
Appendix A – Search Strategies

Search Strategy: Pubmed

(lidocaine OR Xyloneural OR Octocaine OR Xylesthesin OR Xylocaine OR Xylocitin OR Dalcaine OR lignocaine) AND ("airway complications" OR cough OR coughing OR pharyngitis OR laryngospasm OR "laryngeal spasm" OR laryngismus OR "tracheospasm" OR "tracheal spasm" OR "tracheal tube" OR laryngospasm OR Laryngospasms OR "Laryngeal Spasm" OR "Laryngeal spasms" OR "larynx spasm" OR "sore throat" OR pharyngalgia OR hoarseness OR "airway management")

Search Strategy: EMBASE

“('sore throat'/exp or 'sore throat' or 'coughing'/exp or 'coughing' or 'hoarseness'/exp or 'hoarseness' or 'laryngospasm'/exp or ' laryngospasm ' or 'bronchial spasm'/exp or 'bronchial spasm' or 'pharyngitis'/exp or ' pharyngitis ') and ('lidocaine'/exp or 'lidocaine')) and ('general anesthesia'/exp or 'general anesthesia')” .

Search Strategy: Cochrane

- #1 MeSH descriptor: [Lidocaine] explode all trees
- #2 MeSH descriptor: [Airway Extubation] explode all trees
- #3 MeSH descriptor: [Anesthesia, Endotracheal] explode all trees
- #4 MeSH descriptor: [Intubation, Intratracheal] explode all trees
- #5 MeSH descriptor: [Airway Management] explode all trees
- #6 MeSH descriptor: [Cough] explode all trees
- #7 MeSH descriptor: [Laryngismus] explode all trees
- #8 MeSH descriptor: [Bronchial Spasm] explode all trees
- #9 MeSH descriptor:[hoarseness] explode all trees
- #10 #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9
- #11 #1 and #10

Search Strategy: Web of Science

(lidocaine OR Xyloneural OR Octocaine OR Xylesthesin OR Xylocaine OR Xylocitin OR Dalcaine OR lignocaine) AND ("airway complications" OR cough OR coughing OR pharyngitis OR extubation OR laryngospasm OR "laryngeal spasm" OR laryngismus OR "tracheospasm" OR "tracheal spasm" OR "tracheal tube" OR laryngospasm OR Laryngospasms OR "Laryngeal Spasm" OR "Laryngeal spasms" OR "larynx spasm" OR "sore throat" OR pharyngalgia OR hoarseness OR "airway management")

Appendix B—The GRADE assessment

Intracuff alkalinized lidocaine for the Prevention of postoperative airway complications in adults

Patient or population: Surgical patients

Settings: Perioperative setting

Intervention: Intracuff alkalinized lidocaine

Comparison: placebo

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Control	Intracuff alkalinized lidocaine				
Incidence of cough after extubation	Study population		RR 0.38 (0.23 to 0.63)	629 (7 studies)	⊕ ⊕ ⊕ ⊕ high	
	577 per 1000	219 per 1000 (133 to 363)				
	Moderate					
	700 per 1000	266 per 1000 (161 to 441)				
Incidence of cough after extubation - Lubricated	Study population		RR 0.3 (0.13 to 0.68)	279 (5 studies)	⊕ ⊕ ⊕ ⊕ high	
	815 per 1000	245 per 1000 (106 to 554)				
	Moderate					

	800 per 1000	240 per 1000 (104 to 544)		
Incidence of cough after extubation - Non-lubricated	Study population		RR 0.53 350 (0.37 to 0.75) (2 studies)	⊕ ⊕ ⊕ ⊕ high
	435 per 1000	231 per 1000 (161 to 326)		
	Moderate			
	435 per 1000	231 per 1000 (161 to 326)		
Incidence of postoperative sore throat at 24 hour	Study population		RR 0.19 290 (0.09 to 0.41) (4 studies)	⊕ ⊕ ⊕ ⊖ moderate ¹
	238 per 1000	45 per 1000 (21 to 97)		
	Moderate			
	260 per 1000	49 per 1000 (23 to 107)		
Incidence of postoperative hoarseness	Study population		RR 0.38 370 (0.21 to 0.69) (5 studies)	⊕ ⊕ ⊕ ⊕ high
	653 per 1000	248 per 1000 (137 to 450)		
	Moderate			
	750 per 1000	285 per 1000 (157 to 517)		
VAS of postoperative sore throat at 24 hour		The mean vas of postoperative sore throat at 24 hour in the intervention groups was 14.86 lower (15.75 to 13.98 lower)	476 (5 studies)	⊕ ⊕ ⊕ ⊖ moderate ²

