Tracheostomy

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Preference Card

- Shiley tracheostomy tube
- 15- and 11-blade scalpel
- Electrocautery
- Self-retained retractor
- 2-silk suture on SH needle
- Three limb trachea spreader

Patient Positioning

- The patient is placed in supine position.
- Extend the patient's neck, and elevate patient's shoulders on a small roll exposing more of the upper trachea.
- Avoid overextension of the neck.
- Prep the skin from the chin to below the clavicles sterilely.
- Place sterile drapes creating an opening from hyoid cartilage to the suprasternal notch.
- ChloraPrep is used as skin preparation.
- Maximum sterile barrier is used.

Nodal Points

Evaluation and Incision

- Evaluate the landmarks of larynx, trachea, and the thickness of the soft tissue.
- Based on this evaluation, select the appropriate size and type of tracheostomy tube.
- Make sure that more than one size tracheostomy tube is available in the room.
- Make a 3 cm horizontal incision using a 15-blade scalpel at the half point between the cricoid cartilage and suprasternal notch (Fig. 30.1).
- Proceed with the dissection through the platysma until the midline raphe between the strap muscles is identified.
- Ligate with 2-0 silk suture the aberrant anterior jugular veins and smaller vessels if needed.
- Separate the strap muscles and retract laterally, exposing the pretracheal fascia and the thyroid isthmus (Fig. 30.2).
- Divide the thyroid isthmus using electrocautery.
- If isthmus was not divided, retract the thyroid cranially to gain access to the trachea.
- Continue blunt dissection longitudinally through the pretracheal fascia.

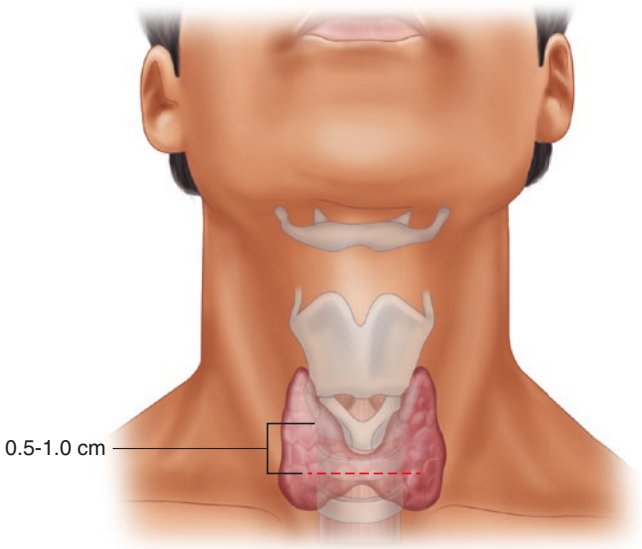

Fig. 30.1 Make a 3 cm horizontal incision using a 15-blade scalpel at the half point between the cricoid cartilage and suprasternal notch

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Tracheostomy

- Deflate the cuff of the endotracheal tube, and place tracheal hooks between cricoid cartilage and first tracheal ring.
- Inflate the cuff.
- Make a horizontal incision using an 11-blade scalpel between second and third cartilage anteriorly from 10 o'clock to 2 o'clock position (Fig. 30.3).
- Avoid making too big opening, if you create flaps.
- See endotracheal tube via the opening with the cuff below the stoma site, then deflate the cuff, and withdraw the endotracheal tube above the incision.
- Dilate the incision with tracheal spreader; leave the spreader in place to facilitate insertion.

Placement of the Tracheostomy Tube and Confirm Positioning

- Lubricate the tip of the tracheostomy tube.
- Place the tracheostomy tube into the lumen (Fig. 30.4).
- Remove the tracheostomy tube cannula.
- Inflate the cuff.
- Connect the tracheostomy tube to an airway circuit and ventilate the patient.
- Using CO2 monitor, listening the breath sounds and checking the pressure of ventilation, make sure that position of tracheostomy tube is correct, that the tube is not kinked or too long, and that ventilation is effective.

