

# Lightening the Load: OR Pack Optimization for Less Waste, More Savings

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## Introduction

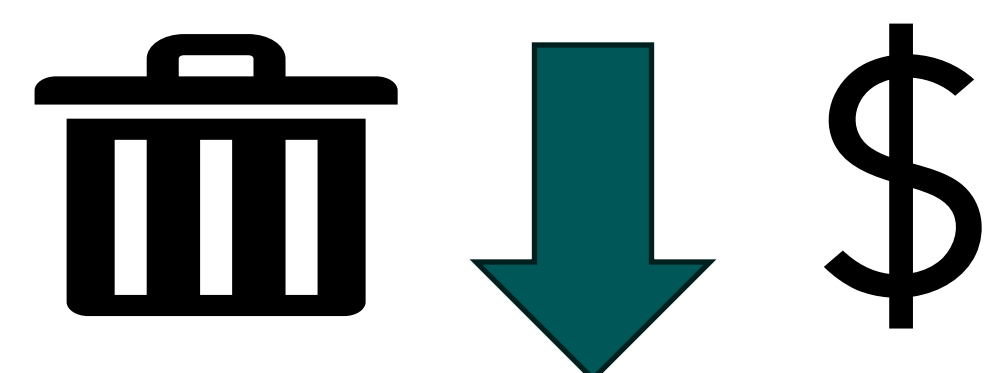
Operating rooms across the United States generate billions of dollars in waste each year, much of which ultimately enters landfills. A review of supply utilization within a multi-specialty surgical department revealed significant clinical waste associated with prepackaged surgical supply sets used for hand procedures.

Within the department, several thousand orthopedic procedures were performed annually, with hand surgeries representing nearly one-quarter of the total volume. These procedures routinely rely on extremity surgical packs—preassembled supply sets intended to streamline operating room preparation. However, a utilization assessment demonstrated that multiple items contained in these packs were consistently opened but not used during hand surgery cases.

Commonly wasted items included drapes, collection bags, and large surgical blades. Collectively, these unused supplies contributed to more than a thousand pounds of avoidable material waste each year, along with substantial associated costs.

## Objectives

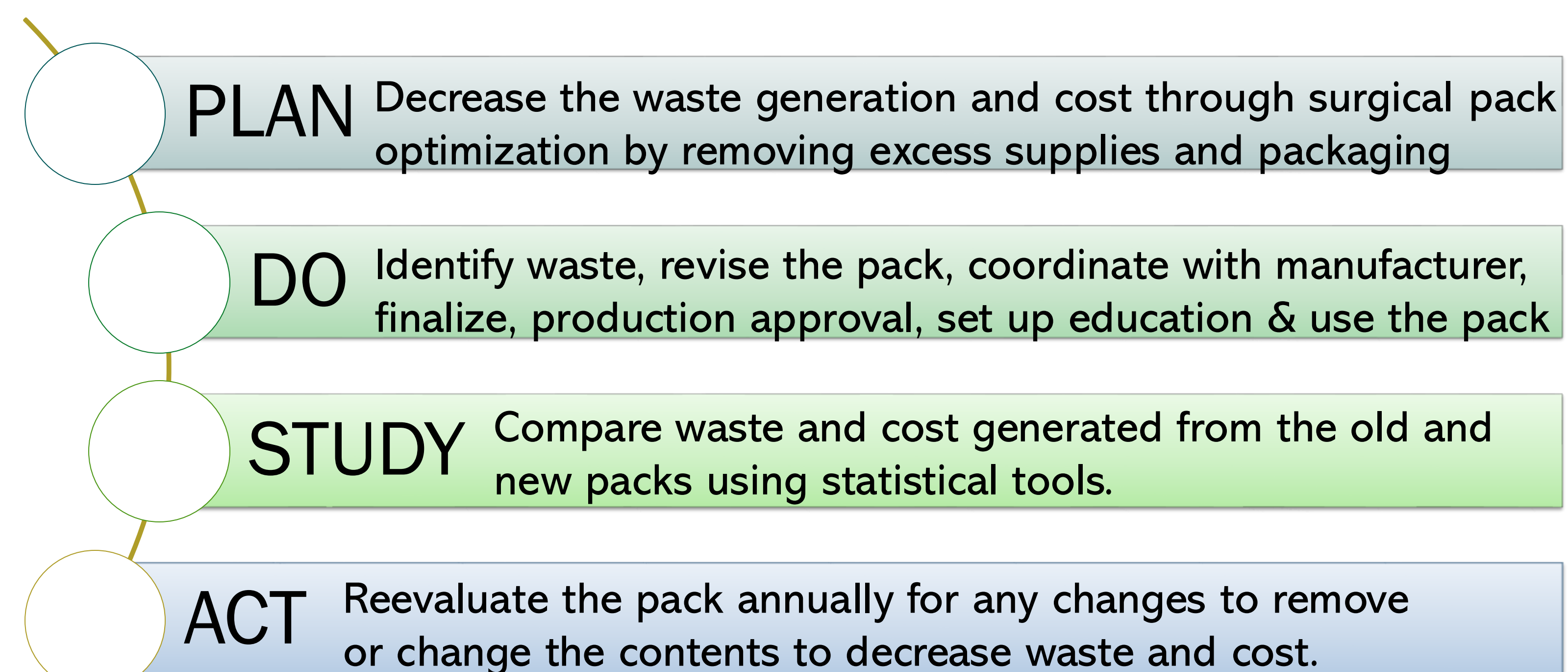
**PICOT:**  
In the operating room set up for orthopedic hand surgeries (Population), does a new optimized hand pack (Intervention) compared to the standard extremity pack (Comparison) reduce waste and cost (Outcome) over a 3-month period?



