

**Awake Intubation**

- Awake intubation should be the initial approach in a patient in whom a difficult intubation is anticipated, but who has adequate ventilation and is able to maintain oxygen saturation at greater than 90%. In this situation, rapid ablation of the patient's own respiratory drive by paralytics or general anesthesia may complicate airway management.

- Awake intubation offers several advantages:

- 1) spontaneous ventilation is maintained, allowing gas exchange;
- 2) airway reflexes are preserved, decreasing the risk of aspiration;
- 3) muscle tone, and thus airway anatomy, are preserved; and
- 4) the significant adverse effects of pharmacological agents used in intubation are avoided.

The awake approach can be used with virtually any intubation technique (surgical, direct laryngoscopy, blind nasal, fiberoptic, or an alternative device) and it is facilitated with topical or local anesthesia.

**Difficult direct laryngeal intubation:**

- can be facilitated by optimising patient position & use of BURP (backwards, upwards, rightwards pressure)

**The failed airway:**

- the airway is a failed airway when there have been three failed attempts at direct intubation  
 - failed airway can be divided into patients who can be ventilated & patients who cannot be ventilated

**Options for the failed airway:**

- bougie
- LMA
- fasttrack LMA
- combitube
- lighted stylet
- blind nasal
- bronchoscope

**Non-surgical techniques for difficult intubation**

**failed airway techniques**  
 [created by Paul Young 02/10/07]

**definition**

a clinical situation in which a conventionally trained anesthesiologist experiences difficulty with mask ventilation, difficulty with tracheal intubation, or both.

**(a) circumstances**

- 1) failed intubation by ambulance personnel

**(b) external physical characteristics**

- 1) a short, muscular neck
- 2) a receding mandible
- 3) a protruding tongue or upper incisors
- 4) mandibular instability
- 5) facial trauma
- 6) restricted head and neck movement
- 7) facial hair
- 8) obesity
- 9) short thyromental distance (less than three finger breadths with neck extended predicts difficult intubation)

**(c) internal physical characteristics**

- 1) adequate mouth opening
- ability to insert 3 finger breadths
- ability to visualise soft palate & uvula as described by the Mallampati classification
- Class I Soft palate, fauces, uvula, anterior and posterior tonsillar pillars
- Class II Soft palate, fauces, uvula
- Class III Soft palate, base of uvula
- Class IV Soft palate not visible at all

**identification of the difficult airway**

**Components of the preoperative airway physical examination**

Airway examination component	Nonreassuring finding
1. Length of upper incisors	Relatively long
2. Relation of maxillary and mandibular incisors during normal jaw closure	Prominent "overbite" (maxillary incisors anterior to mandibular incisors)
3. Relation of maxillary and mandibular incisors during voluntary protrusion of cannot bring	Patient mandibular incisors anterior to (in mandible front of) maxillary incisors
4. Interincisor distance	Less than 3 cm
5. Visibility of uvula	Not visible when tongue is protruded with patient is sitting position (eg, Mallampati class greater than II)
6. Shape of palate	Highly arched or very narrow
7. Compliance of mandibular space	Stiff, indurated, occupied by mass, or nonresilient
8. Thyromental distance	Less than three ordinary finger breadths
9. Length of neck	Short
10. Thickness of neck	Thick
11. Range of motion of head and neck	Patient cannot touch tip of chin to chest or cannot extend neck

This table displays some findings of the airway physical examination that may suggest the presence of a difficult intubation. The decision to examine some of all of the airway components shown in this table depends on the clinical context and judgment of the practitioner. The table is not intended as a mandatory or exhaustive list of the components of an airway examination. The order of presentation in this table follows the "line of sight" that occurs during conventional oral laryngoscopy.

	Difficult direct laryngoscopic intubation	Difficult mask ventilation
<i>Awake</i>	Fibreoptic bronchoscopic intubation Blind nasal intubation Retrograde intubation Laryngeal mask airway	Percutaneous cricothyroidotomy* Surgical tracheostomy* Transtracheal jet ventilation
<i>Anesthetized</i>	Bag-and-mask ventilation	Laryngeal mask airway
<i>Comatose</i>	Direct laryngoscopic intubation	Transtracheal jet ventilation
<i>(empty stomach)</i>	Different blade Bougie/stylet Lighted stylet Blind nasal intubation Laryngeal mask airway	Rigid ventilating bronchoscope Percutaneous cricothyroidotomy Surgical tracheostomy
<i>(full stomach)</i>	Fibreoptic bronchoscopic intubation Bag-and-mask with cricoid pressure Combitube	Percutaneous cricothyroidotomy Surgical tracheostomy Combitube

Examples of common alternatives are given. The technique(s) chosen will depend on the clinician.  
 \*Under local anesthesia.