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3-6-2020

### Waste anesthetic gases cost UNMH money and contribute to our institutional carbon footprint

Joe J. Freeman

Karyn M. Nunez

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## Waste anesthetic gas drawdown at UNMH



PRESENTERS:  
**Joe Freeman DO**  
**Karyn Núñez MD**

### Background:

Anesthetic gases are potent greenhouse gases. We do about 21,000 anesthetic cases a year at UNMH, Cancer Center and OSIS combined.

### Goals:

- Decrease desflurane use specifically
- Decrease total anesthetic greenhouse gas emissions by 50%

Both to be measured in 2020, compared to 2018 data.

### How we will get there:

1. Choose sevoflurane and isoflurane for all routine anesthetics.
2. Practice low flow anesthesia by utilizing low fresh gas flows whenever clinically appropriate.
3. Ongoing education in the department including a recent Grand Rounds presented by the authors of this poster.

When achieved we will have decreased our greenhouse gas emissions by almost 700 tons of carbon equivalents ( equal to approximately 1,650,000 miles of driving).

Other Dept. of Anesthesia green initiatives include recycling disposable pulse oximetry probes and decreasing use of disposable venturi face masks. These are already saving thousands of dollars and reducing trash.

# Waste anesthetic gases cost UNMH money and contribute to our institutional carbon footprint.

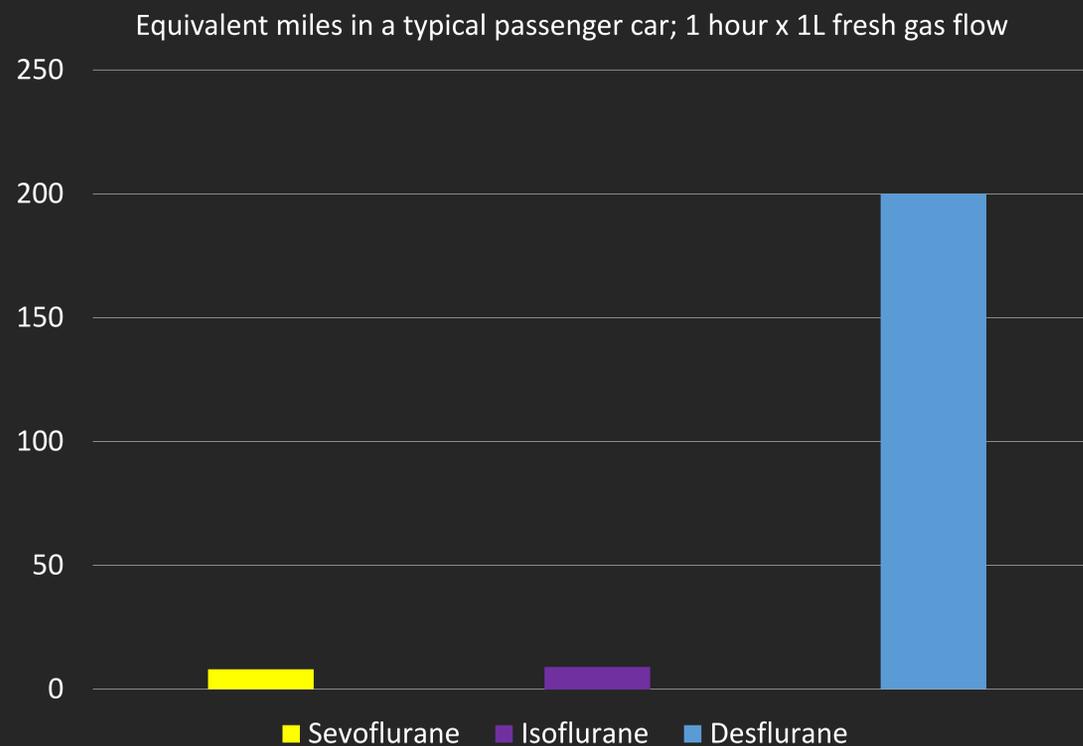
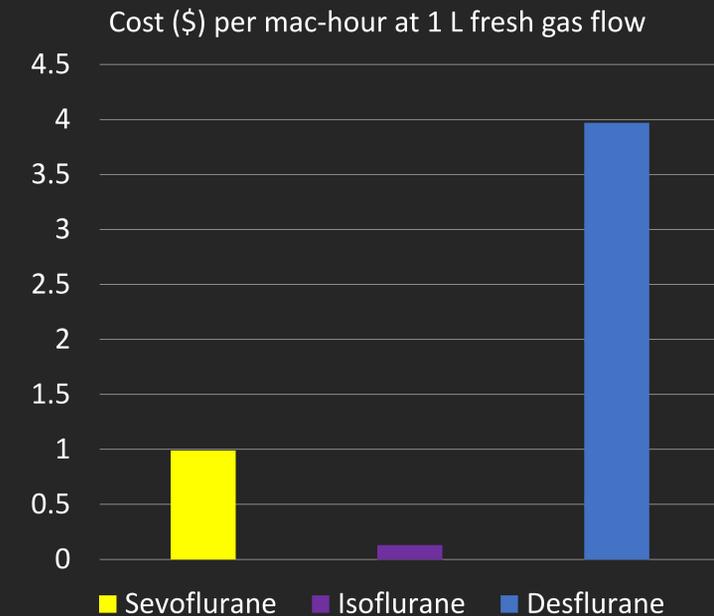


Table 1 from: <https://www.asahq.org/about-asa/governance-and-committees/asa-committees/committee-on-equipment-and-facilities/environmental-sustainability/greening-the-operating-room> Accessed 2/17/2020

1 MAC inhaled agent at various Fresh Gas Flows (FGF)	Atmospheric lifetime (years)	100-year Global Warming Potential (GWP) (per kg, in comparison with CO <sub>2</sub> where CO <sub>2</sub> = 1)	Ratio of CO <sub>2</sub> -equivalents produced	Equivalent auto miles driven per hour use of anesthetic
Sevoflurane 2% 2L FGF	1.1	130	1.0	8
Isoflurane 1.2% 2L FGF	3.2	510	2.2	18
Isoflurane 1.2% 1L FGF			1.1	9
Desflurane 6% 2L FGF	14	2,540	49.2	400
Desflurane 6% 1L FGF			24.6	200
60 % nitrous oxide alone at 1L fresh gas flow	114	298		61



Scan the QR code to go to Project Drawdown page for more info



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