouth with the mask (and call 911).
4. Start CPR and call 911 if the child becomes unresponsive.

Remember Q1. Why Should You Care Why the Trach Was Put In?

- Most children with trachs can be given breaths with a mask over the nose and mouth if you cannot get the trach tube into the stoma.
- In an airway emergency— you should know if it is possible to mask ventilate/intubate.
Prevention of Accidental Decannulation

- Make sure the trach ties are secure
- Only one finger-width between the trach collar and child’s neck
- Replace ties if any signs of wear, such as thinning of the tie
- Do not allow child to pull at the trach

Prevention of Plugging

- Adequate humidification
  - The nose warms, moistens and filters air
  - With a trach, air directly into the lungs through the trach tube
  - Extra humidity is needed to prevent trach tube from clogging with mucus
- Appropriate size trach
- Adequate fluid intake
- A mucus plug may be removed by suctioning
- If the plug cannot be removed by suctioning, change the trach tube

When in doubt, change it out
Managing Thick Secretions

- Use humidified trach collar more than night/naps
- Monitor overall hydration status
- If mucous is yellow or green consider culture and antibiotics
- If signs of respiratory illness, culture tracheotomy tube and consider antibiotics

Use of Speaking Valve

Diagrams from Passey-Muir corporation
Routine Visit Trach Check List

Questions to Ask Family

Any problems with bleeding, plugging, infections, accidental decannulation, trach supplies or care personnel?

Family using pulse oximeter and humidified air at naps and night?

Family changing tracheotomy tube monthly? Any problems with trach changes?

Inspect
Skin under trach and trach ties

Conclusion: Children with Tracheotomy Tubes

What you should know:

1. Why was trach placed? (and can the child be mask ventilated/intubated from above in an emergency?)

2. The type and size of trach tube

3. Does the patient have appropriate equipment?

4. Are caregivers trained in tracheostomy care?

5. What to do in case of a trach emergency?