



Airway Management

Percutaneous Dilatation Tracheostomy

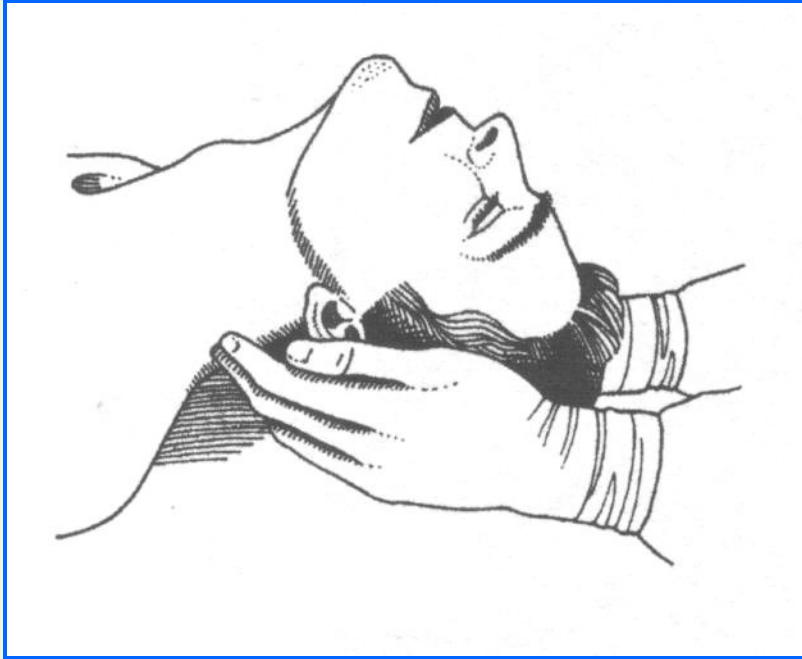
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Airway Management

Patient Preparation



- Supine, support the nape to hyper extend the neck
- Locate the guiding landmarks
 - Thyroid
 - Cricoid
 - Tracheal rings
 - Sternal notch
 - Possible insertion sites
- Increase Oxygen to 100% and monitor

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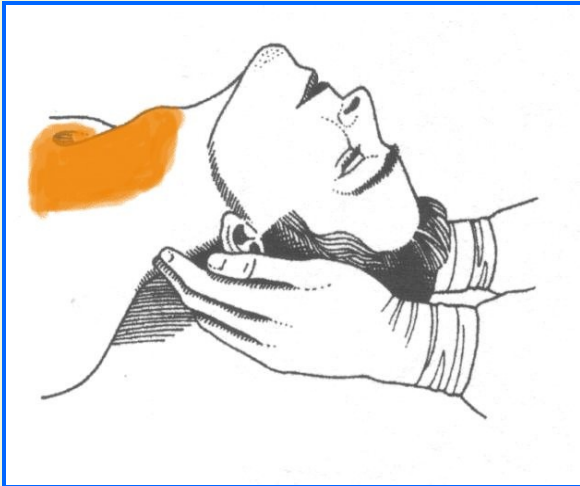




Airway Management

Patient Preparation

- Prepare the skin
- Apply Sterile Drapes
- Infiltrate area of incision with local anaesthetic



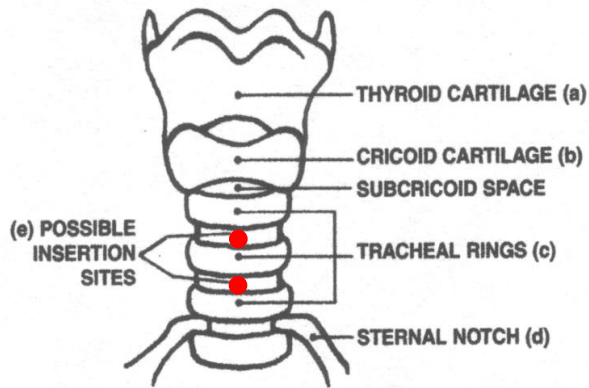
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Airway Management

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Airway Management

Tracheal Tube



- Deflate the tracheal tube and pull back
- Position the cuff just below the vocal cords
- Check with a bronchoscope
- Re-inflate the cuff and re-establish a seal
- Infiltrate selected site with local anaesthetic

