How to Avoid the Minor Airway Complications in Your Ambulatory Practice

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No Disclosures

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What is a "Minor" Airway Complication?

Dental Trauma
- Chipped teeth
- Free tooth extractions

Oropharyngeal discomfort
- Sore Throat
- Hoarseness

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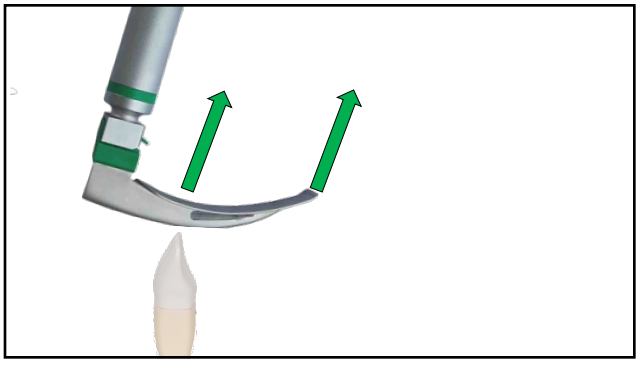

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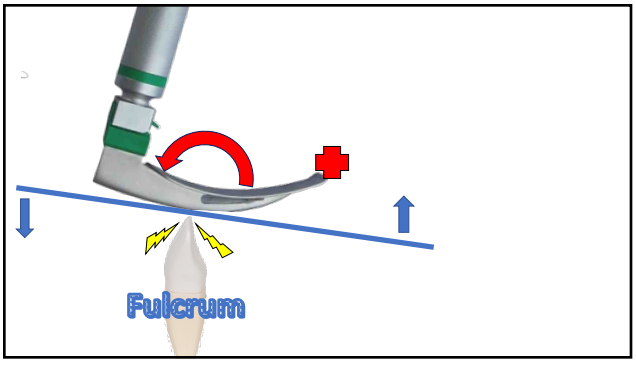

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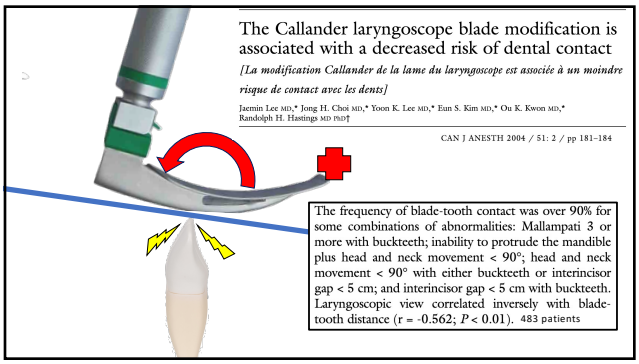

The Callander laryngoscope blade modification is associated with a decreased risk of dental contact

[La modification Callander de la lame du laryngoscope est associée à un moindre risque de contact avec les dents]

Jaemin Lee MD,* Jong H. Choi MD,* Yoon K. Lee MD,* Eun S. Kim MD,* Ou K. Kwon MD,* Randolph H. Hastings MD PhD†

CAN J ANESTH 2004 / 51: 2 / pp 181–184

The frequency of blade-tooth contact was over 90% for some combinations of abnormalities: Mallampati 3 or more with buckteeth; inability to protrude the mandible plus head and neck movement < 90°; head and neck movement < 90° with either buckteeth or interincisor gap < 5 cm; and interincisor gap < 5 cm with buckteeth. Laryngoscopic view correlated inversely with blade-tooth distance ($r = -0.562$; $P < 0.01$). 483 patients

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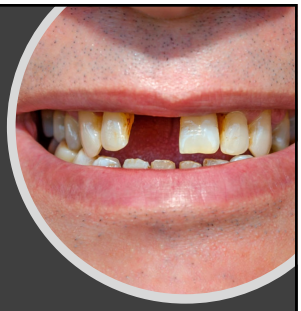
Avoiding Dental Complications

- Bad airways predict dental trauma
- Consider alternative strategies for intubation
  - Difficult intubations up to 20 times more likely to have dental trauma
- If feasible, (often not) request dental "optimization" prior to surgery.
- Consider optimized bite block.



