



Commonwealth Department of Health and Aged Care Anaesthetic gases questions

Desflurane questions

1. What do you see as the role of your college in reducing emissions from desflurane?

The primary aim of the college is “to serve our communities by leading high-quality care in anaesthesia, perioperative and pain medicine, optimising health and reducing the burden of pain”. Anaesthetists are the primary craft group using desflurane across Australia. It is therefore incumbent on ANZCA to support anaesthetists to reduce their use of this gas through education and training, provision of policy and guidance, and collaboration with other relevant stakeholders.

2. How can the medical colleges support the states, territories and private providers in their efforts to eliminate desflurane?

Support from the medical colleges and societies for public and private healthcare to phase out desflurane needs to be expressed explicitly. As the organisation responsible for training anaesthetists, ANZCA would be expected to take a lead role in this. Efforts by the RACP have also been extremely helpful by facilitating joint statements on healthcare and climate change.

Collaboration with organisations such as the Australian Society of Anaesthetists (ASA) further lends weight to recommendations from ANZCA, and gives voice to concerns around implementation which can be addressed early in order to expedite the change management process.

3. How can we address desflurane use in private hospitals?

- Advocacy through guidelines and position statements put forward by the colleges utilising the Triple Bottom Line.
- Instituting legislation and policy levers.
- Advocacy and leadership by larger private healthcare organisations as desflurane elimination represents a significant financial impact in addition to the environmental benefits.
- Consider an incremental phase-out approach such as advocating for cannister removal from all machines followed by storing of cannisters in theatre pharmacies.

4. Are there any further resources required to support the phase out of desflurane?

Guidance from climate scientists to continue supporting the phase-out of desflurane as a valid goal in mitigating healthcare carbon emissions would be helpful and impactful.

Guidance and support from the college in improving clinical confidence amongst anaesthetists changing their techniques as desflurane is phased out will also be instrumental.

5. What challenges or barriers do you anticipate, or have you already experienced to the phase out of desflurane?

- Negative feedback from anaesthetists regarding:
 - Perceived threat to clinical independence by restricting anaesthetic options.
 - Potential threat to patient safety by removing clinical exposure to use of desflurane during training.
 - Potential threat to patient safety by forcing experienced anaesthetists to change established anaesthetic techniques.
 - Lack of stakeholder engagement during de-listing efforts in WA and NSW.
 - Lack of stakeholder engagement when desflurane ordering was ceased by St John of God Healthcare.
- Perceived lower importance of phasing out desflurane following the Slingo & Slingo article and points presented therein regarding desflurane's Global Warming Potential (GWP).
- Perceived negligible impact of phasing out desflurane in comparison to other emissions reduction initiatives, such as supply chain accountability and nitrous oxide mitigation.
- Individuals' opinions (for example, directors of departments of anaesthesia) negatively influencing phase-out efforts.
- Lack of support from hospital executives in environmental mitigation programs.

6. What opportunities are there to support the phase out of desflurane?

- The recent move by private organisation St John of God Healthcare to cease ordering desflurane presents a valuable opportunity to influence other large private healthcare organisations to phase out use of desflurane with financial motivators facilitating environmental mitigation strategies.
- Codifying recommendations to significantly reduce and phase out the use of desflurane within the National Health and Climate Change Strategy provides a KPI for hospital executives to meet as a motivating factor.
- A data-driven approach has been effective in Western Australia and represents a useful way to align financial, environmental and patient outcomes in other jurisdictions.

Nitrous oxide questions

1. What do you see as the role of your college in reducing emissions from nitrous oxide?

Advocating for the systemic mitigation of nitrous oxide infrastructure leakage and venting of returned cylinders by suppliers.

Addressing inappropriate use in anaesthesia and perioperative care, and promoting alternate analgesic/anaesthetic strategies when appropriate with fewer emissions.

Nitrous oxide is used across multiple specialties – as such ANZCA will need to collaborate widely with other stakeholders in colleges such as RANZCOG, ACEM, ACRRM and others to develop effective mitigation strategies and guidance for clinicians.

