

Appendix 1 Standardized rating of feasibility, visualization of tracheal structures and ventilation during percutaneous dilatational tracheostomy. Rating was given regarding the airway used, either laryngeal mask airway (LMA) or endotracheal tube (ETT).

| Rating | 1 | 2 | 3 | 4 |
|--|---|---|---|--|
| <u>Degree of difficulty:</u> LMA: Insertion ETT: Preparation | LMA: easy insertion ETT easy preparation | Slight, no critical problems | LMA: more than two attempts to insert ETT: definite problems | Not possible with randomized airway |
| <u>Degree of difficulty:</u> Introduction of bronchoscope into randomized airway | easy | LMA: passage of vocal cords: minor problems ETT: minor problems | LMA: passage of vocal cords with definite problems ETT difficult insertion | Not possible with randomized airway |
| <u>Identification of:</u> thyroid cartilage cricoid cartilage 1 st -3 rd tracheal cartilage | Reliable identification | Only cricoid cartilage and tracheal cartilages | Only tracheal cartilages | No vision on tracheal structures |
| <u>Visualization of:</u> tracheal circumference | Complete circumference | 1/3 to 2/3 of circumference | Only small parts of trachea | No vision on tracheal structures |
| <u>Monitoring puncture:</u> midline + level below 1 st or 2 nd tracheal cartilage | Reliable identification | Midline sure Level uncertain, but below the 1 st tracheal cartilage | Level of puncture uncertain | No vision on tracheal structures |
| <u>Monitoring dilatation</u> Anterior wall and Pars membranacea (P.m.) visible | Reliable identification | P.m. only | Only small parts of trachea visible, no control of P.m. | No vision on tracheal structures |
| <u>Quality of Ventilation</u> Before puncture and worst ventilation during PDT, respectively | Minute ventilation (MV) as before starting PDT | MV < 2l /min or SaO ₂ 80–90% (>2minutes) | MV < 0,5l /min or SaO ₂ 70 – 79% (> 2 minutes) | AMV = 0 or SaO ₂ < 70% (> 2 minutes) |