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REVIEW ARTICLE

Postoperative sore throat: cause, prevention and treatment

F. E. McHardy[1] and F. Chung[2]

1 Specialist Registrar, Northern Schools of Anaesthesia (Newcastle), Royal Victoria Infirmary, Victoria Road, Newcastle upon Tyne NE1 4LP, UK
2 Professor, Department of Anaesthesia, Toronto Western Hospital, 399 Bathurst St, Toronto, Ontario, Canada M5T 2S8

Anaesthesia, 1999, **54**, pages 444–453

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14.4% – 50%

5.8% - 34%

4.5% – 22%

Sore Throat

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- Complications almost always resolve within 12-24 hours
  - Minor discomfort/ sore throat.

Minor complications can be classified into 2 groups:

- Complications which can commonly take several days to resolve and/or can lead to more permanent complications/scarring
  - Vocal cord injury

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Postoperative sore throat related to the use of a Guedel airway

B. Browne, MB, ChB, BSc, DA, Registrar, Southmead General Hospital, Bristol BS10 5NB, C. N. Adams, MB, BS, FFARCS, Senior Registrar, Department of Anaesthesia, Level 4, Addenbrooke's Hospital, Hills Road, Cambridge CB2 2QQ.

Anaesthesia, 1988, Volume 43, pages 590–591

4.5% incidence of sore throat

All throat complaints: 20%

However:

No patients spontaneously complained of a sore throat.

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Semantics

Dry Throat

Sore Throat

Dysphagia

Dysphonia

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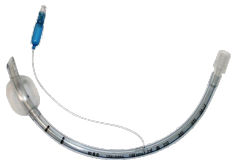
Postoperative throat complaints after tracheal intubation

A. M. Christensen, H. Willemoes-Larsen, L. Lundby and K. B. Jakobsen

British Journal of Anaesthesia 1994; 73: 786–787

- 1325 patients intubated with either a 8 (men) or 7(women) Portex ETT
- 14.4% sore throat (9% in men, 17% in women)
- 50% of patients with "sore throat" reported hoarseness



British Journal of Anaesthesia **103** (3): 452–5 (2009)
doi:10.1093/bja/aep169 Advance Access publication June 25, 2009

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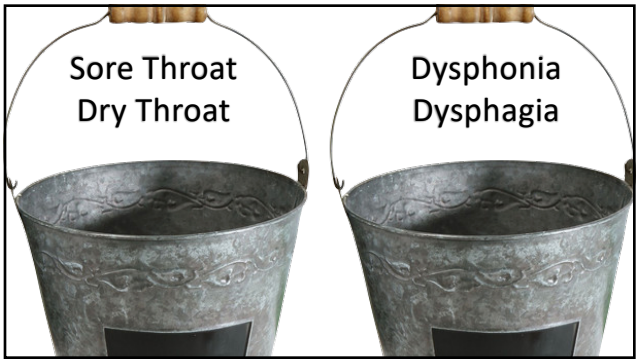

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Table 3 Airway complications following LMA insertion.

Pharyngeal erythema
Nerve palsies
Recurrent laryngeal
Hypoglossal
Lingual
Arytenoid dislocation
Epiglottitis
Uvular bruising

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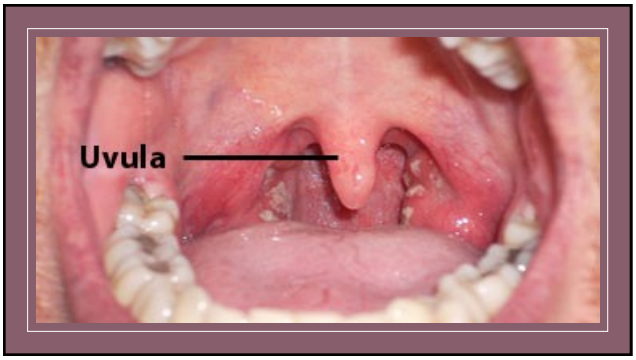

