# Systematic Trouble-shooting

## Unexpected high airway pressure during ventilation

**1) Disconnect** → Excessive PEEP?

**2) Manually ventilate with separate manual bag and without airway-filter**

**a) Ventilation possible without too much resistance?**

→ consider: filter, tubings or ventilator

**Check:**

- Y-piece and filter → unobstructed or blocked?
- Tubes → connected correctly?
  → kinked?
- Water-trap → correct position in circuit, no bypassing?
- Valve malfunction → ruled out

**b) Ventilation possible only with severe resistance or impossible**

↓ go to point 3

**3) Advance Suction tube over tip of ET-tube**

**a) Advancement possible**

→ problem lies distal from tip of ET-tube *(consider bronchospasm)*

**b) Advancement difficult or not possible**

→ problem lies within ET-tube

**Check:**

- ET-tube → kinked or occluded *(secretion, coagula)*
  → herniated cuff

**„If in doubt, take it out!"**

## Unexpected leak in circuit ?

**1) Set freshgas-flow to 12 – 15 l/min**

Beware of possible baro- and/or volutrauma in certain respirators when the patient is connected to the ventilator

**2) Manually ventilate with separate manual bag and without airway-filter**

**a) Ventilation possible:** leak in tubings or ventilator

**Check:**

- **APL-valve** set correctly (eg. 30 mbar)?
- **Airway-filter** gas-analyzer port open?
- **Airway-filter** damaged?
- **Y-piece:** gas-analyzer port open?
- **Tubes** mounted correctly?
- **Tubes** damaged?
- **In coaxial tubes:** „Shunt" between in- & expiratory tube?
- **Valve** malfunction (eg. missing valve-plate)
- **$CO_2$ -Absorber** not mounted correctly / damaged?
- **Vaporizer** not mounted correctly / damaged?
- **Water-trap of gas-analyser tube** not mounted correctly / damaged?

**b) Ventilation impossible: leak in the airway**

**Check:**

- ET-tube / Cuff un-sealed or too small for px?
- LMA unsealed / damaged?

Mod. gem. T. Prien et al. Anästh Intensivmed 2019;60:75–83