VAS of postoperative sore throat at 1 hour	The mean vas of postoperative sore throat at 1 hour in the intervention groups was 18.3 lower (22.79 to 13.82 lower)	476 (5 studies)	⊕ ⊕ ⊕ ⊖ moderate ²
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*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; **RR:** Risk ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

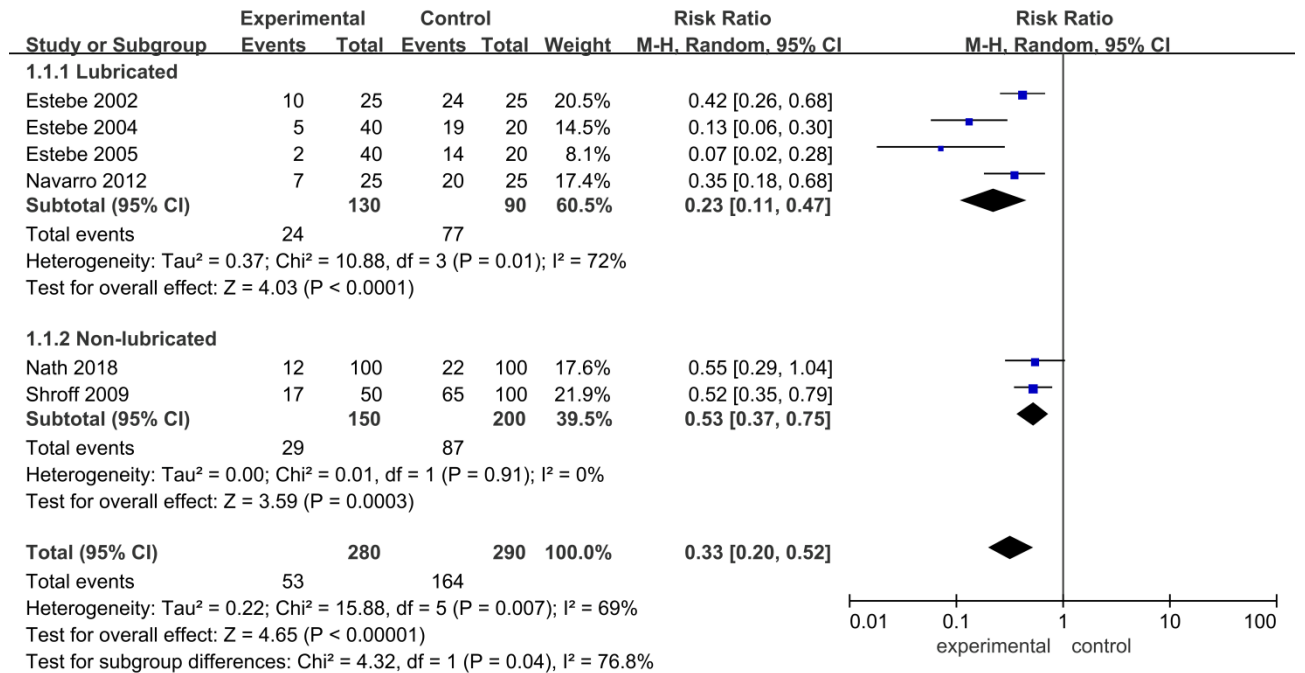
Very low quality: We are very uncertain about the estimate.