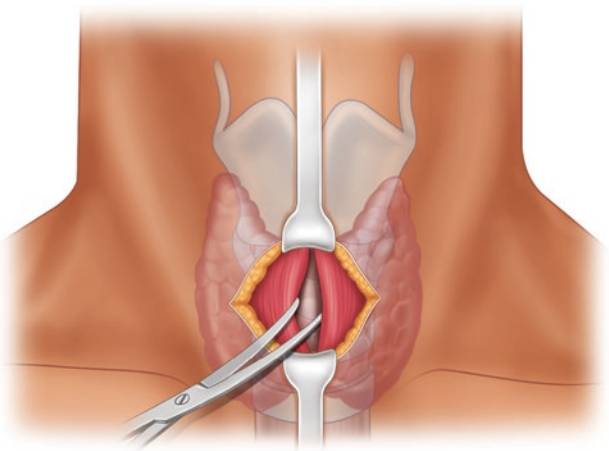


Fig. 30.2 Separate the strap muscles and retract laterally, exposing the pretracheal fascia and the thyroid isthmus

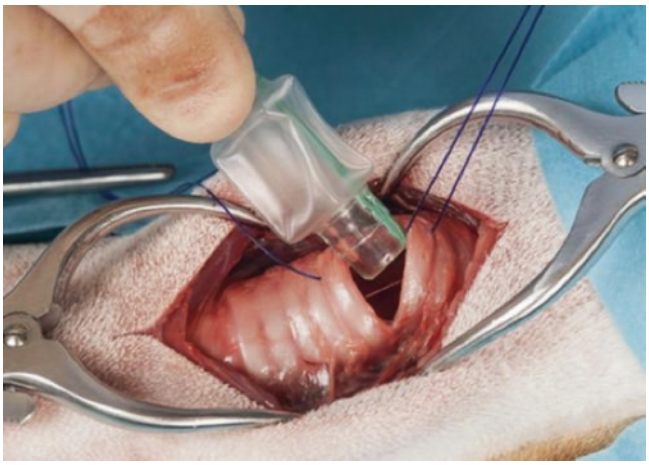
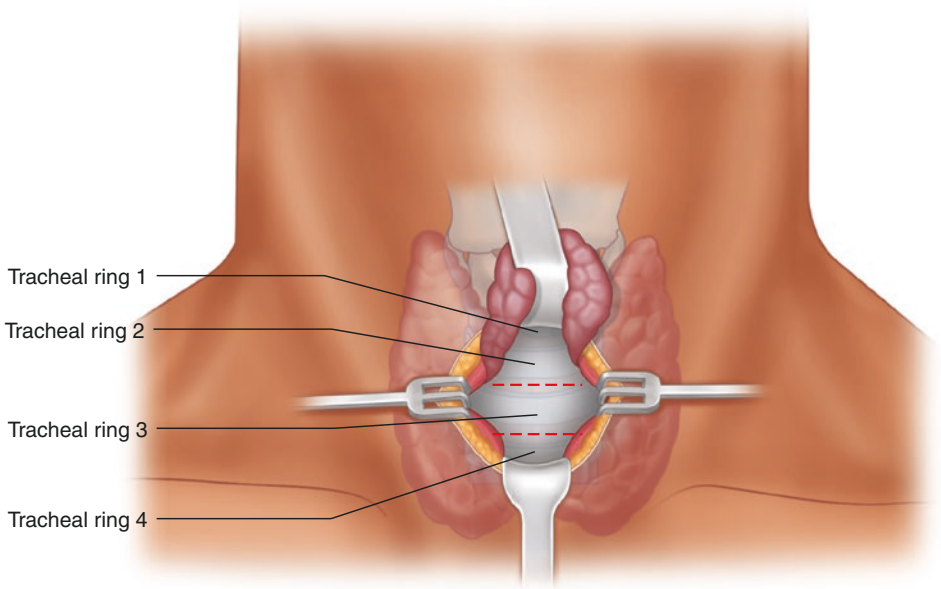


Fig. 30.4 Place the tracheostomy tube into the tracheal lumen

Fig. 30.3 Make a horizontal incision using an 11-blade scalpel between second and third cartilage anteriorly from 10 o'clock to 2 o'clock position



