

00146 Techniques to Prevent Cough at Tracheal Extubation During Emergence From General Anaesthesia: A Meta-analysis

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Aims: Severe coughing at extubation increases post-operative morbidity. Several techniques to prevent cough at or immediately after tracheal extubation have been described. The aim of this meta-analysis is to establish an evidence basis for their rational use.

Methodology: Electronic databases (1966-2015) were systematically searched for prospective randomized controlled trials that reported the incidence of cough at extubation. The quality of the studies was assessed using the Jadad methodology. Six techniques to prevent cough were analyzed using the Mantel-Haenszel fixed-effects model. The odds ratio (OR) and number needed to treat (NNT) were used as the summary efficacy measures.

Result: Of 1114 articles screened, 22 studies involving a total of 1007 patients were included in the final analysis. Although significant heterogeneity of effect was observed when all studies were analyzed together, there was homogeneity within each technique. This reflected significant effect-size differences between treatment groups. The largest effectsizes were seen with ETT cuff inflation with alkalinized lidocaine (pooled OR 0.053; 95% CI 0.013-0.216; NNT 1.78) and topical 4% lidocaine (pooled OR 0.102; 95% CI 0.040-0.261; NNT 2.32).

Conclusion: The incidence of cough at extubation of the trachea can be reduced. The overall effect size of the strategies studied was useful (pooled OR 0.185; 95% CI; NNT 2.65). No single technique prevented cough in all patients but alkalinized lidocaine cuff inflation and topical 4% lidocaine were most effective.