

When we truly need single-use equipment, will we have enough? Single-use versus reusable anaesthesia equipment: a qualitative analysis of Western Australian hospitals

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Received 14 May 2020, accepted 14 May 2020, published online 29 May 2020

The COVID-19 pandemic has exposed fragilities in the global medical equipment supply chain, most notably with regard to personal protective equipment (PPE). Some countries have compensated for shortages by reusing equipment designed for single use, leading to potential issues with inadequate decontamination.^{1–3} In addition, some guidelines have advocated the preferential selection of single-use airway equipment over reusable to mitigate the risk of cross-contamination, again leading to availability and sustainability issues.^{2,3} A combination of multiple- and single-use equipment would alleviate some pressure on supply chains, balancing resource and infection risk implications provided that reusable equipment can be adequately decontaminated according to manufacturer specifications.^{2,4}

We conducted a survey across 17 Western Australian metropolitan private and public hospitals to assess rates of single-use compared with reusable anaesthesia equipment from September 2019 to January 2020, with a focus on airway equipment. Questionnaires were emailed to heads of department or anaesthetist equipment representatives and chief anaesthesia nurses and technicians. This audit received ethics approval as a quality improvement project at Sir Charles Gairdner Hospital via the Governance, Evidence, Knowledge and Outcomes (GEKO) system.

The response rate was 76.6%, with 23 individual respondents from 13 hospitals. Of the hospitals surveyed, 21.7% used single-use laryngoscope blades, with 8.7% using single-use laryngoscope handles and 87% using only single-use laryngeal mask airways. All hospitals (100%) used single-use face masks. The major drivers for a preference for disposable equipment were cost, convenience and cross-contamination risk.

The results of the survey, conducted before the COVID-19 pandemic, demonstrated a reliance on single-use airway equipment. Patient and staff safety, efficacy, user friendliness and upfront and ongoing costs in equipment procurement are essential factors, but ongoing availability and environmental effects are also important considerations. The consideration of reusable anaesthesia equipment may minimise reliance on supply chains, as well as providing cost-saving benefits and waste reduction while not compromising safety if equipment is adequately decontaminated.⁵ The COVID-19 pandemic has forced many anaesthetic teams to look at optimising their use of PPE and equipment, recognising that reducing wastage can prolong supply. After COVID-19, the anaesthetic community could contribute to ensuring future equipment availability by reconsidering routine use and dependence on single-use items and incorporating environmental assessments into procurement decisions.⁶

Competing interests

The authors declare no competing interests.

Acknowledgements

This research did not receive any specific funding.

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