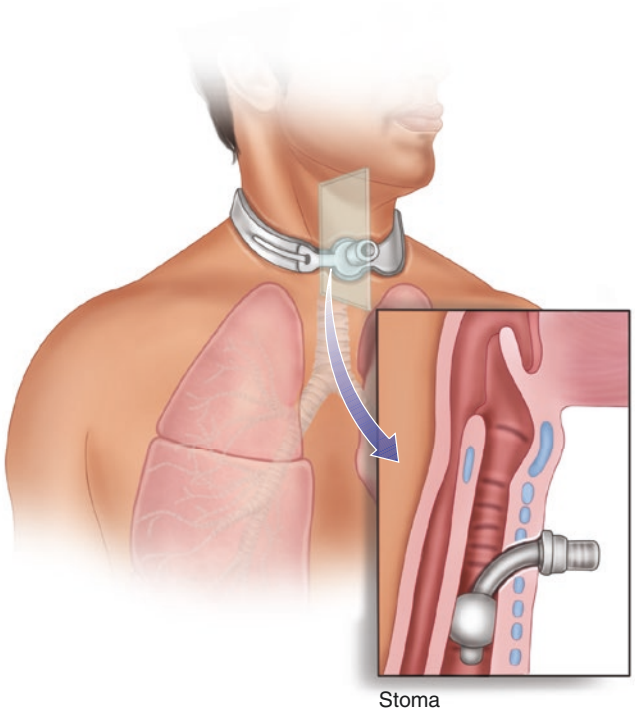


Fig. 30.5 Secure tracheostomy in place

Hemostasis and Closure

- Remove the endotracheal tube, hooks, and retractors.
- Close the skin if the incision is too big.
- Suture the tracheostomy tube to the skin using 2-0 silk.
- Place gauze between skin and tracheostomy tube to protect the skin.
- Further secure the tracheostomy tube with a collar strap (Fig. 30.5).

Pitfalls and Pearls

- For all intubated patients in the intensive care unit, always consider tracheostomy as a long-term solution.
- Review the anatomy of the neck before starting the procedure as bleeding can make it more difficult to complete. This can also be facilitated by staying in the midline as much as possible.
- Using a bronchoscope can facilitate visualization and ensure correct placement if needed

Access Reader Checklist Appendix

☑ READER CHECKLIST
Tracheostomy

☑ PREFERENCE CARD

►**Instruments**
__Shiley tracheostomy tube
__15 and 11 blade scalpel
__Electrocautery
__Self retained retractor
__Three limb trachea spreader

►**Sutures**
__2-silk suture on SH needle

☑ PATIENT POSITIONING/ OPERATING ROOM SETUP

►**Patient Positioning**
__Patient is placed in supine position
__Extend patient's neck and elevate patient's shoulders on small roll exposing more of upper trachea
__Avoid over extension of neck
__Prep skin from chin to below clavicles sterilely
__Place sterile drapes creating opening from hyoid cartilage to suprasternal notch
__ChloraPrep used as skin preparation
__Maximum sterile barrier used

☑ NODAL POINTS

►**Evaluation and Incision**
__Evaluate landmarks of larynx, trachea and thickness of soft tissue
__Based on this evaluation, select appropriate size and type of tracheostomy tube
__Make sure more than one size tracheostomy tube available in room
__Make 3-cm horizontal incision using15-blade scalpel at half point between cricoid cartilage and suprasternal notch
__Proceed with dissection through platysma until midline raphe between strap muscles identified
__Ligate with 2-0 silk suture aberrant anterior jugular veins and smaller vessels, if needed
__Separate strap muscles and retract laterally, exposing pretracheal fascia and thyroid isthmus
__Divide thyroid isthmus using electrocautery
__If isthmus was not divided, retract thyroid cranially to gain access to trachea
__Continue blunt dissection longitudinally through pretracheal fascia

►**Tracheostomy**
__Deflate cuff of endotracheal tube and place tracheal hooks between cricoid cartilage and 1st tracheal ring
__Inflate cuff
__Make horizontal incision using 11-blade scalpel between 2nd and 3rd cartilage anteriorly from 10 o'clock to 2 o'clock position
__Avoid making too big opening, if flaps are created
__View endotracheal tube via opening with cuff below stoma site
__Deflate cuff and withdraw endotracheal tube above incision
__Dilate incision with tracheal spreader
__Leave spreader in place to facilitate insertion

►**Placement of Tracheostomy Tube and Confirm Positioning**
__Lubricate tip of tracheostomy tube
__Place tracheostomy tube into lumen
__Remove tracheostomy tube cannula
__Inflate cuff
__Connect tracheostomy tube to airway circuit and ventilate patient
__Using CO2 monitor, listening to breath sounds and checking pressure of ventilation, make sure that position of tracheostomy tube correct: tube is not kinked or too long and ventilation is effective

►**Hemostasis and Closure**
__Remove endotracheal tube, hooks and retractors
__Close skin if incision is too big
__Suture tracheostomy tube to skin using 2-0 silk
__Place gauze between skin and tracheostomy tube to protect skin
__Further secure tracheostomy tube with collar strap

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