

16th April 2025

Dear Dr Henderson,

Re: Regulation 28: Report to Prevent Future Deaths in the matter of Mrs Pamela Anne Marking

Thank you for sending us a copy of your report regarding the sad death of Mrs Marking. We have jointly reviewed the information available to us in the report via our [Safe Anaesthesia Liaison Group](#) (SALG) in conjunction with the Difficult Airway Society. SALG is a collaborative project between the Association of Anaesthetists, NHS England's Patient Safety team and the Royal College of Anaesthetists. One of its core objectives is to analyse anaesthesia-related serious incidents and to share the learning with the specialty across the UK.

We welcome the opportunity to address the concerns raised relating to anaesthesia and the second episode of clinical care, numbered 6-8 in your prevention of future deaths report.

It is worth stating from the outset that the topic of rapid sequence induction (RSI) is controversial. By its emergency nature it is difficult to study scientifically and robust evidence supporting or refuting many of its components is simply lacking. Given the challenges of designing studies to provide stronger evidence for or against its use, it is unlikely that fully evidenced guidelines could be produced. Best clinical practice relies in addition to available evidence on careful risk assessment and risk mitigation. In cases where there is high risk of aspiration the potential benefits of RSI increase and thus its use is more rational.

You highlighted your concern regarding the "lack of 'Updated' National Guidelines for Rapid Sequence Induction (RSI) of Anaesthesia for emergency surgery" and noted that you had heard evidence that "the 'traditional' use of consecutive syringes of induction agent and muscle relaxant was obsolete." Total intravenous anaesthesia (TIVA) is now used for approximately one quarter of all UK general anaesthetics¹ and whilst the use of TIVA for rapid sequence induction (RSI) has been described², surveys of practice suggest the vast majority of RSI involve a manual bolus, for induction. Demonstrating competence in RSI is a basic anaesthetic skill and forms part of the core competencies that all anaesthetists are taught in their first months of training and which form part of the Initial Assessment of Competency³. The Project for the universal management of airways (PUMA) provides recent guidance on the key components of an RSI⁴. The Difficult Airway Society are currently in the process of updating their 2015 guidelines for management of unanticipated difficult intubation in adults⁵, including the section on RSI underlining the key principles of the technique.

You also highlighted your concern regarding the "lack of 'Updated' National Guidelines to support the use of TIVA for RSI". The Association of Anaesthetists have published guidelines on the use of TIVA, which includes a section on the use of TIVA for RSI². These guidelines are currently in the process of being updated. It is worth noting that the 7th National Audit Project (NAP7)⁶ found that high-dose or rapidly administered propofol, particularly in combination with remifentanyl, used to induce anaesthesia in higher risk patients, was associated with profound hypotension or cardiac arrest and thus should be avoided in frail patients.

You mentioned that "approximately 50% of all anaesthetic related deaths are due to aspiration (NAP 4)". We would just like to clarify that the 4th National Audit Project (NAP4)⁷ found that over

50% of airway-related anaesthesia deaths were due to aspiration. More up to date data from NAP7, which studied perioperative cardiac arrest, indicate that aspiration was a notably less prominent cause of such events, but that when these cases did occur it was usually during anaesthesia for patients with an acute abdominal pathology⁸.

Your report also raised a concern regarding the “lack of updated guidelines for use of cricoid pressure and other measures to protect the airway during an RSI anaesthetic”. Like other elements of RSI, the use of cricoid force remains a controversial topic, without robust evidence to either support or refute its value⁹. The NAP4 report⁷ recommended “on balance, rapid sequence induction should continue to be taught as a standard technique for protection of the airway. Further focused research might usefully be performed to explore its efficacy, limitations and also explore the consequences of its omission.” It also suggested “to maximise the likelihood of good quality cricoid force being applied, those who perform cricoid force should be trained in its methodology, should practise at regular intervals and should consider the use of simple methods of simulation.”

