Elective tracheostomy

Elective tracheostomy

The advantage of an elective surgical procedure is that there is complete airway control at all times, unhurried dissection and careful placement of an appropriate tube. Close cooperation between the surgeon, anaesthetist and scrub nurse is essential, and attention to detail will markedly reduce possible compli cations and morbidity from the procedure. Following induction of general anaesthesia and endotra cheal intubation, the patient is positioned with a combination of head extension and placement of an appropriate sandbag under the shoulders (Figure 52.41). There should be no rota tion of the head. Children’s heads should not be overextended, as it is possible to enter the trachea in the fifth and sixth rings in these circumstances. A transverse incision may be used in the elective situation (Figure 52.42). The thyroid isthmus is divided carefully and o versewn and tension sutures placed either side of the tracheal fenestration in children (Figure 52.43). A Bjork flap may be used in adults (Figures 52.44 and 52.45). The advantages of a Bjork flap outweigh the potential dis advantages, as performed correctly it is safe and allows rein troduction of a displaced tube with the minimum of di ffi culty , reducing the risk of replacing the displaced tube in a false track anterior to the trachea into the superior mediastinum. Although not routinely used, this is described here for com pletion. The inferiorly based flap is created by starting with an inci sion into the trachea betw een the first and second or second and third tracheal rings. In order to reduce the risk of subglot tic stenosis, damage to the first tracheal ring should be avoided at all costs. A stay suture is inserted ar ound the cartilage at the free edge of the flap. Lateral incisions are made in a caudal direction extending through two tracheal rings to crea Viking Olaf Bjork , 1918–2009, cardiac surgeon, Karolinska Sjukset, Stockholm, Sweden. flap. One option is to leave the stay suture attached and taped to the chest wall to allow retraction of the flap to obliterate the pretracheal space when replacing a displaced tube. An alter - native is to suture the free edge of the flap to the edge of the inferior transverse skin incision. In a paediatric patient a vertical incision is made between - the second and third tracheal rings. No tracheal tissue is removed. A cu ff of anterior neck subcutaneous fat pad may be - r emoved in children for adequate access . Prior to incision of the trachea, vertical stay sutures are placed lateral to the mid - line through the tracheal rings and left in place. These can pro - - vide traction for the trachea and allow for rapid tracheostomy tube reinsertion if accidental decannulation occurs prior to the establishment of the tract. Some surgeons will suture skin flaps to the trachea for additional safety (maturation sutures). It is essential to stick to the midline during dissection as more la teral dissection risks a pneumothorax, as the cupula of the cervical pleura extends into the neck on either side of the trachea. - - - - - te the

-

Figure 52.40 An incision in the trachea in an emergency tracheos

tomy. Figure 52.41 Position of the patient for elective tracheostomy.

Figure 52.42 Position of the skin incision in an elective tracheostomy. Figure 52.43 Tracheal fenestration in an elective tracheostomy.

Elective tracheostomy

The advantage of an elective surgical procedure is that there is complete airway control at all times, unhurried dissection and careful placement of an appropriate tube. Close cooperation between the surgeon, anaesthetist and scrub nurse is essential, and attention to detail will markedly reduce possible compli cations and morbidity from the procedure. Following induction of general anaesthesia and endotra cheal intubation, the patient is positioned with a combination of head extension and placement of an appropriate sandbag under the shoulders (Figure 52.41). There should be no rota tion of the head. Children’s heads should not be overextended, as it is possible to enter the trachea in the fifth and sixth rings in these circumstances. A transverse incision may be used in the elective situation (Figure 52.42). The thyroid isthmus is divided carefully and o versewn and tension sutures placed either side of the tracheal fenestration in children (Figure 52.43). A Bjork flap may be used in adults (Figures 52.44 and 52.45). The advantages of a Bjork flap outweigh the potential dis advantages, as performed correctly it is safe and allows rein troduction of a displaced tube with the minimum of di ffi culty , reducing the risk of replacing the displaced tube in a false track anterior to the trachea into the superior mediastinum. Although not routinely used, this is described here for com pletion. The inferiorly based flap is created by starting with an inci sion into the trachea betw een the first and second or second and third tracheal rings. In order to reduce the risk of subglot tic stenosis, damage to the first tracheal ring should be avoided at all costs. A stay suture is inserted ar ound the cartilage at the free edge of the flap. Lateral incisions are made in a caudal direction extending through two tracheal rings to crea Viking Olaf Bjork , 1918–2009, cardiac surgeon, Karolinska Sjukset, Stockholm, Sweden. flap. One option is to leave the stay suture attached and taped to the chest wall to allow retraction of the flap to obliterate the pretracheal space when replacing a displaced tube. An alter - native is to suture the free edge of the flap to the edge of the inferior transverse skin incision. In a paediatric patient a vertical incision is made between - the second and third tracheal rings. No tracheal tissue is removed. A cu ff of anterior neck subcutaneous fat pad may be - r emoved in children for adequate access . Prior to incision of the trachea, vertical stay sutures are placed lateral to the mid - line through the tracheal rings and left in place. These can pro - - vide traction for the trachea and allow for rapid tracheostomy tube reinsertion if accidental decannulation occurs prior to the establishment of the tract. Some surgeons will suture skin flaps to the trachea for additional safety (maturation sutures). It is essential to stick to the midline during dissection as more la teral dissection risks a pneumothorax, as the cupula of the cervical pleura extends into the neck on either side of the trachea. - - - - - te the

Figure 52.40 An incision in the trachea in an emergency tracheos

tomy. Figure 52.41 Position of the patient for elective tracheostomy.

Figure 52.42 Position of the skin incision in an elective tracheostomy. Figure 52.43 Tracheal fenestration in an elective tracheostomy.

Revision #1
Created 2025-12-31 15:19:50 UTC by Omar Ayman
Updated 2025-12-31 15:19:50 UTC by Omar Ayman