### 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, tubing or ventilator
     - Check:
       - Y-piece and filter → unobstructed or blocked?
       - Tubes → connected correctly?
       - 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)
       - CO₂ – Absorber not mounted correctly / damaged?
       - Vaporizer not mounted correctly / damaged?
       - Water-trap of gas-analyzer 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?