More recently the NAP7 report⁸ stated “The current data act as a reminder that, particularly in the setting of the acute abdomen, harm from pulmonary aspiration remains a significant risk and all the elements of an RSI that might mitigate the risk of aspiration are worthy of consideration. It has been argued that cricoid force, when taught and applied correctly, is a low-risk procedure, unlikely to cause harm and which can simply be removed if it is deemed to be interfering with intubation”. It is also our opinion that, where there is a high risk of aspiration, the use of cricoid force should be considered if it is more likely to do good than harm, especially as it can be easily removed if difficulty is encountered, and that this will form part of the risk assessment and airway management strategy.

The most important step to reduce the risks associated with RSI, as recommended by NAP4, is to undertake an individualised risk assessment and act on it. The NAP4 report⁷ states “All patients should have their risk of aspiration assessed and recorded before anaesthesia. The airway management strategy should be consistent with the identified risk of aspiration.” Furthermore, NAP7 report⁸ recommends “Anaesthetists should treat cases of acute abdomen as high risk for aspiration, assess the extent of that risk and plan airway management accordingly. Each airway manager should decide which elements of RSI they wish to use and be prepared to justify their use or omission.” We reinforce our support for these statements and will share the learning from Mrs Marking’s death with our members. As part of this we will publish a best practice statement on RSI. SALG publishes regular [Patient Safety Updates](#), which are distributed to all members of the Association of Anaesthetists and Royal College of Anaesthetists.

We would be happy to respond to any questions that you might have.

Yours Sincerely



Dr Claire Shannon
President
Royal College of Anaesthetists



Dr Tim Meek
President
Association of Anaesthetists



Dr Alistair McNarry
President
Difficult Airway Society

References

1. Royal College of Anaesthetists, 7th National Audit Project, Chapter 11, 2023 (<https://www.rcoa.ac.uk/research/research-projects/national-audit-projects-naps/nap7-report>)
2. Nimmo, A. F., Absalom, A., Bagshaw, O., Biswas, A., Cook, T., Costello, A., ... & Wiles, M. D. (2018). Guidelines for the safe practice of total intravenous anaesthesia (tiva). *Anaesthesia*, 74(2), 211-224. <https://doi.org/10.1111/anae.14428>
3. Royal College of Anaesthetists, 2021 Anaesthesia Curriculum Assessment Guidance, Entrustable Professional Activities: Initial Assessment of Competence 2022 (<https://rcoa.ac.uk/documents/2021-curriculum-assessment-guidance/entrustable-professional-activities-iac-iacoa>)
4. Project for the Universal Management of Airways (PUMA), Preview content: Universal Guidelines for Rapid Sequence Intubation, 2022 <https://www.universallairway.org/rsi>
5. Frerk C, Mitchell VS, McNarry AF, Mendonca C, Bhagrath R, Patel A, O'Sullivan EP, Woodall NM, Ahmad I; Difficult Airway Society intubation guidelines working group. Difficult Airway Society 2015 guidelines for management of unanticipated difficult intubation in adults. *Br J Anaesth*. 2015 Dec;115(6):827-48. doi: 10.1093/bja/aev371
6. Royal College of Anaesthetists, 7th National Audit Project, Chapter 26, 2023 (<https://www.rcoa.ac.uk/research/research-projects/national-audit-projects-naps/nap7-report>)
7. Cook TM, Woodall N, Frerk C; Fourth National Audit Project. Major complications of airway management in the UK: results of the Fourth National Audit Project of the Royal College of Anaesthetists and the Difficult Airway Society. Part 1: anaesthesia. *Br J Anaesth*. 2011 May;106(5):617-31. doi: 10.1093/bja/aer058. Epub 2011 Mar 29. PMID: 21447488. (<https://www.rcoa.ac.uk/research/research-projects/national-audit-projects-naps/nap4-major-complications-airway-management>)
8. Royal College of Anaesthetists, 7th National Audit Project, Chapter 21, 2023 (<https://www.rcoa.ac.uk/research/research-projects/national-audit-projects-naps/nap7-report>)
9. Algie CM, Mahar RK, Tan HB, Wilson G, Mahar PD, Wasiak J. Effectiveness and risks of cricoid pressure during rapid sequence induction for endotracheal intubation. *Cochrane Database Syst Rev*. 2015 Nov 18;2015(11):CD011656. doi: 10.1002/14651858.CD011656.pub2.