

stylet. In a randomized sequence 8 different kinds of airway were managed. All steps of the intubation were documented and compared. Data are mean  $\pm$  SD.

**Results and Discussion:** Intubation with the Truflex™ was 14.8 seconds faster in the simple airway (Cormack I) as intubation with the hockey stick formed stylet ( $26.4s \pm 5.5s$  vs  $41.2s \pm 18.3s$ ,  $p < 0.05$ ). In the difficult airway (immobilized cervical spine) the intubation with the Truflex™ was 12.9 seconds faster compared with the hockey stick formed stylet ( $22.9s \pm 4.0s$  vs.  $35.8s \pm 13.9s$ ) and with the head in plane position even 14.1 seconds faster ( $24.3s \pm 4.8s$  vs  $38.4s \pm 21.5s$ ). The success rate of intubation was 100% with the Truflex™ and 83% with the hockey stick formed stylet.

**Conclusion(s):** For the untrained anaesthesiologist the combination of McGrath videolaryngoscopy and Truflex™ is an alternative to secure also the difficult airway.

## 19AP5-9

### Satisfaction and complications comparing flexible reinforced laryngeal mask airways (FRLMA) with ETT in surgery of the face in adults

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**Background and Goal of Study:** Laryngeal mask airway (LMA) is an important adjunct to airway management since its introduction in 1998. Specific LMA for otolaryngological and dental anesthesia (FRLMA) were described in 1990 (1) but sometimes surgeons and anesthesiologist doubt about its usefulness and benefits.

The main purpose of this study is compare the patient's, surgeon's and anesthesiologist's satisfaction comparing the use of the FRLMA versus tracheal intubation (ETT) in facial surgery. A secondary objective is compare the incidence of respiratory and hemodynamic complications between both procedures.

**Materials and Methods:** Surgical and anesthetic records of 44 patients undergoing ORL and maxillofacial surgery. All patients underwent general anesthesia induced with propofol, atracurium and fentanyl and maintained with propofol and remifentanyl. Patients were assigned into two groups: FRLMA or ETT.

The surgeon, patient, and anesthesiologist at the end of the surgery were asked about their satisfaction with the anesthetic procedure (1:poor-4:great). Hemodynamic instability was considered above 140-85 for more than 5 consecutive minutes. Respiratory complications were only considered bronchospasm, laryngospasm, and difficulty in intubation.

Statistical analysis was made with Gstat 2.0. comparing qualitative results with chi2.

**Results:** There were found statistically significant differences in patient's and anesthesiologist's satisfaction, superior in the LMA group. There were not statistically significant differences in surgeon's satisfaction. Hemodynamic instability was superior in the ETT group with differences statistically significant. There were more respiratory complications in the ETT group but differences were not statistical significant.

**Discussion:** Theoretical doubts make sometimes prefer ETT to FRLMA in ORL and oral surgery.

This study shows that, when compared, patients and anesthesiologists prefer FRLMA to ETT, and surgeons have no preference for any. The study also shows that FRLMA offers a better hemodynamic response.

As compared to other studies (2) we conclude that further studies are needed before confirming that FRLMA cause less serious respiratory complications than ETT.

**Conclusion:** FRLMA is a great alternative to ETT for ORL and oral surgery.

#### References:

1. A.C Webster. *Et al. Anesth Analg* 1999; 88: 421-5
2. S.H Yu et al. *J Oral Maxillofac Surg* 2010 ; 68 : 2359-2476

## 19AP5-10

### Comparative study of three videolaryngoscopes for nasotracheal intubation with restricted mouth opening: A manikin study

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**Background and Goal of Study:** Limited mouth open is an important factor when dealing with a difficult airway. The videolaryngoscopy lets us intubate without the need of the three axis alignment and in case of nasotracheal intubation (NTI), can help us pointing the endotracheal tube (ET) towards the trachea.

We have realized a comparative study with 3 videolaryngoscopes (c-Mac, Truview and McGrath) in a manikin model whose mouth opening has been limited.

**Materials and Methods:** We modified a manikin (Ambu® Airway Management Trainer) so we could limitate the mouth open. Seven anesthetist proceeded to NTI 10 times with each VDL at the inter-incisor distance (IID) following: 3'5,3,2'5,2 and 1'5 cm. We did use a preformed nasal tube. The endpoints collected were: time to view vocal cords, best glottic view by using Cormack & Lehane clasification, time to achieve NTI successfully, requirement of cervical hyperextension or other maneuvers and technique difficulty assessed by a 4 items Likert scale. The chi-square and Mann-Whitney tests were used to analyze data.  $p < 0'05$  was considered statistically significant.

**Results and Discussion:** McGrath is the best to obtain a Cormack Lehane I glottic vision in all IID. It also has been the VDL that needed more hyperextension maneuvers. C-Mac and McGrath were the only devices with which we could intubate at an IID of 1'5 cm. When the IID is 3'5 cm, McGrath is clearly faster than C-Mac and Truview to visualize vocal cords. As we restrict mouth opening, truview requires more time to view them. When NTI time is analyzed, Truview device revealed to be the one that needed more time for mouth opening between 2'5-2 cm. When comparing them, Truview VDL has revealed as the easiest to use when NTI is performed with an IID of 3'5 cm. However, C-Mac gets better results when IID is 2'5cm.

Blade size is a limiting factor when it is used in patients with restricted mouth opening. The blade angle should improve glottic view. Nasal route enables intubation when the interincisor gap is limited and also permits more ET maneuvers rather than oral route. In many cases the ET headed between vocal cords on its own.

**Conclusion(s):** Videolaryngoscopy could be a good option when performing NTI with a restricted mouth opening. Based on our results, McGrath seems to be the best option because of its ease of use, its speed and also the glottic view that allows. Nevertheless, these findings are limited by the interpretation of a manikin model.