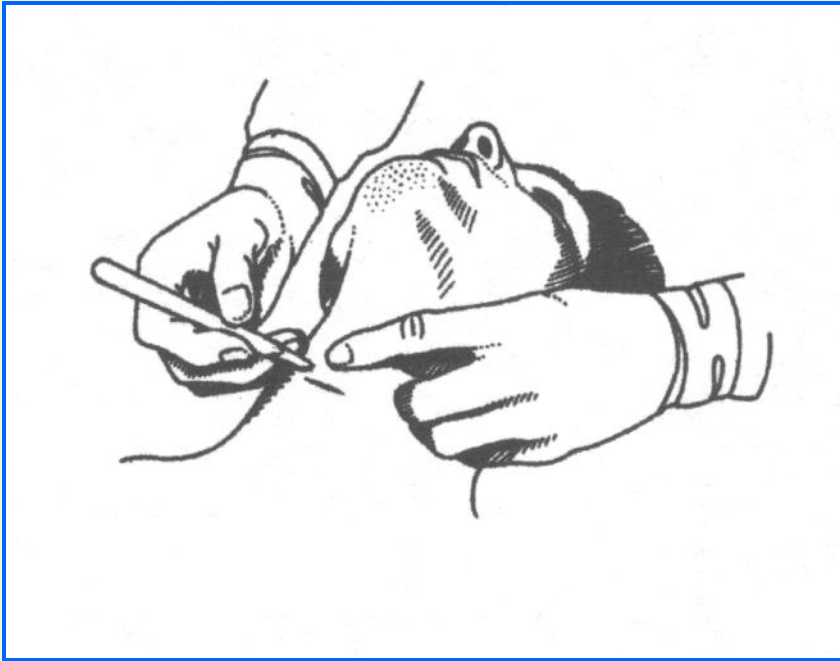
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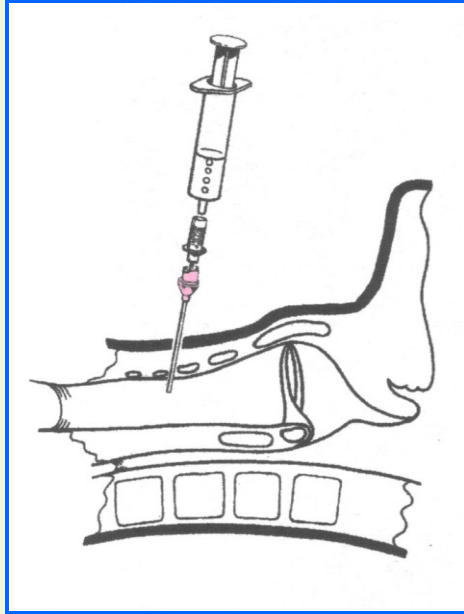
The Incision



- Make a horizontal or vertical incision (1 - 2.0cm)
- Blunt exploration of the incision may be an advantage in maintaining the midline and confirming anatomical landmarks.
- All bleeding should be stopped.



Location of the Trachea



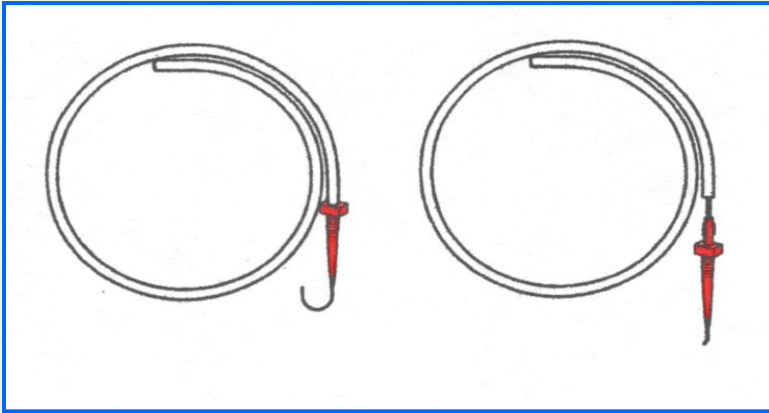
- Insert at the selected site, the 14G needle & cannula with the syringe attached.
- Insert in caudal direction.
- Advance the needle until air is withdrawn into the syringe. Usual method is air bubbles into a fluid filled syringe.
- Gently move the tracheal tube to make sure it is free of the needle.
- Remove the needle leaving the cannula in place.





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Guide Wire Insertion



- Straighten the 'J' tip of the guidewire by moving the introducer slowly forwards until straight.
- Insert the introducer into the cannula.
- Feed the guidewire through the introducer and stop when the first mark is at the skin level.
- Check that the guidewire is free to move.
- Remove the cannula and leave the guidewire in place.



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The guidewire is used to introduce all remaining products in the PDT kit and all attempts made to ensure it does not become damaged. This can be aided by holding the free end between the forefinger and thumb.

If the guidewire becomes damaged can the damaged section be advanced into the trachea and leave sufficient working length.

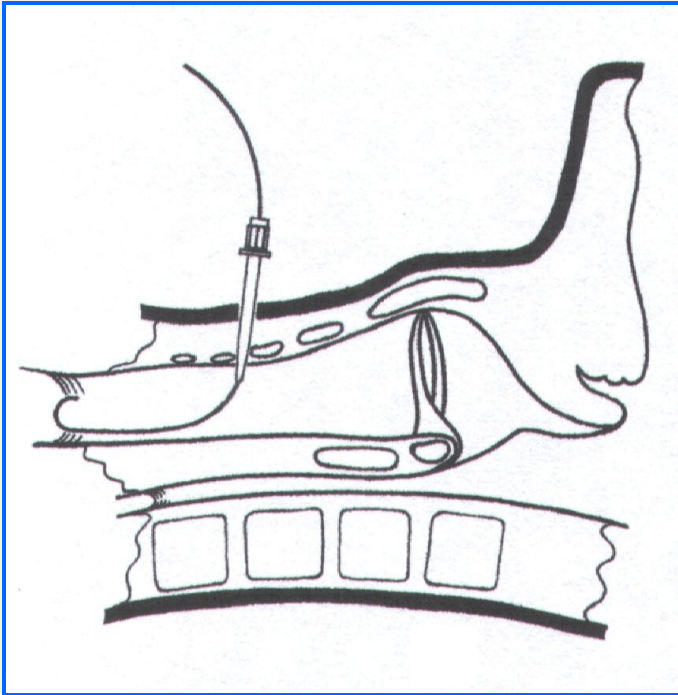
If not then a new kit or guidewire must be used.





Airway Management

Using the Short Dilator



- Pass the 14FR short dilator over the guidewire.
- Dilate the soft tissues
- When resistance is felt on the tracheal wall gently twist and advance the dilator and penetrate the anterior tracheal wall
- Check for free movement of the guidewire before removing the dilator and leaving the guidewire in place.

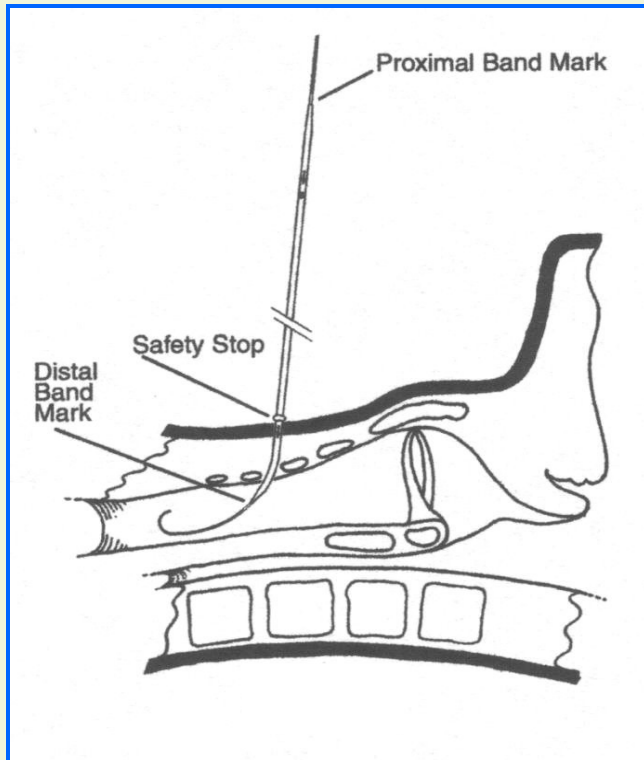
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Airway Management

Inserting the Guiding Catheter



- Pass the guiding catheter over the guidewire and in the direction of the arrows.
- Do not insert the guiding catheter beyond the safety stop which should rest at the skin level.
- Align the proximal end of the guiding catheter with the proximal mark on the guidewire.

