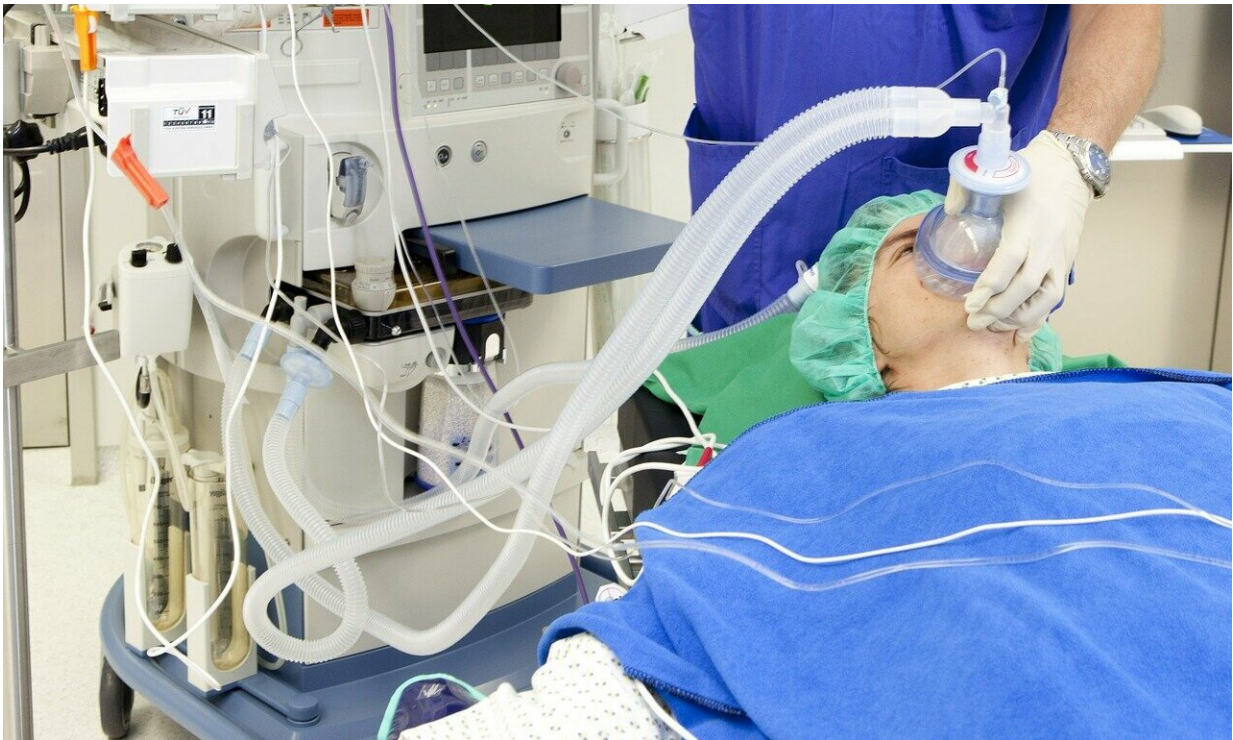


Over 1kg of plastic waste is produced per patient anaesthetised, Spanish study finds

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Over 1kg of plastic waste is generated per anesthesia procedure, an audit of surgical patients in a burns unit in Spain has revealed. Plastic wrappers are the most common item of waste. These results will be presented at Euroanaesthesia, the annual meeting of the European Society of Anaesthesiology.

It is estimated that hospitals contribute up to 1 percent of [solid waste](#) in developed countries, with 21 to 30 percent of this coming from surgery. It has also been estimated that up to 60 percent of this waste could be recycled. Knowing more about how and when the waste is generated could raise awareness of the issue and contribute to better [recycling](#), as well as reduce the unnecessary use of plastics.

Anesthesia residents Dr. Fernando Suels and Dr. Oscar Alfani and colleagues at anaesthesiology and intensive care department of Vall D'Hebron Hospital, Barcelona, Spain, collected and weighed the waste generated from anesthesia procedures in the operating theater of their hospital's burns unit in November 2020. Waste generated by other teams was excluded.

They then looked at how the patient's sex, health (ASA score), type and length of procedure and type of anesthesia affected the amount of [plastic](#) waste.

The 10 women and 24 men whose burns operations were included in the study had an average age of 49.7.

An average of 1,057g of plastic waste was generated, per patient, from anesthesia alone. General anesthesia produced almost three times as much plastic waste (1,407g) per procedure as sedation / local anesthesia (492g).

Examples of the plastic items discarded as waste include syringes, infusion lines, aspiration tubes and their wrappers.

The type of surgery (severity of the burn) did not affect the amount of plastic waste but longer operations were associated with more waste. There was no difference in plastic waste between male and female patients.

The anesthesia of the sickest patients, those with an ASA score of IV, produced more waste. But as there were only two patients in this category, no firm conclusions can be drawn.

Plastic wrappers were the most common item, although they did not account for the bulk of the weight.

The researchers say that it is likely that similar amounts of plastic waste are produced in other hospitals in Spain and around the world and, although some is recycled, more recycling could be done.

Dr. Suels explains: "More than 50 types of plastic items are commonly used in the operating theater and because almost everything is sterile and single-use, almost every item comes in a plastic wrapper.

"While materials that have been in contact with biological fluids cannot be recycled, it's estimated that up to 60 percent of the plastic used by anesthesia in surgery is suitable for recycling.

"Although there is some recycling of plastic wrappers and other items, more recycling could be done.

"Other strategies include working on the other two 'Rs' of [waste](#) management, Reduce and Reuse (where possible), which are even better for the environment than recycling, and running educational campaigns."

Provided by The European Society of Anaesthesiology and Intensive Care (ESAIC)

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