

The Airway Carnival: The Pediatric Airway

Considerations

- Large occiput requires optimal head positioning
- Rapid desaturation with apnea
- Intravenous access
- Limited ability to perform awake/sedated intubations

Anatomy

	<i>Infant</i>	<i>Adult</i>
Tongue	Relatively large	Normal
Epiglottis	Floppy, angled posteriorly	Firm, less posterior angle
Vocal cord angle	Inclined	Flat
Glottis	C3-C4 level	C5 level
Cricothyroid Membrane	Small	Normal
Trachea	Small, mobile, posterior displacement into thorax	Large, stationary, vertical descent into thorax

Devices

LMA:

- Can be used as definitive airway for many procedures
- Conduit for fiberoptic intubation
- Can be a temporizing airway while other options are pursued
- Essential tool for failed intubation/failed ventilation

LMA Size	Pediatric Size
1	Neonates/infants 0-5 kg
1 1/2	Infants between 5-10 kg
2	Infants/children between 10-20 kg
2 1/2	Children between 20-30 kg
3	Children over 30 kg

Flexible Fiberoptic Scope:

- Most useful in the abnormal airway
- Oral or nasal routes
- Difficult with secretions/blood
- Requires skill & practice

Lightwand:

- Pediatric sizes are available
- Technique is similar to adults
- May be performed in awake/sedated patients
- May be used as adjunct device

Rigid Fiberoptic Scope:

- Bullard™ scope available in 2 pediatric sizes
- Technique similar to adults
- Better tolerated in awake (infant) laryngoscopy
- Beware excess secretions

Combitube™:

- Available in small adult (SA) size, suitable for patients over 4 feet
- The glottic opening may be too small until a child has reached at least the age of 12 years

Intubating LMA - Fastrach™:

- Size #3 Fastrach™ may be used for children 30-50 kg
- Allows passage of a 7.0, 7.5 or 8.0 mm cuffed ET tube
- Use recommended silicone tube when available
- Use fiberoptic guidance when difficulty is encountered

Combined Techniques:

- Retrograde wire and the flexible fiberoptic scope
- Rigid laryngoscopy and the flexible fiberoptic scope
- LMA and the lightwand or intubation stylette
- Retrograde wire and the lightwand

References:

1. Riazi J (ed). "The Difficult Pediatric Airway." Anesthesiology Clinics of North America. vol 16, no 4, 1998.