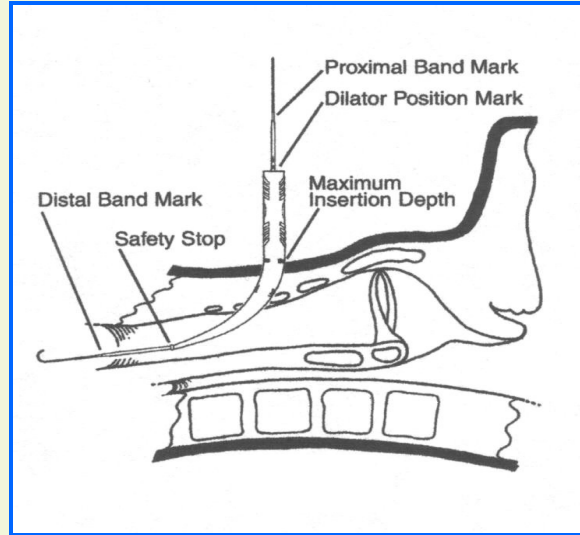
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Airway Management

Single Stage Dilator



- Holding the handle end of the dilator immerse the distal dilating end in saline or sterile water. This will activate a lubricious coating.
- Pass the single dilator over the guidewire and guiding catheter until the distal tip comes to rest on the safety stop of the guiding catheter.
- The proximal mark on the guiding catheter will be visible just be visible at the dilator handle.



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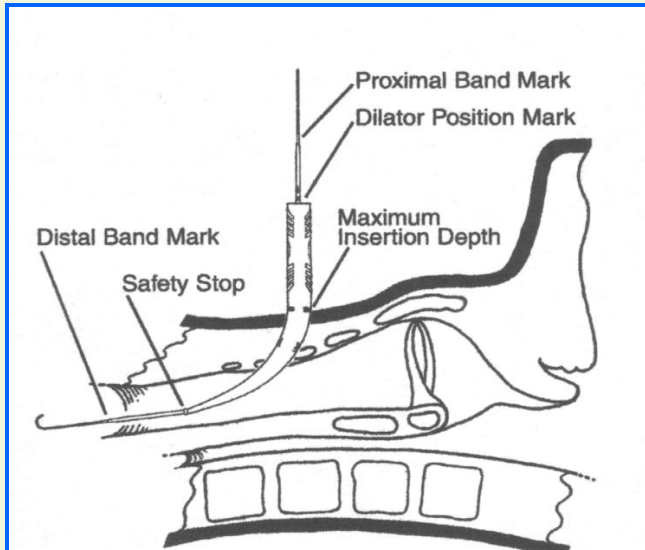




Airway Management

Single Stage Dilator Insertion

- Stabilise the guidewire and guiding catheter to ensure their position.
- Insert the single dilator and partly remove the dilator. Repeat this and advance the dilator each time until the trachea has been slightly over dilated to a size appropriate for the tracheostomy tube.
- Always follow the angle of the dilator during insertion and allow the guidewire and guiding catheter to 'guide'.



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The proximal mark of the guidewire must always be kept in alignment with the proximal tip of the guiding catheter.

Never insert the black “Maximum Insertion Depth” of the single dilator beyond the skin level.

Do not twist the dilator.



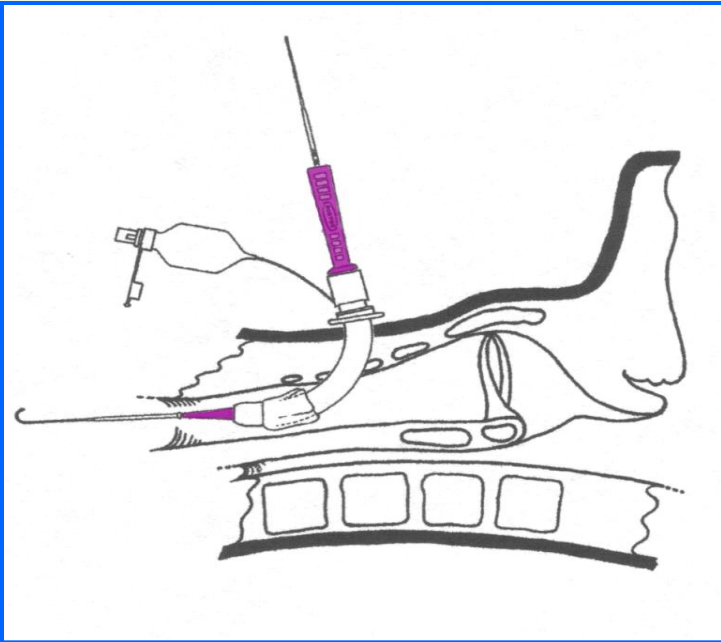
Removal of the Single Stage Dilator

Remove the single stage dilator leaving the guidewire and guiding catheter in the trachea. At this stage air will exit the tracheostomy stoma.



Airway Management

Tracheostomy Tube Insertion



- Ensure the Tracheostomy Tube Introducer has been fully inserted and ‘clicked’ into place inside the Tracheostomy tube and that both have been fully lubricated.
- Insert the lubricated tracheostomy tube and introducer over the guidewire an guiding catheter and insert through the stoma with a slight twisting motion.

