



Primary survey: highlights from this issue

doi:10.1136/emered-2024-213888

Sarah Edwards , *Social Media Editor*

Welcome to February 2024's primary survey for the *EMJ*. I very much hope as we move into the second month of 2024, things can be as calm as possible in the world of emergency medicine (EM). Pain is one of the most common reasons that people present to the emergency department (ED). Therefore, it seems fitting this month's journal is covering topics from sedation and pain management through to toxicology and critical care.

The environmental impact of low-dose methoxyflurane versus nitrous oxide for analgesia. How green is the green whistle?

Martindale *et al* explore an important issue around the environmental impact of two commonly used drugs in EM. Nitrous oxide (N₂O) is a drug that has been used extensively in EM for many decades. Then recently in the last decade or so, there was a new drug on the scene; methoxyflurane (Pentrox). Within this paper, a life cycle impact assessment (LCIA) was undertaken for methoxyflurane versus N₂O. They found that methoxyflurane had a lower LCIA impact factor by 117.7 less CO₂e for the equivalent use of N₂O (Entonox) (nitrous oxide:oxygen, 50%:50%). Methoxyflurane has a climate change impact of 0.84kg CO₂e, N₂O is 98.89kg CO₂e, with 7mg of intravenous morphine sulphate being 0.01kg CO₂e. This paper suggests that switching to methoxyflurane in certain clinical circumstances could help the National Health Service reach its carbon emission reduction target.

Safety and efficacy of a nitrous oxide procedural sedation programme in a paediatric ED: a decade of outcomes

Croughan *et al* discuss their experience of using N₂O over a 10-year period in an Irish Paediatric Emergency Department. They conducted 831 procedural sedations over this time, with 358 (43.1%) involving N₂O and intranasal fentanyl (INF). Nurses managed the sedation in 728 (87.6%) of cases. Sedation was successful in 809 (97.4%) cases with the combination of



N₂O and INF creating a deeper sedation score. There were no reported serious adverse events regardless of any concentration of drug used. Vomiting did occur with higher doses of N₂O and INF, with 113 (13.6%) of cases. This was reported as independent to fasting status. Overall, this work suggests that the use of N₂O can provide effective paediatric procedural sedation. The utility of INF as an adjunct needs further exploration.

The use of methoxyflurane (Pentrox) in children is currently being explored within the UK context with such positive success in the adult population and a reduction on the environmental impact. It will be interesting to see if this works as effectively in the paediatric population.

Effect of intranasal sufentanil on acute post-traumatic pain in the ED: a randomised controlled trial

Our third paper on the topic of pain by Malinverni *et al* discussed the use of sufentanil on post-traumatic pain in the ED. This is a drug not used in the UK and sees this study coming from our Belgian colleagues. A single-centre, open-label, randomised controlled superiority trial was undertaken with randomisation with intranasal sufentanil or other oral/intravenous opioids oral/intravenous acetaminophen and non-steroidal anti-inflammatory drugs. The primary outcome was reduction in visual analogue score 15–20 min after randomisation. An intention-to-treat

analysis included 170 out of 205 patients screened for inclusion. The intranasal sufentanil group (83 patients) showed a significantly greater reduction in pain when compared with the oral/intravenous opioid group (87 patients) 15–20 min after randomisation (reduction in VAS score 3.0 (IQR 1.7–5.0) vs 1.5 (IQR 0.9–3.0); $p < 0.001$). This suggests that intranasal sufentanil was a more effective analgesic for patients with traumatic injuries.

Trip-killers: a concerning practice associated with psychedelic drug use

Yates and Melon talk about a poorly published area of research; around the use of drugs to stop a 'bad trip'. They report at least 8.4% of drug-related presentations to European EDs involve psychedelics. With psychedelic drugs, the intensity of the 'trip' can cause distress, agitation and even psychosis. There are multiple ways to stop a 'bad trip' with increasing attention of solutions being discussed on social media. These so-called 'trip-killers' are not available from standard drug advice services or even in the medical literature. Therefore, using Reddit, they wanted to explore what was available publicly on 'trip-killers' for recreational drugs. The most recommended drugs were benzodiazepines and antipsychotics. The dose ranges for these were significant in some cases, with 600mg of quetiapine recommended and 150mg of Trazadone. This work suggests that EM clinicians may need to ask patients about 'trip-killers' if psychedelic drug use is suspected.

Podcast

Finally, each month Professor Rick Body (Deputy Editor) and I release a podcast of some of the highlights of each month's journal. So, keep your ears peeled. The podcast is available anywhere you might usually download your podcasts. Alternatively, you can find the podcast on <https://emj.bmj.com>.

ORCID iD

Sarah Edwards <http://orcid.org/0000-0001-8966-5065>

