Fiberoptic intubation in children.

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What is it good for

- Difficult intubation
- Difficult airway algorithm for pediatric patients has to consist of three part
  - A- oxygenation
  - B- tracheal intubation
  - C- rescue
If direct laryngoscopy fails,

- We have to use alternative glottis visualization device
- Do we really need video laryngoscopy?
  - Conventional laryngoscopy is successful and effective in around 98.5% of cases.
Conclusion

- Fiberoptic-assisted tracheal intubation combined with extraglottic airway devices is the standard of care.

**WE SHOULD**

- Establish protocols for equipping and maintaining airway trolleys
- Regular training in their use to avoid tissue hypoxia in children with compromised airway.
Awake (??) bronchoscopy in children

- Awake fiberoptic intubation with topical anesthesia in anticipated difficult airway is regarded as the safest approach.

- Patient's co-operation is essential, **so it is not an ideal option for children.**
  - Topical anesthesia of airway improves child's acceptance of an airway device and blocks airway reflexes.
  - Nebulized lignocaine 4%, lignocaine viscous 2% and lignocaine spray 10% all are useful and can be used preoperatively or during induction.
  - It can be used as a sole technique in adults but in children it is used in conjunction with either inhalational or intravenous induction.
Awake (?? – no!) bronchoscopy in children

- Intravenous anesthetics can precipitate sudden loss of airway control and apnea, which may result in cannot intubate or ventilate situation.

- Inhalational induction in children using Sevoflurane is preferred
  - Spontaneous breathing can be preserved
  - It has a low blood gas solubility of 0.69
  - It is least irritating to the airway.
CASE REPORT
Pierre Robin difficult intubation

- Bronchoscope was placed via the nose into the hypopharynx.
- Visualization of anatomical landmarks was difficult due to the superior and anterior position of the glottis and the presence of blood and secretions;
- However, the bronchoscope was passed easily into the trachea
- A 0.035 inch diameter, 150 cm soft-tipped wire was passed via the suction port of the bronchoscope into the trachea
- The bronchoscope was removed over the wire, and a 3.5 mm internal diameter endotracheal tube was passed into the airway over the wire.

The j-tipped guidewire inserted via the working channel of the FFB entering the trachea
Our technique

- Our recommendation is to intubate through the nasal approach.
- Be sure to suction the secretions from the pharynx before and during the procedure with a suction catheter.
- For nasotracheal intubation, the most permeable nostril must be used.
- Pour esracain jell inside the selected nostril before the procedure.
- Insert the ET tube through the nostril only after you observed that the bronchoscope pass the tube lumen.
Our technique
Our technique

- Insert the bronchoscope until you visualize the vocal cord
- Spray lidocaine 1% on the vocal cord through the bronchoscope
- Pass the scope into the trachea and then insert the tube over the scope
- You may see that the tube is just above the carina
Our technique

- The use of a bite protector is mandatory for orotracheal intubation.
- It is also recommended to warm the tube by placing it in warm saline solution in a basin in order to improve its flexibility.
- Introduction of the fiberoptic bronchoscope into the airway may be easy, but advancing the tube may be difficult because of the oropharyngeal and hypopharyngeal angles.
Submandibular Abscess and Trismus
Lips Adhesion
Syngnathia
What is syngnathia?

- **Synechiae vs synostosis**
  - Congenital fusion of the maxilla **and** mandible (syngnathia) is rare
  - Can present in a wide range of severity from single mucosal bands (*synechiae*) to complete bony fusion (**synostosis**).
What is syngnathia?

- Associated with:
  - micrognathia, TMJ anomalies, ear deformities, orbital deformities, deviated nasal septum
  - microglossia, cleft lip, cleft palate
- Breathing, feeding, aspiration, speech
- Extra-craniofacial manifestations?
- Isolated case reports
STICKLER SYNDROME
Temporal- mandibular Joint ankyloses
Neonatal Cystic Hygroma
Freeman–Sheldon syndrome – whistling face and short webbed neck.
The Airway

Treacher Collins Syndrome
Pierre Robin Syndrome
The Airway

Galel Yakobi Syndrome
Thank You!