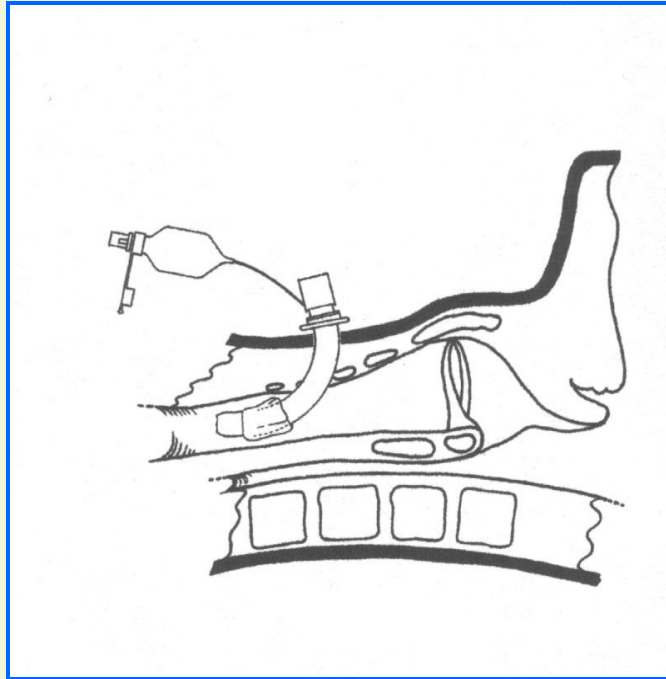
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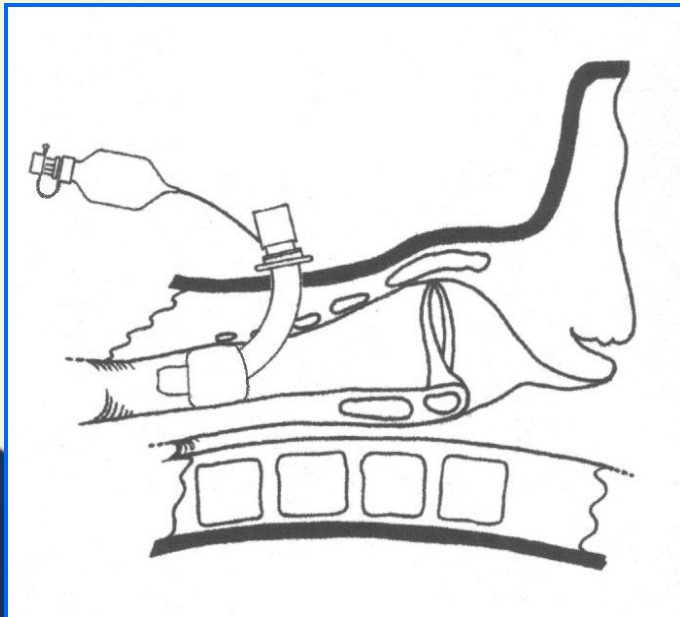
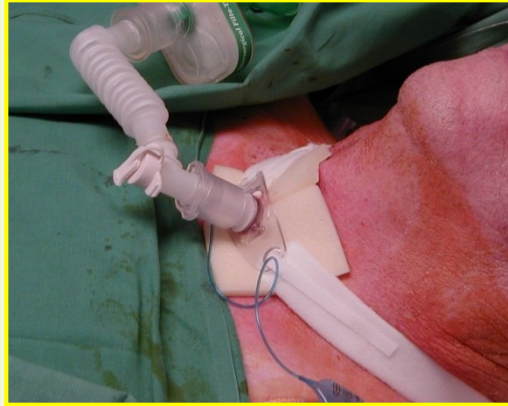
Introducer Removal



- Separate the introducer from the tracheostomy tube by holding the handle in your fingers and push on the tracheostomy tube flange with your thumb.
- Withdraw the introducer, guiding catheter and guidewire by following the natural arc of the tracheostomy introducer and towards the patients feet.
- Suction the trachea and tracheostomy



Securing the Tracheostomy Tube



- Transfer the breathing system.
- Inflate the tracheostomy tube cuff to form a seal.
- Verify position of the tracheostomy tube by bronchoscope or X-ray.
- A tracheostomy dressing may be applied.
- Secure tracheostomy tube with tapes or holder.
- Deflate tracheal tube and remove.
- Insert an inner cannula if required.
- Use the 'Patient Notes Label'
- Use the 'Tracheostomy Flange Tag'



A Portex

**BlueLine Ultra Tracheostomy Tube
has now been successfully inserted
using the Single Dilator method.**