



# Greener ICU

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# Current Airway Management During Anaesthesia - The STARGATE Study

An overview of the International obServational sTudy on AiRWay manaGeMent in operAting room and non-operaTing room anaEsthesia (STARGATE study) that will collect information on peri-intubation adverse events and airway management procedures in adult patients undergoing general anaesthesia to receive surgery or other diagnostic/therapeutic procedures.

## Introduction

After two years from the publication of the largest prospective observational study on airway management in critical care, the INTUBE study (Russotto et al. 2021), the same team is launching a new project on airway management during anaesthesia and non-operating room procedures. The International obServational sTudy on AiRWay manaGeMent in operAting room and non-operaTing room anaEsthesia (STARGATE study) will collect information on peri-intubation adverse events and airway management procedures in adult patients undergoing general anaesthesia to receive surgery or other diagnostic/therapeutic procedures (e.g. endoscopy, radiologic or cath lab procedures).

The INTUBE Study collected data from almost 3000 intubations in critical care and highlighted the importance of physiology optimisation prior to intubation, given the high incidence of peri-intubation adverse events, mostly cardiovascular collapse, occurring in up to 43% of patients (Russotto et al. 2022). This study also audited the procedure of airway management in critical care, reporting, among other shortcomings, the underuse of capnography to confirm intubation in only 25% of patients (Russotto et al. 2021).

The National Audit Project 4, published in the U.K. in 2011, increased awareness of airway-related adverse events and boosted research on tools to overcome anatomical challenges along with methods to enhance

teamwork and nontechnical skills (Cook et al. 2011).

To date, different trials have been performed on every component of the intubation bundle, from apnoeic oxygenation using high-flow nasal cannula to video laryngoscopy use in different settings of anaesthesia. This amount of evidence has been summarised in several national and international guidelines.

Large international observational studies had the merit of taking a snapshot of real-life practice outside the controlled setting of randomised trials. For different diseases or interventions, they reported heterogeneity of practice across different geographical regions or poor application of current standards of care.

Examples of this are the underrecognition of Acute Respiratory Distress Syndrome (ARDS) and the poor application of the best ventilation strategies, as pointed out by the LUNG-Safe study, or the poor use of protocolised interventions in airway management and the importance of haemodynamics as pointed out by the INTUBE Study (Bellani et al. 2016; Russotto et al. 2021).

Prospective international audits on airway management during anaesthesia are currently lacking. Moreover, airway management in anaesthesia has been traditionally defined as potentially anatomically difficult in contrast to airway management of critically ill patients, whose physiology alterations, such as shock or respiratory

failure, add complexity (physiologically difficult airways) and increased risk of peri-intubation adverse events.

With increased scheduled procedures involving older and frail patients, the incidence of peri-intubation hypotension and desaturation may be of clinical relevance. Moreover, despite the availability of guidelines, we expect a significant heterogeneity

of practice across different geographical areas as the result of different availability of human and economic resources and traditional approaches to airway management in different centres.

We hope that STARGATE study will provide useful data to further increase the safety of airway management in the anaesthesia setting.

For more information about the STARGATE study and if you want to participate as a centre, please visit the study website: [www.stargatestudy.com](http://www.stargatestudy.com)

### Conflict of Interest

None. ■

## References

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