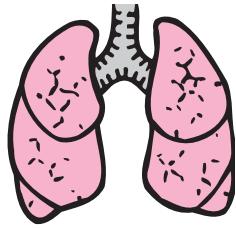


## The Emergency Airway



## First Step in Managing Airways: Stock the Cart

By Darren Braude, MD, MPH, EMT-P

One of the most common questions I am asked is, "What should we have in our difficult airway cart?" Before I give my answer, I feel obliged to repeat the cliché that most airway disasters are prevented or salvaged with what's between your ears, not what's in your cart. It's rare that I review a case and think "if only they had X." More commonly I say, "What in the world were they thinking?"

I am also wary of the concept of a difficult airway cart or box in the ED. I would rather everyone have an airway cart at the bedside every time an airway needs managing. In my experience, incredibly well stocked difficult airway carts often sit in a corner gathering dust and nobody knows what's in it, how to use what's in it, or even how to unlock it. In our ED, we have an airway cart near every trauma or resuscitation bed that contains all our usual airway equipment; we include an extraglottic airway and a bougie as routine equipment. We then have a single difficult airway cart in a central location. If you are responsible for covering airways in other parts of the hospital, a box that is easy to transport makes more sense than a cart. So what should you have on every cart?

### ■ Bag Valve Mask Ventilation

- Age-appropriate bags and masks.
- PEEP valves.
- Nasal and oral airways.

### ■ Basic endotracheal intubation supplies

- Assortment of tubes.
- Stylets.
- Lubricant.
- Syringes.
- Good quality laryngoscope and blades (curved and straight). Fiberoptic equipment is highly encouraged. Avoid plastic disposables. Some of the new metal disposables seem ok, and I have been impressed with the new IntuBrite system.

- ETCO<sub>2</sub> detectors and esophageal detector devices.

- Endotracheal tube introducers (aka bougies).

- Now available in pediatric sizes as well.

### ■ Extraglottic airways

- Have at least one device to cover whatever age patients you are responsible for in your ED. A device with gastric decompression ability is ideal.

- Keep some gastric tubes sized for the device with the airways.

### ■ Scalpel

Ideally, the following items should be on every cart, but are a must for the difficult airway cart/box.

- A "blind/indirect" intubation device. These allow for intubation when there are excessive secretions and cervical immobilization.

- Intubating Laryngeal Airway: These are particularly nice because they allow for oxygenation and ventilation as well as facilitating intubation. There are disposable models available as well as new pediatric devices (Air-Q).

- Lighted Stylet such as Trachlight by Rusch. Note that Laerdal is no longer producing the Trachlight.

### ■ A backup extraglottic airway

- Because no device is perfect, I encourage redundancy or a backup for your backup.

- If you selected an intubating laryngeal airway for #1 above, then you are covered.

- An enhanced visualization device. Which one you choose depends on your budget and preference.

- Cheap: Airtraq disposables including pediatric sizes or optical stylet such as the Levitan FPS.

- Not so cheap: Video laryngoscopy system.

- Complete cricothyrotomy kit, open or percutaneous.

### ■ Blind nasal intubation supplies

- Topical anesthetic and vasoconstrictor.

- Endotrol tubes.

### ■ Airway anesthesia supplies for awake direct laryngoscopy

- 4% lidocaine plus nebulizers.
- Cetacaine spray.
- Viscous lidocaine.
- MAD atomizer extenders.

### ■ Supplies for Flexible Fiberoptic intubation (optional)

- Simple laryngeal mask airways. EPs should not be trying oral flexible fiberoptic intubation in emergencies unless they have had lots of practice. But going through a laryngeal mask makes this quite feasible in most cases.

- Intubating fiberscope (for adults, a diameter of about 6 mm is ideal.)

- Antifog solution.

### ■ Retrograde intubation kit (optional)

### ■ Transtracheal Jet Insufflation Setup (optional)

- Recommended for pediatric and general EDs.

### ■ Tube changers (optional)

- A 70 cm bougie in adults or peds bougie in kids will usually work fine.

### ■ Supplies requested by your anesthesia backup (optional)

- You may be requested to stock



The Difficult Airway Box is a commercially available product that does a very nice job of organizing critical backup airway supplies in a box that is easily transported.

Aintree catheters, for example, which may be used to facilitate fiberoptic intubation through a King Laryngeal Tube.

Once you have all the equipment, be sure you know how to use it. Take an airway course; have product reps come to you for training; borrow a mannequin and run through mock scenarios. Better yet, use these techniques on your routine airways rather than wait for the difficult ones. (Not surgical airways, of course!) If you don't feel comfortable using them on the simple cases, how can you possibly feel comfortable pulling them out in the heat of battle? Just like a pilot going into the simulator for recurrency training in emergency procedures, we have an obligation to our patients practice these skills regularly. <sup>EMN</sup>



This difficult airway cart is used in the ED at Rehoboth McKinley Christian Hospital in Gallup, NM.



*Dr. Braude is an associate professor of emergency medicine and anesthesia at the University of New Mexico School of Medicine, the medical director for Rio Rancho Fire Rescue, the coordinator of the EMS Medical Direction Consortium, the director of the EMS Fellowship, a co-director of the Airway911.com and the National Procedural Sedation Course (<http://hsc.unm.edu/emered>), and the author of Rapid Sequence Intubation and Rapid Sequence Airway, now available at <http://airway911.com>.*

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