¹ detection bias

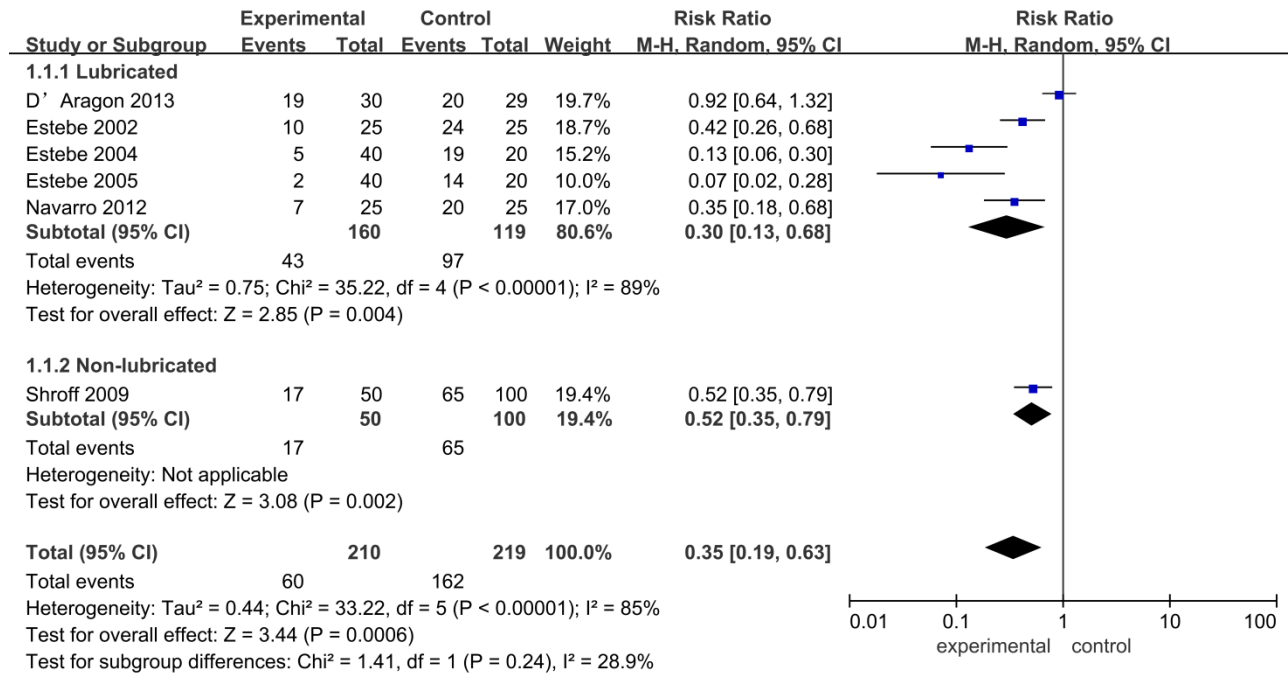
² performance bias

Appendix C—sensitivity analysis

Sensitivity analysis on incidence of post-extubation cough: exclude RCTs with subjects were only females

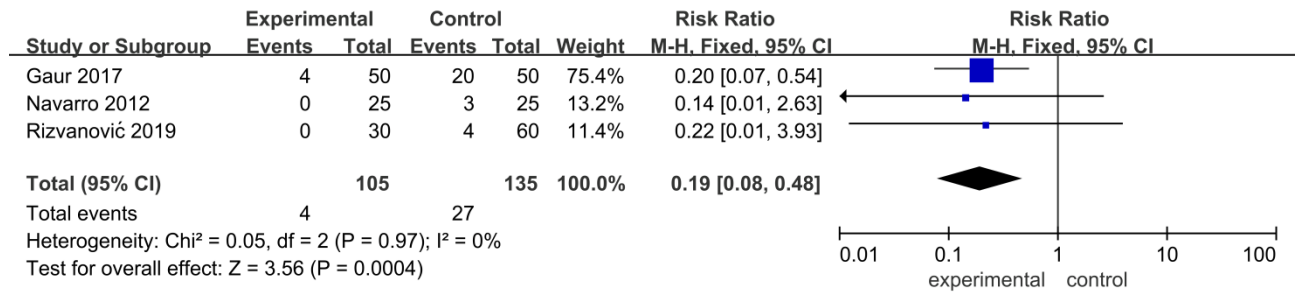


Sensitivity analysis on incidence of post-extubation cough: exclude RCTs with cuff prefilling

