



Clinical Practice Procedures: Assessment/Endotracheal tube cuff manometer

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Date	July, 2022
Purpose	To ensure a consistent procedural approach to the endotracheal tube cuff manometer.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
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Author	Clinical Quality & Patient Safety Unit, QAS
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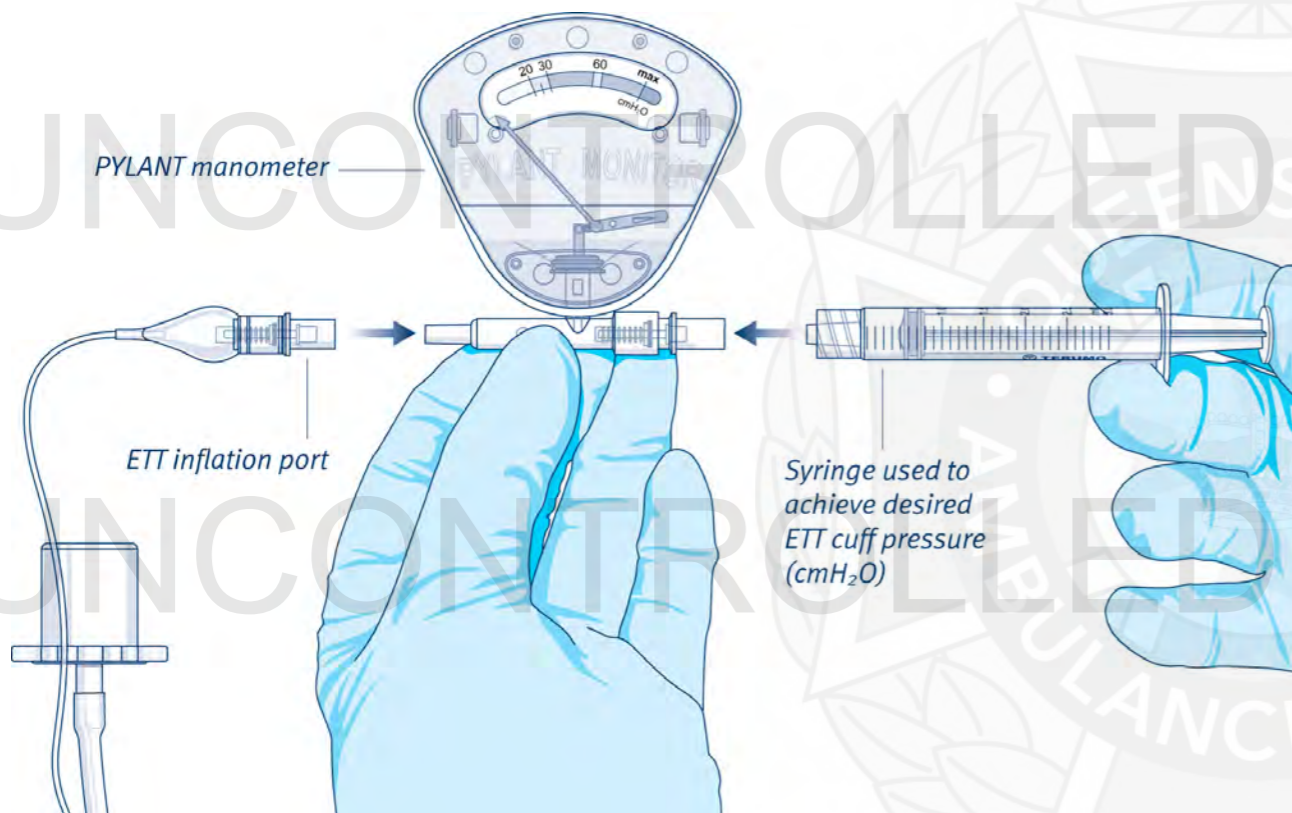
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Endotracheal tube cuff manometer

July, 2022

The endotracheal tube (ETT) cuff provides a seal within the trachea and is critical to preventing adverse events following intubation.^[1] The PYLANT Manometer is a disposable, single use device used to measure ETT cuff pressure.^[2] It is designed to assist clinicians to achieve and maintain an ETT cuff pressure within a safe and effective range.