2. Do you have experience switching from piped systems to cylinders?

Members of the ANZCA ESN Nitrous Oxide working group have experience in this and could advise on the transition.

3. How can the medical colleges support the states and territories, hospitals and private providers in their efforts to reduce emissions from nitrous oxide?

Medical colleges need to advocate for:

- The updating of Australian Standards to reflect the need for systematic and quantitative testing for nitrous oxide leaks in hospital infrastructure.
- Collaboration across disciplines – including nursing, midwifery and dentistry – to improve inappropriate/excessive use of nitrous oxide in diverse clinical settings both within and outside hospitals and health centres.
- Guidance and funding for healthcare facilities, where appropriate, to switch from piped to cylinder nitrous oxide.
- Funding and support for widespread implementation of nitrous oxide cracking technology to mitigate impacts of exhaled gases where nitrous oxide use cannot be avoided safely.
- Support implementation of safe and lower-carbon alternatives to nitrous oxide for analgesia in settings outside the operating theatre and delivery suite, such as the emergency department, burns unit and oncology settings. Alternatives may include (for example) methoxyflurane.

4. How can we better address unnecessary clinical alternatives to nitrous oxide?

Education of clinicians.

5. How can we better engage dentists and dental surgeons?

Dentists and dental surgeons need to be invited to these discussions, provided the same degree of background reference material, and invited to contribute in the same way that medical colleges have been. They are key stakeholders and adequate engagement regarding current use patterns, impacts of mitigation efforts and consideration of alternatives needs to be undertaken if effective change management is to take place.

6. What further resources are required to support reducing emissions from nitrous oxide?

- The updating of Australian Standards to reflect the need for systematic and quantitative testing for nitrous oxide leaks in hospital infrastructure.
- Facilitation and Board-level support for collaboration across disciplines – including nursing, midwifery and dentistry – to improve inappropriate/excessive

use of nitrous oxide in diverse clinical settings both within and outside hospitals and health centres.

- Guidance and funding for healthcare facilities, where appropriate, to switch from piped to cylinder nitrous oxide.
- Funding and support for widespread implementation of nitrous oxide cracking technology to mitigate impacts of exhaled gases where nitrous oxide use cannot be avoided safely.
- Support implementation of safe and lower-carbon alternatives to nitrous oxide for analgesia in settings outside the operating theatre and delivery suite, such as the emergency department, burns unit and oncology settings. Alternatives may include (for example) methoxyflurane.

7. What challenges or barriers do you anticipate, or have you already experienced to reducing emissions from nitrous oxide?

- Lack of knowledge or interest from hospital executive due to the relatively small financial impact compared to other anaesthetic agents.
- Negative media representations around motivation for advocating for nitrous oxide mitigation particularly relating to women's health and labour analgesia.
- Lack of motivators for hospital engineering to engage with sustainability advocates in identifying and mitigating nitrous oxide leaks.
- Less familiarity with some clinicians in using cylinder-delivered nitrous oxide in the operating theatre or labour ward setting.
- Lack of consistency across jurisdictions in maintenance recommendations for hospital pipeline infrastructure.

8. What opportunities are there to support reducing emissions from nitrous oxide?

- Taking guidance from the nationwide NHS Nitrous Oxide Mitigation Project, precedent exists for implementing more systematic leak mitigation across the healthcare system.
- Nationwide transparent reporting of both nitrous oxide purchase and administration data (at a healthcare facility level) to enable benchmarking and exploration of unexpected variations.
- Codifying recommendations to significantly reduce emissions associated with nitrous oxide within the National Health and Climate Change Strategy provides a KPI for hospital executives to meet as a motivating factor.
- Collaboration between key colleges (RANZCOG and ANZCA) and multidisciplinary involvement from nursing and midwifery representatives could represent an opportunity for improvement in the delivery of labour analgesia for Australian women with the benefit of mitigation of emissions associated with nitrous oxide.