

# P8

## AIRWAY TOPICALISATION IN PAEDIATRICS (ATIP): PRELIMINARY RESULTS OF AN INTERNATIONAL CROSS-SECTIONAL STUDY OF PRACTICE IN PAEDIATRIC ANAESTHESIA

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### Introduction

There is no national or international consensus nor guideline on recommended dosing of lidocaine for airway topicalisation in children. Doses quoted in the literature vary substantially (1-10mg.kg<sup>-1</sup>) (1–3). We conducted an international survey looking at current dosing of lidocaine for airway topicalisation in paediatric anaesthesia.

### Methods

This was a cross-sectional study consisting of 11-20 questions across 3 domains. It was created in SurveyMonkey and pre-tested 47 times by 16 individuals. Responses were collected over 14 weeks from 04.10.2022-10.01.2023. It was officially supported/endorsed by the APA, DAS, SPANZA, CPAS, and SPA following review by their respective scientific committees.

A link was emailed to members of the aforementioned organisations and circulated by 14 additional collaborating organisations; it was also shared at conferences, directly by the authors, and via social media (for a 6-day period only). A denominator was deemed uncalculatable due to the specific nature of the topic and target audience. Responses were tracked using unique collectors.

### Results

1638 responses were achieved. After exclusions, 1552 responses from 70 countries across 6 continents were analysed. 1256 of 1552 (81%) responses were from consultants or those with an equivalent level of experience. 59% (878/1488) worked in a tertiary centre with 28% (431), 24% (358), and 48% (724) performing an estimated 0-50, 50-150, and >150 paediatric intubations per year respectively.

67% (1005/1504) used topical lidocaine during microlaryngoscopy/bronchoscopy, awake tracheal intubation and flexible endoscopic airway examinations in children. In this group, 23% (196/848) and 17% (145/848) reported normal use of 4.0mg.kg<sup>-1</sup> and 5.0mg.kg<sup>-1</sup> respectively, with a maximum dose

of 5.0mg.kg-1 in 27% (229/848) and maximum doses exceeding 5mg.kg-1 (range 6.0-15.0mg.kg-1) in 27.3% (232/848).

60% (795/1261) respondents used total body weight to calculate their dosage with 4% (55/1261) using lean body weight. In terms of maximum concentration, 38% (476/1264) stated this would be 4% while 14% (175/1264) were happy using 10%.

## Discussion

4mg.kg-1 lidocaine for airway topicalisation was recommended as safe by Roberts et al in 2013 and the LID Study in 2021 used 5mg.kg-1 as standard (1,2). Our study indicates a large proportion of paediatric anaesthetists using doses of 4-5mg.kg-1 as part of their routine practice. This contradicts the results of Roberts et al who found the most commonly used dose was 3mg.kg-1, consistent with the BNFC maximum recommended dose (1,3). This may be due to trends towards higher dosing regimens in recent years or differences in international clinical practices.

There appears to be an international consensus in the use actual body weight for dosing calculations, which is contradictory to adult practice where use of lean body weight is advised (4). While consensus on safe practice in children would be welcomed, more research is required to provide a robust evidence base for any dosing recommendations.

## References

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