Indications

- All patients intubated with a cuffed ETT

Contraindications

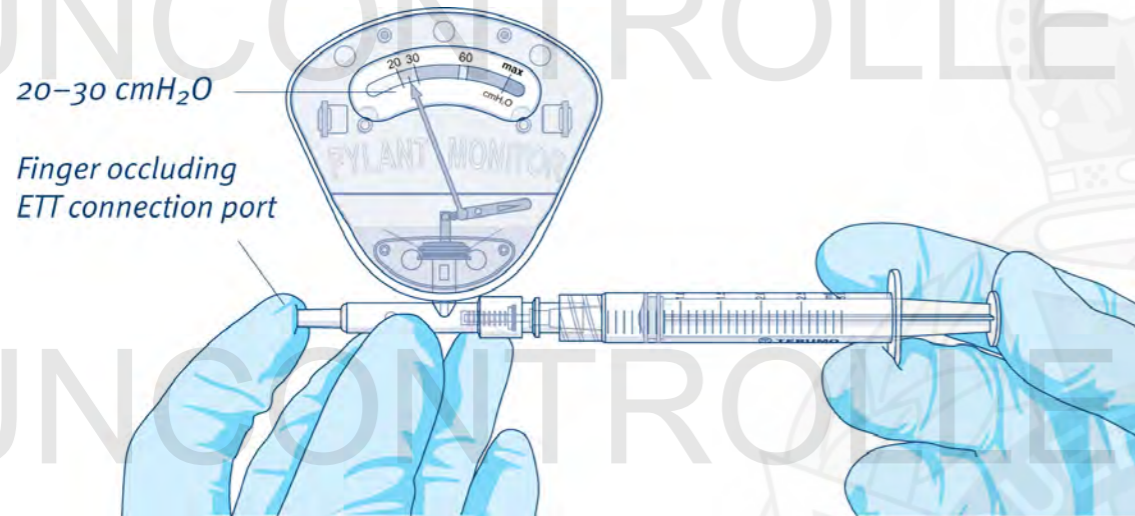
- When ETT placement has not been confirmed by waveform capnography
- When using an uncuffed ETT

Complications

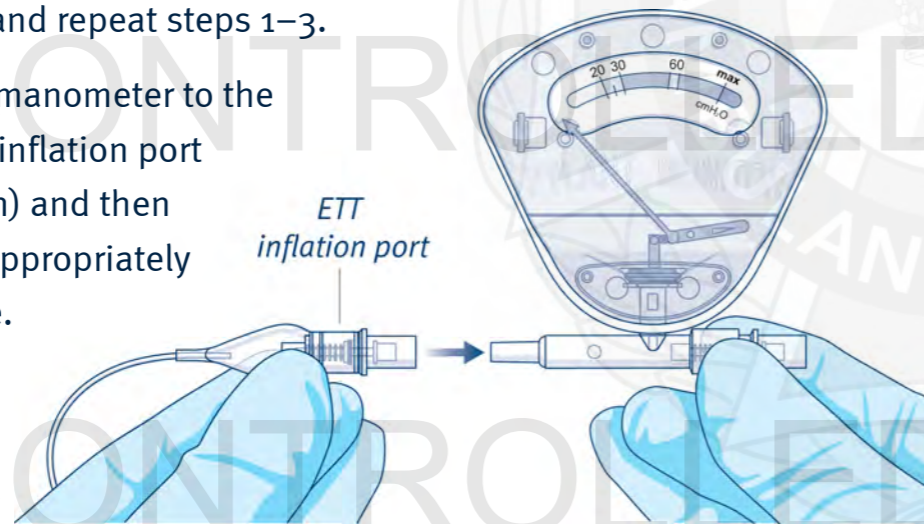
- ETT cuff under-inflation^[3,4]
 - Aspiration
 - Inadequate ventilation
 - Accidental extubation
- ETT cuff over-inflation^[3,5,6]
 - Pain
 - Tracheal stenosis/rupture
 - Ulceration
 - Necrosis