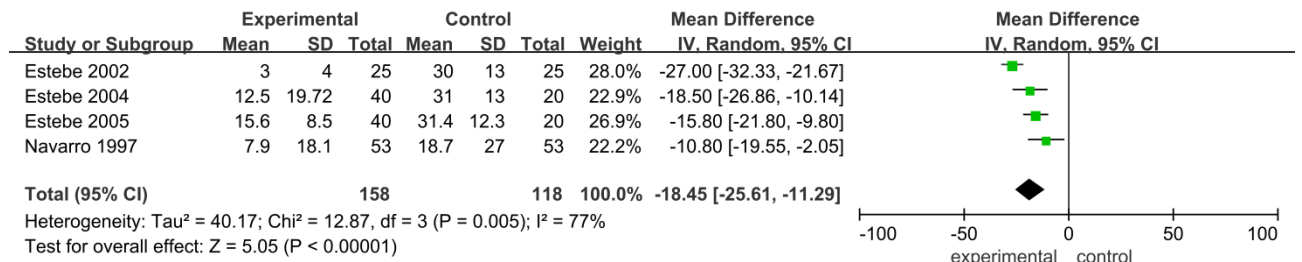


Sensitivity analysis on incidence of postoperative sore throat at 24h: exclude RCTs with a high risk of

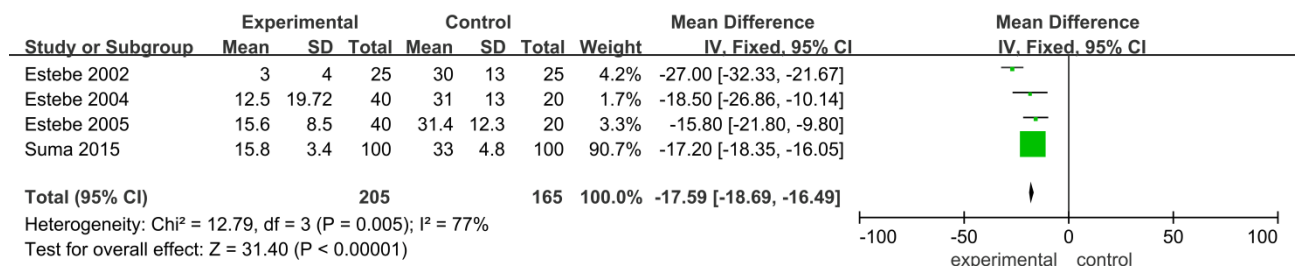
bias



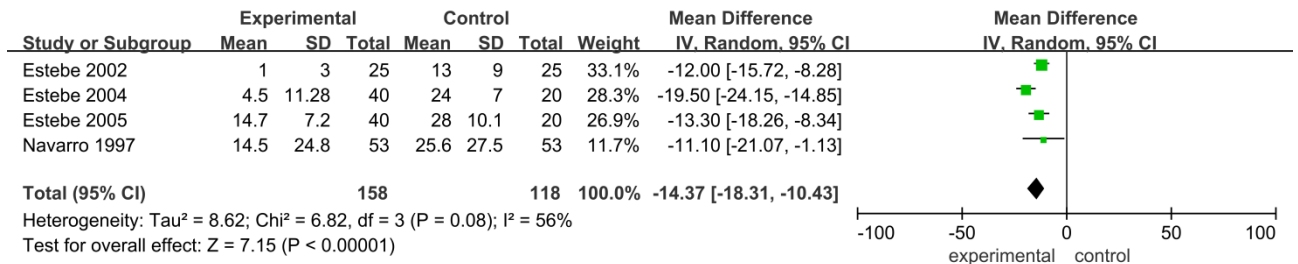
Sensitivity analysis on VAS of postoperative sore throat at 1h: exclude RCTs with a high risk of bias



Sensitivity analysis on VAS of postoperative sore throat at 1h: exclude RCTs with cuff prefilling



Sensitivity analysis on VAS of postoperative sore throat at 24h: exclude RCTs with a high risk of bias



Sensitivity analysis on VAS of postoperative sore throat at 24h: exclude RCTs with cuff prefilling

