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Desflurane Use at OHSU

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Keywords

Desflurane, anesthesia, inhaled anesthetics, gas anesthesia, environment, climate change, greenhouse gas, pollution, stewardship, obesity

Abstract

Desflurane, an inhaled anesthetic developed in the 1980's, has been under scrutiny in recent years for its environmental impact. Of note, desflurane demonstrates 20 times the GWP (Global Warming Potential) of sevoflurane, and desflurane alone is thought to be responsible for 80% of volatile gas anesthesia pollution, equaling 0.08% of global warming or 800,000 cars on the road.⁽¹⁾ In consideration of its profound climate impact, many hospital systems are opting to reduce or eliminate its usage, either through structural decisions as with the NHS in Scotland⁽²⁾ and England,⁽³⁾ or by reduction efforts such as the Inhaled Anesthesia Climate Initiative at Yale and the 42% to 0.07% reduction in use at Providence Oregon.⁽⁴⁾

This study works to explore the usage of desflurane at OHSU through the perspective of anesthesia providers. A total of 114 providers were surveyed between October and December of 2023, including attendings, residents, and CRNAs at both the Marquam Hill and South Waterfront campus. Of the respondents, 33.3% stated they use desflurane, 97.4% of whom use it less frequently than once a month. The most frequently cited reason for administering desflurane during an anesthesia case was for patients with severe obesity; 75.9% of the respondents who use desflurane stated this as a primary reason for use. Other reasons for desflurane administration included quick cases (33.3%), extreme circumstances or emergencies (13.0%), and teaching (7.4%). These responses span across specialties and experience levels, with more than six anesthesia specialties represented and practice lengths ranging from under two years to over 20 years. Additionally, 60.5% of providers who use desflurane currently are open to further reducing desflurane use within OHSU.

Sources

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