

Response to letters arising from publication of the Academy of Medicine, Singapore clinical guideline on the use of sedation by non-anaesthesiologists during gastrointestinal endoscopy in the hospital setting

Dear Editor,

The Academy of Medicine, Singapore (AMS) guideline on the use of sedation by non-anaesthesiologists during gastrointestinal endoscopy in the hospital setting and an accompanying editorial were published in the January 2022 issue of the *Annals*.^{1,2} An evidence-based approach was used with reference made to relevant published literature. The workgroup members were Fellows of AMS comprising gastrointestinal surgeons, gastroenterologists and anaesthesiologists from the public and private sectors. The final recommendations were achieved after discussion, based on consensus of all workgroup members. These recommendations are confined to doctors in hospital-based practice. They provide a general framework for clinical practice, but do not dictate how all patients are to be treated, which could vary depending on different clinical scenarios. How well such recommendations translate to clinical practice depends on various factors including the type and location of practice, reimbursement model, and expertise.

The letters in response to the guideline focused on the issue of non-anesthesiologist-administered propofol (NAAP), despite the fact that only 3 of the 16 recommendations were related to NAAP.³⁻⁵ This highlights the controversy associated with NAAP in clinical practice. The guideline does not promote the liberal use of propofol by non-anaesthesiologists. NAAP is applicable only in the context of hospital-based practice, and is currently performed by emergency medicine physicians, physicians involved in intensive care, and by a group of gastrointestinal endoscopists in private practice who had previously undergone a one-off structured training in NAAP conducted in an academic centre in the public healthcare sector. Although the letters highlighted the risks associated with NAAP, other drugs such as benzodiazepines and opiates can also result in cardiopulmonary compromise. The guideline discussed the use of benzodiazepines, opiates and propofol for sedation, and emphasised the importance of sedation training and adequate monitoring of sedated patients. The inclusion of propofol into a regime of sedation is well supported by evidence from practices that have extended the use of propofol beyond its

indication as an anaesthetic agent. Existing data that were reviewed suggest that there is no overt increased risk when propofol is administered by well-trained individuals.

The letter by Ong et al.³ represented the perspectives of programme directors helming the gastroenterology senior residency programmes at the 3 healthcare clusters in Singapore. The efficacy, safety and cost-effectiveness of NAAP was emphasised. They highlighted that residents are already being trained in advanced airway management, and in the use of propofol during internal medicine residency in the intensive care setting. There is structured training for non-propofol-based sedation during gastrointestinal endoscopy training, but this does not include NAAP. They expressed hope of revising the curriculum to include NAAP training, such that future specialists are all formally trained to provide procedural sedation across the sedation continuum.³ Such a system of formal training and credentialing is important for the long-term sustainability of NAAP, which in turn will have an impact on the efficacy, safety and cost of providing endoscopic sedation. Other relevant stakeholders such as AMS and various healthcare institutions are important when NAAP training is being considered outside of residency training.

The letter by Chua et al.⁴ discussed drug pharmacology, the various professional guidelines published outside Singapore, and recommendations concerning NAAP training in Singapore.⁴ The points raised about safety concerns, and the need for formal structured training organised by relevant stakeholders are well taken, and have already been included in the guideline. The letter amplifies the key issues that must be addressed before NAAP can be implemented on a larger scale.

The concerns raised by Tan's letter⁵ were addressed in the guideline but will be further clarified. AMS is a professional society representing specialists in Singapore, and similar to the American Society of Gastrointestinal Endoscopy and European Society of Gastrointestinal Endoscopy, sees as part of its mission to formulate evidence-based guidelines to improve the quality of patient care. AMS has embarked on a journey to create guidelines using the Grading of Recommendations, Assessment, Development and Evaluations (GRADE)

methodology, unlike previously published clinical practice guidelines in Singapore, and the scientific rigour of the content is self-evident. AMS commissioned a non-partisan professional workgroup comprising gastrointestinal surgeons, gastroenterologists and anaesthesiologists to address the issue of sedation for gastrointestinal endoscopy in hospital-based practice, which is different from standalone clinics and centres where there is a relative lack of infrastructural and specialist support.

In addition to critically reviewing published literature on efficacy and safety of all drugs in general, and in particular for NAAP, it emphasised the role and importance of training for endoscopists who wish to administer sedation. There is a system of structured training for non-NAAP sedation during the process of specialist training. In the context of NAAP, a one-off structured training was conducted in the past for endoscopists in private practice but there is no ongoing formal training to train new practitioners. The guideline thus advocated such structured training in NAAP by relevant stakeholders for endoscopists who wish to offer this service. It is encouraging that there is interest in incorporating NAAP into senior residency training for gastrointestinal endoscopy.³

When GRADE methodology is applied to appraise the quality of evidence and grade the strength of recommendations for guideline formulation, interventions with high-quality evidence may not necessarily be given a strong recommendation, based on other considerations such as cost, resource limitation and generalisability of data. Conversely, when using GRADE methodology, interventions with low-quality evidence can also be given a strong recommendation because of other considerations, and this is the case in the guideline as well. The rationale for giving a weak recommendation

for NAAP despite the presence of high-quality evidence has been explained in the guideline.¹

The published recommendations are as balanced as possible, based on objective review of scientific evidence. Not all aspects of the recommendations may be immediately applicable as there could be differences in clinical expertise and practice, and barriers to implementation. The issues raised in the 3 letters are all valid concerns. How these issues impact the implementation of the guideline should be addressed in future studies.

REFERENCES

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