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THE JOURNAL OF PEDIATRICS • www.jpeds.com INSIGHTS AND IMAGES

Uvular Trauma after Laryngeal Mask Airway Use

The Journal of Pediatrics 2016 176, DOI: (10.1016/j.jpeds.2016.05.056)

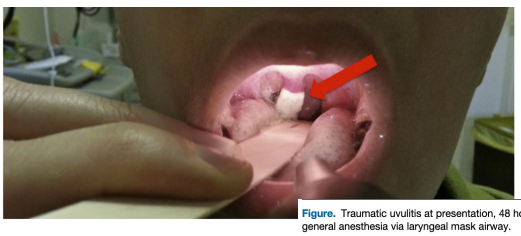

Figure. Traumatic uvulitis at presentation, 48 hours after general anesthesia via laryngeal mask airway.

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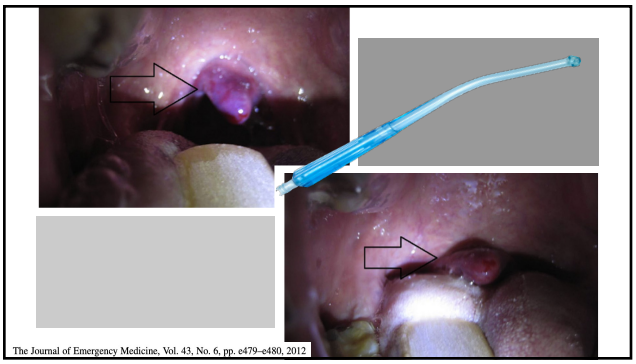

The Journal of Emergency Medicine, Vol. 43, No. 6, pp. e479–e480, 2012

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Uvular Injury During the Perioperative Period in Patients Undergoing General Anesthesia

Anup Pamnani, MD; Susan L. Faggiani, RN, BA, CPHQ; Melanie Hood, MD; Ashutosh Kacker, MD, FACS; Farida Gadalla, MD

- 28,788 cases over a 3 year period
- Overall incidence of 0.034% (10 cases)
- All cases involved endotracheal intubation
- 80% cases in males in supine position
- Additional objects placed in 80% of the cases

Laryngoscope, 124:196–200, 2014

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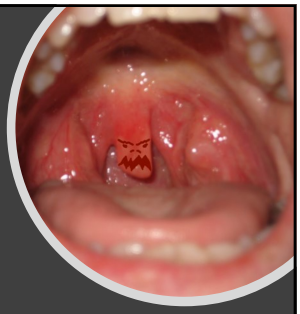
Uvular trauma

- Avoid compression of the structures of the oropharynx
- When suctioning be aware of changes in character of suction sound.
- Relatively rare complication



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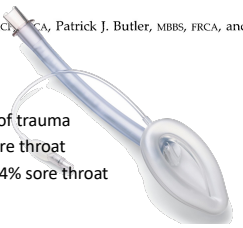
The Laryngeal Mask Airway: A Comparison Between Two Insertion Techniques

Howard G. Wakeling, MBBS, BSc, MRCP, FRCA, Patrick J. Butler, MBBS, FRCA, and Peter J. C. Baxter, FRCA

- 200 patients randomized
- Inflated vs Standard
- Blood on LMA as indicator of trauma
- Inflated: 0% blood, 4.1% sore throat
- Standard: 15.3% blood, 21.4% sore throat



Anesth Analg 1997;85:687–90

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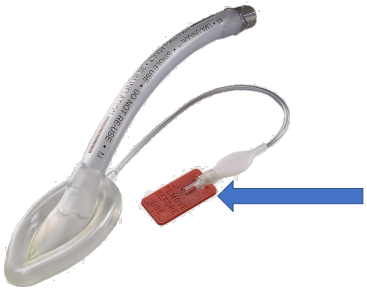

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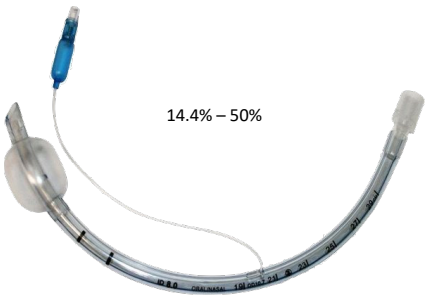

