

# A case for the reusable scrub hat



Dr Ann Lee (left) and Dr Jessica Hegedus in their own scrub hats

**THERE IS A** growing consensus across healthcare organisations that we need to reduce our collective carbon footprint and minimise the significant impacts of climate change on human health.

In Australia, the healthcare sector is estimated to account for 7 per cent of national CO<sub>2</sub> emissions<sup>1,2,3</sup>.

Operating theatres are particularly resource intensive areas, requiring large amounts of energy and consumable products<sup>1,2</sup> and contribute to approximately 20-30 per cent of hospital waste, largely due to single use items such as disposable hats and packaging<sup>1,2</sup>.

The amount of waste generated by the healthcare sector has further increased in the COVID-19 pandemic era, with the increased use of single use personal protective equipment<sup>4</sup>.

ANZCA and the Royal Australasian College of Surgeons (RACS) are committed to reducing the health impact of climate change<sup>1,2,5</sup> and single use medical items have a significant carbon footprint from production to disposal. Therefore, ANZCA advocates for the consideration of reusable items where possible to reduce the environmental and financial impact of anaesthesia, in a manner that maintains patient care and safety<sup>1,2</sup>.

Reusable scrub hats are being increasingly embraced by staff for environmental reasons, along with reasons of personal expression and attempts to improve team dynamics (for example, embroidered scrub hats that allow team members to identify each other).

However, there is a common perception that reusable scrub hats are less effective than disposable, single-use options in reducing the risk of surgical site infections (SSIs), and it is not uncommon to hear of institutions that mandate against their use for this reason.

Here, we consider the comparative evidence regarding the risk of SSIs with cloth versus disposable scrub hats in an attempt to balance their environmental and cost benefits with concerns about patient safety.

Scrub caps are worn by all theatre staff with the intention of reducing SSIs by preventing the spread of microbial organisms<sup>6</sup>.

Surgical site infections are associated with a high level of morbidity and mortality<sup>7</sup>, and it is therefore essential to adopt evidence-based approaches to minimising their prevalence. Interestingly, there is only limited evidence that head coverings reduce SSIs, with some research even suggesting that scrub caps do not significantly reduce rates of SSIs in non-scrubbed theatre staff<sup>7,8</sup>.

When scrub hats are worn, there is little evidence to suggest any benefit in the use of disposable hats to reduce SSIs. One study recreated a surgical procedure in a simulated, dynamic operating theatre (OT) environment and compared disposable bouffant, disposable skull caps and laundered, cloth skull caps.

They assessed the fabrics for permeability, pore size and particle transmission and sampled the OT environment for airborne particulate and microbial contaminants. There was no difference between cloth and disposable skull caps in terms of microbial and particulate shed and interestingly, they found that disposable bouffant hats were inferior to cloth scrub hats<sup>9</sup>.

Other studies have reported no reduction in SSIs within large institutions that have mandated the use of disposable bouffant hats over other options<sup>10,11</sup>.

Taken together, there is no convincing evidence that disposable scrub hats are more effective than freshly laundered and lint-free hats in reducing the risk of SSIs in both scrubbed and unscrubbed OT staff.

It is becoming increasingly evident that human health is contingent on environmental health and reducing the environmental impact of the healthcare sector will benefit our patients<sup>3</sup>. It is therefore essential we make environmentally sustainable choices, while ensuring patient care and safety is upheld.

The choice of scrub hat has not been demonstrated to have any impact on risk of SSIs and we therefore advocate that reusable, freshly laundered and lint free hats are embraced as one way we can reduce the impact of our practice. Please engage with your institutions if reusable scrub hats are currently not sanctioned for use, otherwise get shopping!

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**\*ANZCA's next steps in supporting environmental sustainability.**

*The Environmental Sustainability Working Group (ESWG) has now been disbanded and has delivered its final report to the Professional Affairs Executive Committee (available on the website).*

*In line with the college's commitment to environmental sustainability, ANZCA Council has approved the working group's recommendation to establish a new Environmental Sustainability Network (ESN). The purpose of the ESN is to advocate, collaborate and promote initiatives and projects related to environmental sustainability within anaesthesia, perioperative and pain medicine, positioning ANZCA as a proactive leader and advocate in this area. More information on how fellows, trainees and SIMGs can become involved will be available soon in the E-Newsletter and on the website.*

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