Summary:
Temporomandibular joint ankylosis (TMJ) is always a challenge to intubate. We successfully carried out endotracheal intubation in a 12 yr old patient who was posted for corrective surgery using retrograde intubation technique.

Key words:
retrograde intubation, TMJ ankylosis, guide wire, difficult intubation

Introduction:
The establishment of an airway by orotracheal intubation in TMJ Ankylosis is always a challenge to the anaesthesiologist. A number of techniques are followed for intubation like blind nasal intubation, retrograde intubation using a guide wire, fibreoptic laryngoscopy and finally tracheostomy. We followed retrograde intubation using flexible J-tipped guide wire.

Case report:
A 12 yr, ASA grade I, male child, weighing 22 kg was our patient. Parents gave history of inability to open his mouth since birth. He was diagnosed as a case of B/L TMJ ankylosis and was to undergo B/L ostearthrotomy. His neck mobility was normal. We planned for retrograde intubation technique using flexible J-tipped guide wire.

The procedure and the possibility of resorting to tracheostomy was explained in their native language and consent was taken from parents. IV line secured using 20G IV cannula in right arm. Monitors used were pulseoximeter, ECG, NIBP and capnography.

Pre-op 45 min prior to the procedure i.m atropine 0.6mg was given. Xylometazoline nasal drops instilled. Topical 10% xylocaine sprayed into the mouth. Inj midazolam 0.5mg IV given. Inj propofol (25mg) IV given initially and then intermittently 10mg IV was given. B/L superior laryngeal nerves blocked using 1% lidocaine 2ml on each side was given. Airway reflexes were additionally blunted by instilling 4% lidocaine into trachea via 24G needle which was introduced into trachea through the cricothyroid puncture.

Under strict asepsis, 18G Tuohy epidural needle was used to puncture the trachea around 2-3 cm below the cricothyroid membrane with the needle directing upwards.

Through this the flexible J tipped guide wire was passed which negotiated the curved pathway after three attempts and came out of the nostril. The whole procedure was visualized using fluoroscope.

The tuohy needle was then removed keeping the guide wire intact. No.6 COETT was passed through the guide wire. The guide wire was then removed and tube passed further down. IPPV was started manually and tube position confirmed by auscultating the chest and monitoring EtCO2. We gave vecuronium and propofol. Anaesthesia maintained with IPPV by O₂+N₂O+ Halothane 0.5%- 1%. At the end of surgery mouth opening was two fingers. Residual neuromuscular block was reversed. Extubation was done when patient was awake, responding to oral commands and airway reflexes were present. The subsequent recovery was uneventful.

Discussion:
In our patient conventional intubation of the trachea was impossible. In cases of difficult airway, there are a number of other options like awake intubation, blind nasal intubation, intubation using a fibreoptic laryngoscope, using LMA, oesophageal tracheal Combi-tube, tracheal jet ventilation, the use of McCoy laryngoscope, the use of light wand, retrograde intubation and tracheostomy.
In our pediatric patient we opted for retrograde intubation as awake intubation or blind nasal intubation would be difficult (pt may not co-operate). The term retrograde intubation refers to a technique in which a guide wire is passed into the trachea and then into the mouth or nose. A tracheal tube is then passed down over the guide until it enters the trachea. This technique was first described by Butler and Cirillo in 1960.

Blind nasal carries a risk of nasal bleeding and is not always successful, LMA was not possible to insert in our case due to limitation of the mouth opening. Fibreoptic intubation requires considerable experience before it is used in difficult cases. Tracheostomy also carries many risks particularly in the absence of a tracheal tube.

The retrograde method has been used successfully in many patients even in infants and the technique proved to be straightforward method of tracheal intubation in our patient. Although there are some complications mentioned in the literature like bleeding from the nose or from the site of cricothyrotomy, minimal subcutaneous emphysema, infections like pretracheal abscess, airway trauma, we have not encountered any complications in our case. Thus, even in an emergency scenario retrograde nasal intubation could be a suitable alternative.

References: