

The Reduction of Waste in the Operating Room via an Intraoperative Recycling Initiative



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Background & Purpose

- United States (US) healthcare facilities produce 6,600 tons of waste daily (Lee et al., 2012)
- From 2010-2018, the US healthcare industry contributed to a 6% increase in total greenhouse gas emissions (Eckelman et al., 2020).
- ~40-70% of healthcare waste is generated within the OR (Yeoh et al., 2020)
- Anesthesia care contributes to 25% of intraoperative material wastes (Yeoh et al., 2020)
- Purpose: Educate the intraoperative team on environmentally sustainable practices and to increase the amount of recycled waste.



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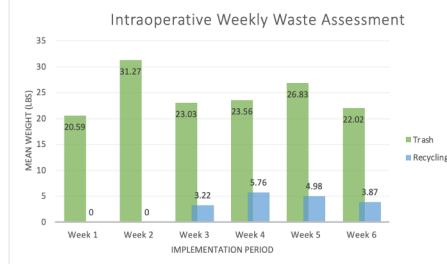
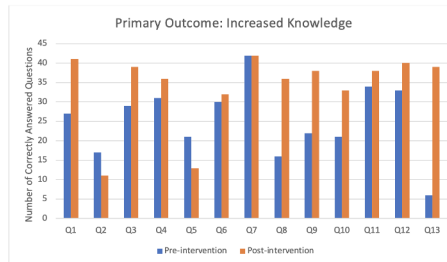


Methods

- *Project Design:* Quality Improvement (QI)
- *Setting:* Large urban community teaching hospital
- *Participants:* Anesthesiologists, CRNAs, Anesthesia techs, SRNAs, OR RNs, Surgical techs, and EVS
- *Measures:* 1.) Staff knowledge and 2.) waste volume vs recycled volume in pounds.
- 2-week pre-intervention baseline trash assessment
- Knowledge Assessment Tool (Pre-Education)
- Educational PowerPoint presentation
- Knowledge Assessment Tool (Post-Education)
- 4-week pilot recycling program with education reinforcements such as a QR code (see below) that links to our website, Team Recycle.

Results

- *Measure 1 Results:* The mean number of correctly answered questions **pre-education** was **60.3%** and **post-education** was **72.6%** (**p-value <0.0181**).
- *Measure 2 Results:* A total of 1,369.09lbs of waste and 253.22lbs of recyclable material was collected during 4-weeks.
- Mean amount of unsorted waste = **23.61lbs/day**
- Mean amount of recyclable material = **4.29lbs/day**



Summary & Conclusion

- **15.6% decrease in volume of waste placed in the unsorted trash.**
- **100% increase in recycling weight after the completion of the 4-week pilot program.**
- It cannot be assumed with complete certainty that the reduction of waste generation directly correlates to the intraoperative recycling pilot program.
- The increase in the amount of material placed in the recycling receptacles demonstrates that our educational intervention was successfully translated into practice and was sustained over a 4-week period.

Acknowledgements

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Team Recycle