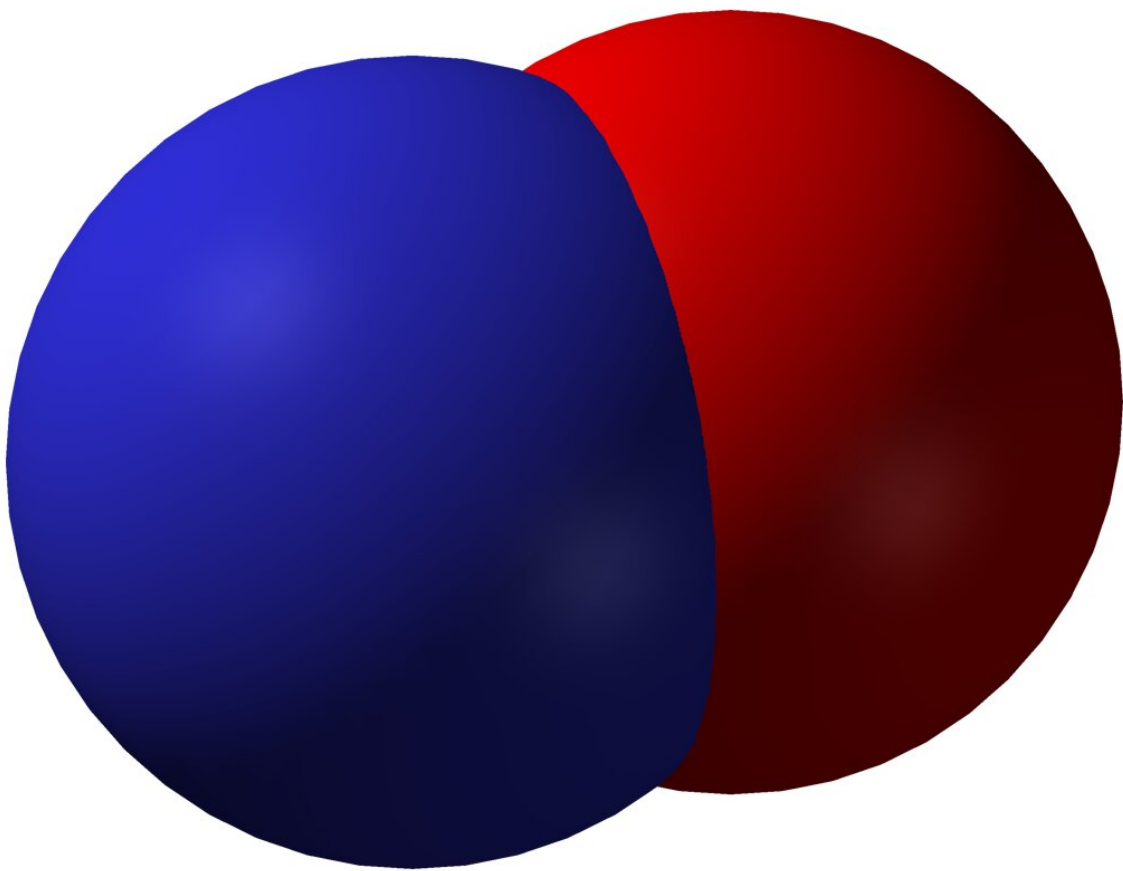


# Pain is no joke in labour, but withdrawing laughing gas has no ill effects

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Space-filling model of nitric oxide. Credit: Public Domain

Birthing women denied nitrous oxide ('laughing gas') to relieve labour pain during the COVID-19 pandemic have turned to opioids instead, without any adverse outcomes for mother or child, according to a new study by Australian clinicians.

The study, at Lyell McEwin Hospital in Adelaide, looked at the impact of withholding nitrous [oxide](#) (N<sub>2</sub>O), a decision adopted by numerous hospitals worldwide in the past two years due to fears of virus transmission from the aerosol-generating procedure.

Anaesthetist Professor Bernd Froessler, and colleagues from the University of Adelaide and University of South Australia compared patient notes for all 243 women birthing at Lyell McEwin over a seven week period in March/April 2020, half of whom did not have access to N<sub>2</sub>O.

They found that although [opioid use](#) "significantly increased" when N<sub>2</sub>O was withheld, there was no increase in epidural use and no change in labour duration, Caesarean section rates, birthing complications or newborn alertness.

Their findings have been published in the *Australian and New Zealand Journal of Obstetrics and Gynaecology*.

Nitrous oxide is used by more than 50 per cent of Australian women to relieve [pain](#) in labour, followed by epidurals (40 per cent) and opioids (12 per cent), according to the [Australian Institute of Health and Welfare](#).

However, its carbon footprint (representing [6 per cent of global gas emissions](#), with 1 per cent due to healthcare) has led to a debate in medical circles whether it should be replaced with other methods of pain relief.

Many obstetricians argue that effective pain relief in childbirth should be the priority, particularly given the low percentage of emissions, but the Australian and New Zealand College of Anaesthetists has advocated for a reduction in N<sub>2</sub>O use in a bid to improve environmental sustainability in anaesthesia.

"Obviously no-one wants to deprive labouring women of adequate and easy pain relief but given there are other analgesic options, including epidurals and opioids, perhaps these could be considered," says Prof Froessler.

UniSA statistician and researcher Dr. Lan Kelly says the study results should reassure [women](#) that pain relief other than nitrous oxide does not compromise their health or their baby's.

However, in a recent [Sydney Morning Herald](#) article, principal midwifery officer at the Australian College of Midwives, Kellie Wilton, said mothers should not be made to feel guilty about their pain relief choices and suggested hospitals could introduce nitrous oxide destruction systems to allow for its ongoing use.

When [nitrous oxide](#) destruction systems were introduced in [Swedish hospitals](#), the [carbon footprint](#) from the gas was halved.

**More information:** Bernd Froessler et al, The impact of withholding nitrous oxide in labour during the COVID -19 pandemic on maternal and neonatal outcomes, *Australian and New Zealand Journal of Obstetrics and Gynaecology* (2022). [DOI: 10.1111/ajo.13577](https://doi.org/10.1111/ajo.13577)

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