

# How hospitals can go green

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(HealthDay)—Hospital operating rooms produce thousands of tons of greenhouse gases each year, but changing the type of anesthesia used in surgery can help lower those emissions, researchers report.

For the study, investigators assessed the carbon footprint of operating rooms at three hospitals: Vancouver General Hospital in Canada; University of Minnesota Medical Center in the United States; and John Radcliffe Hospital in Oxford, England.

The annual carbon footprint of operating rooms in each [hospital](#) in this study ranged from about 3,200 metric tons of CO<sub>2</sub> equivalents (CO<sub>2</sub>e) to over 5,000 metric tons of CO<sub>2</sub>e. A metric ton is 204 pounds heavier than a ton.

Anesthetic gases accounted for 63 percent and 51 percent of all surgery-related emissions at Vancouver and Minnesota, respectively, but only for 4 percent of such emissions at Oxford. Other sources included energy use such as heating, air conditioning and ventilation.

Anesthetic gases accounted for about 2,000 metric tons of CO<sub>2</sub>e at each North American site, 10 times higher than from the U.K. hospital. The difference is largely due to greater use of the anesthetic gas desflurane in the two North American hospitals, the researchers said.

Changing from desflurane to cheaper, low-carbon alternatives could make a significant difference, according to the study published Dec. 7 in *The Lancet Planetary Health*.

"Not only is desflurane a primary contributor to global anesthetic gas emissions, it is also one of the most expensive anesthetic gases," study author Dr. Andrea MacNeill, from Vancouver General Hospital in Canada, said in a journal news release.

"One of the greatest barriers to widespread implementation of low-carbon practices is the lack of awareness regarding the environmental impacts of [anesthetic](#) choice," she added.

"Our study shows that it's possible to reduce the carbon footprint of surgery, which also reduces costs, without compromising patient care," MacNeill said.

The health sector has a large [carbon footprint](#). It produces 8 percent to 10 percent of all [greenhouse gas emissions](#) in the United States and 25 percent of all public sector emissions in the United Kingdom, according to the researchers.

**More information:** The World Health Organization explains how [climate change affects health](#).

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