



# Thinking critically about the quality of airway management is a step forward in routine clinical practice

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In recent years we have witnessed significant technological and protocol advances in clinical airway management. The correct conceptualization of the difficult airway has led to the development of widely accepted definitions of the difficult airway, and numerous guidelines and procedures tailored to specific at-risk patient populations. The latest technological innovations in the field of airway management, such as mobile applications for preoperative airway assessment (1), fourth-generation video supraglottic devices (2), and other airway devices, make the concept of difficult airway accessible to a wider clinical professional population, not only as a theoretical understanding of the problem but also as a practical solution for clinical airway management.

Since its establishment in 2011, the Croatian Society of Difficult Airway Management of the Croatian Medical Association has been striving to expand the concept of difficult airway beyond the narrow circle of interests of anaesthesiologists to other clinical branches of medicine, as well as to all healthcare professionals who encounter airway management issues. In a such interdisciplinary environment, the 5<sup>th</sup> Croatian Congress of Airway Management with International Participation, “The Quality of Airway Management”, was held on 28<sup>th</sup> February and 1<sup>st</sup> March 2025 at the Dubrovnik Hotel in Zagreb, Croatia, organized by the Croatian Society of Difficult Airway Management of the Croatian Medical Association and endorsed by the University Department of Anaesthesiology, Resuscitation and Intensive Care Medicine and the Department of Quality of the Sveti Duh University Hospital and the Department of Anaesthesiology, Resuscitation, Intensive Care and Pain Therapy of the Faculty of Medicine Osijek, Josip Juraj Strossmayer University in Osijek, and the European Airway Management Society (Figure 1, Figure 2, Figure 3). It is our honour and pleasure to present this double issue of *Periodicum Biologorum* involving critical reviews and scientific papers of the participants on the quality of airway management in accordance with the theme of the congress. Airway management is primarily a technical skill, but it is unquestionable that the method, and especially the quality method of airway management, makes a difference that improves routine clinical practice in terms of patient safety. Therefore, we believe that this double issue will find interest among a wide population of readers.

Targeted guidelines from major national and international professional societies on airway management facilitate a critical review of the state of scientific evidence and guide not only current clinical practice but also point to gaps in knowledge that we must fill in the future (3). As academic material, they are globally accessible to everyone. How-



**Figure 1.** The 5<sup>th</sup> Croatian Congress of Airway Management with International Participation, “The Quality of Airway Management”, held on 28<sup>th</sup> February and 1<sup>st</sup> March 2025 at the Dubrovnik Hotel in Zagreb, Croatia, organized by the Croatian Society of Difficult Airway Management of the Croatian Medical Association and endorsed by the University Department of Anaesthesiology, Resuscitation and Intensive Care Medicine and the Department of Quality of the Sveti Duh University Hospital and the Department of Anaesthesiology, Resuscitation, Intensive Care and Pain Therapy of the Faculty of Medicine Osijek, Josip Juraj Strossmayer University in Osijek, and the European Airway Management Society

ever, it remains open whether, conditionally speaking, smaller national professional societies must and can write their own guidelines when in the global world there is still a need to adapt these existing guidelines at the level of each local institution because it is impossible to ensure equal conditions and practice at the city level, let alone the state level.

We believe that specific clinical populations, especially children, pregnant women and obese patients, will always remain traditional topics of interest in the field of

airway management that can be updated with new knowledge. Although experience in airway management in children is significantly more difficult to achieve, scientific evidence is collected more slowly, so the traditionally more conservative approach is more emphasized, the need for teamwork and specific protocolization in children is increasingly emphasized based on new approaches in adults (4). Similarly, in pregnant women, in whom knowledge of airway physiology has not changed significantly (5), traditional methods of oxygen therapy are re-



**Figure 2.** The participants of the 5<sup>th</sup> Croatian Congress of Airway Management with International Participation, 28<sup>th</sup> February and 1<sup>st</sup> March 2025, the Dubrovnik Hotel in Zagreb, Croatia



**Figure 3.** Airway workshops as the main educational tool to improve quality of individuals' manual skills in airway management at the 5<sup>th</sup> Croatian Congress of Airway Management with International Participation, 28<sup>th</sup> February and 1<sup>st</sup> March 2025, the Dubrovnik Hotel in Zagreb, Croatia

placing new techniques with high-flow nasal oxygenation (6). The global obesity epidemic, also expressed in Croatia, is reflected in the need for more frequent dealing with the management of a difficult airway in obese patients, whereby it is necessary to make an adequate preoperative assessment and preparation as a routine to achieve the targeted quality of airway management (7).

Extubation is not only the logical final phase of airway management, but also the phase in which maximum focus should be maintained in order to be able to conclude airway management in a quality manner without additional complications and the need for prolonged treatment. In this sense, the authors presented critical reviews of the extubation process in general (8) and specifically in cervical spine injuries (9) and in pregnant women (10). Reintubation is a failure of extubation, but also an opportunity for a thorough analysis of the factors that led to the failure and targeted improvement in the next attempt (11).

Although there are no universally accepted quality indicators for measuring the quality of airway management, we are pleased that the authors adopted some outcome indicators and presented their own research. Videolaryngoscopy has led to a revolution in vocal cord visualization, which is a logical prerequisite for the next step during intubation, i.e. directing the endotracheal tube between the vocal cords. However, while a retrospective study conducted in adult patients with obstructive sleep apnoea syndrome confirmed the hypothesis that vocal cord visualization is better with videolaryngoscopy compared to direct laryngoscopy (12), the other authors did not prove better vocal cord visualization in children (13). We also highlight the work in which the authors studied voice quality after intubation in three different surgical populations and came to the result that shows that even expert anaesthesiologists should also pay more attention to intubation because all three surgical populations had a significant loss of vocal function immediately after surgery (14).

We hope that this thematic issue of *Periodicum Biologorum* will remain not only as a permanent record of a

Congress event, but also as a permanent incentive for quality and critical reflection on airway management. The desired difference in the quality of patients' airway care can only be ensured by improving safety, efficacy, and clinical experience of airway management.

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