14.4% – 50%

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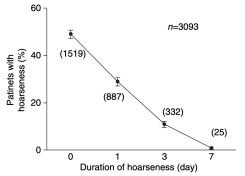
Prolonged hoarseness and arytenoid cartilage dislocation after tracheal intubation

H. Yamanaka[1], Y. Hayashi[1]*, Y. Watanabe[2], H. Uematu[1] and T. Mashimo[1]

Prospective study of 3093 patients
ETT size 8mm (male) and 7.5mm (female)
49% of patients reported hoarseness on POD 1



BJA
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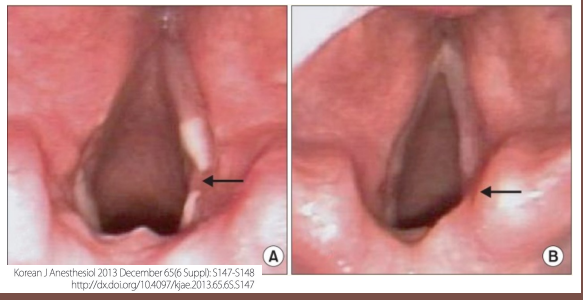

Korean J Anesthesiol 2013 December 65(6 Suppl): S147-S148
http://dx.doi.org/10.4097/kjae.2013.65.6S.S147

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Correlation of Endotracheal Tube Size with Sore Throat and Hoarseness Following General Anesthesia

DAVID STOUT;MICHAEL BISHOP;JOCHEN DWERSTEC;BRUCE CULLEN;

- 101 patients
- Large ETT (9, 8.5) – 44%
- Small ETT (7, 6.5) – 22%

ANESTHESIOLOGY
Anesthesiology. 67(3):419–421, SEP 1987

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Predictors of Hoarseness

- Duration of Intubation
- Larger ETT size
- Over-inflation of ETT cuff (high pressure)
- Difficult airway insertion

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Preoperative intravenous dexamethasone prevents tracheal intubation-related sore throat in adult surgical patients: a systematic review and meta-analysis

Akira Kuriyama, MD, MPH · Hirokazu Maeda, MD

- Analyzed 15 studies
- Number needed to treat to prevent sore throat was 8 patients,
  - little evidence for negative side effects
- Dose of Intravenous Dexamethasone is not determined but no evidence that higher doses are necessary
- Mechanism of action is thought to be the anti-inflammatory effect.

Can J Anesth/J Can Anesth (2019) 66:562–575
https://doi.org/10.1007/s12630-018-01288-2

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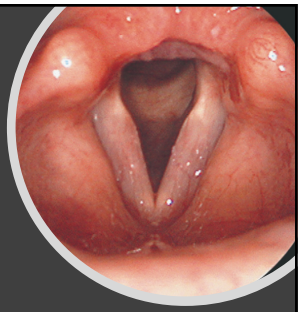
Hoarseness

- Use smaller ETT size
- Minimize Cuff pressures (20-30 cmH_2O)
- Dexamethasone prophylaxis



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Cochrane Database of Systematic Reviews

Lidocaine for preventing postoperative sore throat

Cochrane Systematic Review - Intervention | Version published: 14 July 2015 see what's new

New search | View article information

Yuu Tanaka | Takeo Nakayama | Mina Nishimori | Yuka Tsujimura | Masahiko Kawaguchi | Yuki Sato
View authors' declarations of interest

Appears to support the use of lidocaine.
How to use it is more complicated.

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Overall Strategies

- Evaluate the airway for possible difficulties and poor dentition
  - Consider alternative intubation strategies

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Overall Strategies

- Avoid oropharyngeal trauma
  - Consider insertion of LMA already inflated
  - Be aware of suction and NG tubes
  - Avoid unnecessary compression of pharyngeal structures

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Overall Strategies

- Use smaller ETT sizes
- Minimize cuff pressures
- Consider dexamethasone prophylaxis

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Thank you

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