Procedure – Endotracheal tube cuff manometer

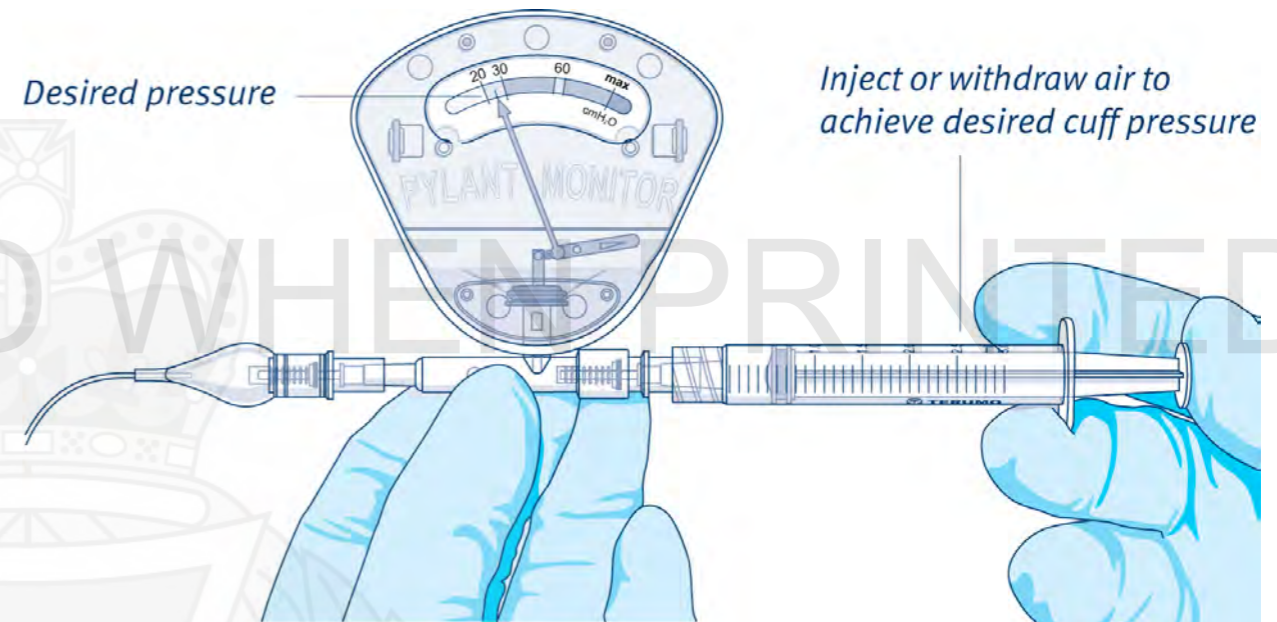
1. Remove the manometer from its packaging.
2. Occlude the manometer's ETT connecting port with a gloved finger and using an appropriately sized syringe inject the required amount of air to achieve a pressure reading of 10–30 cmH₂O.



3. Monitor the pressure reading and ensure it maintains constant pressure for 3–5 seconds. If not, replace the manometer and repeat steps 1–3.
4. Connect the manometer to the patient's ETT inflation port (pilot balloon) and then connect an appropriately sized syringe.



5. Inflate the cuff to the appropriate pressure:
 - **Adult** – 25 cmH₂O
 - **Paediatric** – less than or equal to 20 cmH₂O



6. Once the desired ETT cuff pressure is achieved, consider leaving the manometer in-situ to enable ongoing monitoring of the ETT cuff pressure.

+ Additional information

- Do not palpate the pilot balloon as this will result in an incorrect cuff pressure.^[7,8,11]
- The ETT cuff pressure of all rotary wing patients must be checked, immediately prior to take off, during flight (cruising altitude) and immediately before landing.^[3,4,9,10,11]
- If the patient's head is moved (e.g. flexion, extension or rotation) the ETT cuff pressure must be reassessed.^[12]
- Should the manometer fail, inflate the ETT cuff for adequate oxygenation/ventilation and adjust when a new manometer is available.
- ETT cuff pressures must be documented on the eARF.