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Factsheet: Reusable OR textiles

Reusable operating table covers and patient lift sheets

Background
Disposable OR textiles, including table covers, drapes, and gowns, are major contributors to the environmental burden of surgery. Single-use textiles require more resources to manufacture and transport and lead to more waste than reusable alternatives.

Potential savings
Laundering an OR table cover 50 times instead of using 50 disposable table covers saves 45.16 kg of CO_2 emissions, the equivalent of driving 115 miles in an average car, and almost $100.

Conclusion
Switching to reusable OR table covers and patient lift sheets reduces the environmental footprint of surgery and saves money.

Recommendation
Consider using reusable textiles instead of disposable textiles when feasible.

1. Chang J, Woo K, de Souza Lima Cano NS, Bilec MB, Camhi M, Melnyk AI, Gross A, Walsh RM, Asfaw SH, Gordon IO, Miller BT, Does reusable mean green? Comparison of the environmental impact of reusable operating bed covers and lift sheet versus single-use, The Surgeon, 2024, 22(4), 236-241.

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Factsheet: Surgical Scrub Brushes

The use of disposable brushes for preoperative handwashing: effective or outdated?

Background

Hand brushing before surgery is a routine practice for many in the operating room. However, is it truly essential? This practice contributes to substantial plastic waste and incurs additional costs.

Research by the World Health Organization has shown no significant difference in postoperative wound infection rates between washing hands and brushing hands that are not visibly soiled.

Potential savings

On average, academic hospitals in the Netherlands purchase approximately 33,000 brushes annually, costing €25,000 and generating 800 kg of plastic waste.

Conclusion

Preoperative handwashing with brushes does not effectively reduce the number of bacteria on hands.

Recommendation

It is advised to **eliminate** the use of brushes for preoperative hand hygiene. For visibly soiled nails, a simple nail scraper is sufficient. This approach can lead to substantial reductions in both plastic waste and associated costs.

Sources

[1] WHO Guidelines on Hand Hygiene in Health Care: First Global Patient Safety Challenge Clean Care Is Safer Care (https://www.ncbi.nlm.nih.gov/books/NBK144035/)

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Factsheet: Surgical Cap

Reuse or Dispose Your Surgical Cap?

Background

During recent years, disposable bouffant surgical caps have been recommended against disposable cotton ones, because they offer a full hair, ear and neck coverage. However, subsequent research regarding the association of either category with surgical site infections (SSI) has led to no significant conclusions.

Under these circumstances, the use of reusable cotton surgical caps might contribute to reduced carbon footprint, whereas their clinical impact would remain in concordance with the international standards.

Potential savings

In an academic surgical unit in Athens, Greece, an average of 2,100 operations are performed annually. An average of 7 staff members participates in each surgical procedure (scrub nurse, circulating nurse, consultant surgeon, 1st and 2nd assistant surgeons, anesthesiologist and anesthesiology nurse).

Replacing disposable bouffant surgical caps with reusable cotton caps could lead to an 80% reduction in $kgCO_2e$ (441 $kgCO_2e$ vs 88.2 $kgCO_2e$), considering 3 caps/person with weekly laundering.

Conclusion

Reusable cotton surgical caps seem to reduce the carbon footprint compared to disposable bouffant surgical caps. This leads to significant energy savings in the context of large academic surgical units.

Recommendation

Replacing disposable bouffant surgical caps with disposable cotton caps should be considered in every high-volume surgical unit. This could lead to significant reduction of environmental burden.

Sources

1. Donahue LM, Petit HJ, Thiel CL, Sullivan GA, Gulack BC, Shah AN. A Life Cycle Assessment of Reusable and Disposable Surgical Caps. J Surg Res. 2024 Jul;299:112-119. doi: 10.1016/j.jss.2024.04.007. Epub 2024 May 14. PMID: 38749314.