Goal: Reduced waste & cost

This interdisciplinary project was led by an OR nurse leader in collaboration with perioperative nurses, scrub techs, surgeons specializing in orthopedic hand procedures, and supply chain representatives. The team also partnered with the surgical pack vendor to customize and implement changes.

## Methods



## Pictures/Illustrations/Results

### Surgical Pack



### Wasted Supplies



1.05 pounds of waste from unused items per pack opened

### RESULTS:

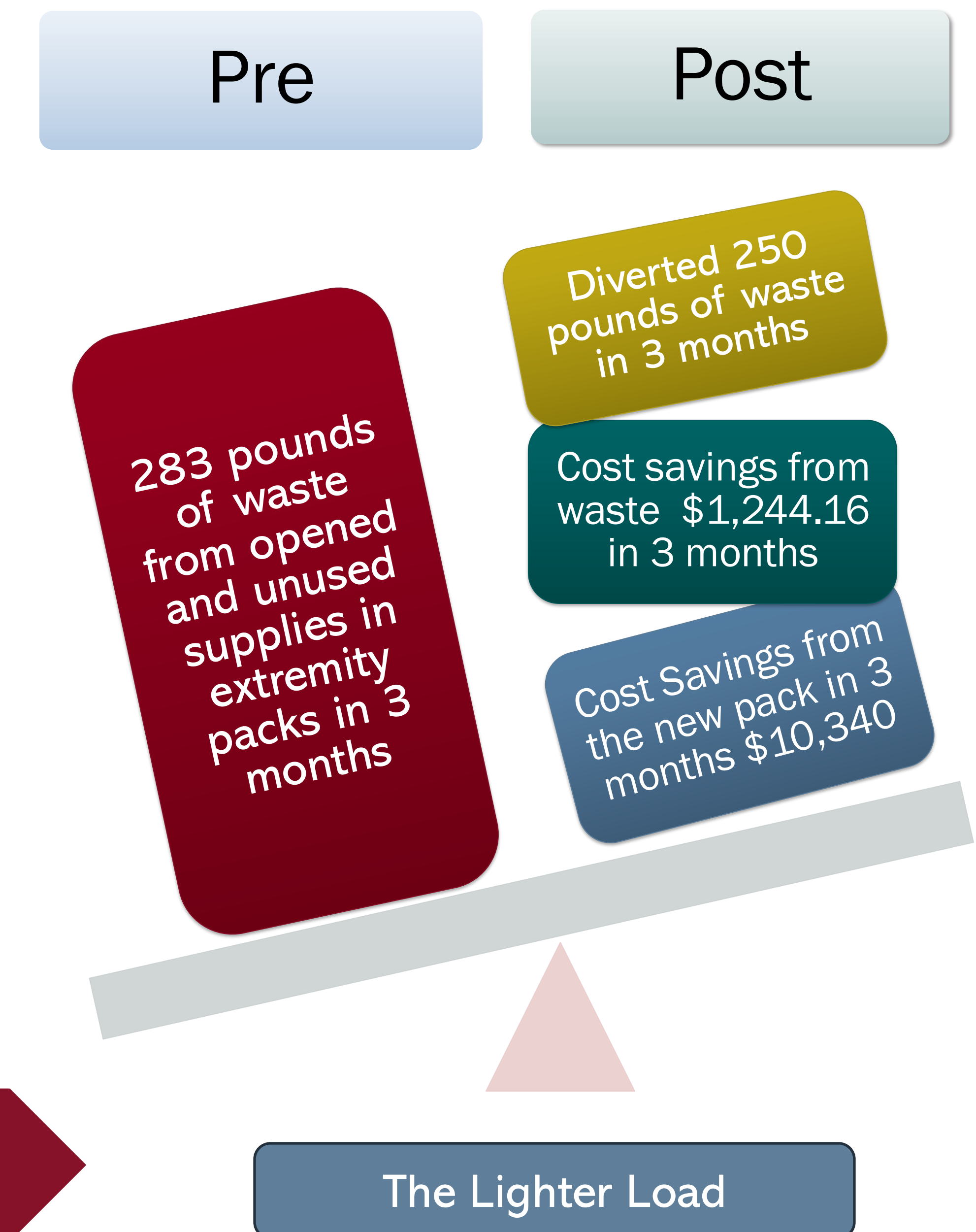
**Waste:** 250 pounds of waste was diverted after removing the unused opened items that were included in the extremity pack for hand cases in 3 months.

Furthermore, the packaging opened was also decreased by adding hand surgery-specific items such as bipolar cord and hand drape in the pack.

**Cost:** About \$1,200 is saved by removing these unused items from the pack for orthopedic hand cases.

Moreover, after removing unused items and adding hand surgery specific items (hand drape and bipolar cord), still cost less than the old pack at 4%.

The new optimized pack is 36 % less than the old pack, and this cost is before the addition of hand drape and bipolar cord.



## Implications

The optimization of the pack by eliminating unused items directly reduces surgical waste and cost. The streamlined surgical packs also may improve efficiency as less items will be opened in preparation for the case. Furthermore, the success of this project demonstrates the power of teamwork across roles- nurses, scrub techs, leadership, surgeons, supply chain and vendors.

## Future Actions

The surgical packs will be reevaluated annually to identify opportunities for further waste reduction. This ongoing review process will also encourage similar efforts across other specialty packs, supporting broader initiatives to decrease both cost and waste in the operating room.

## Acknowledgments

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## References

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- Cunningham, A. J., Krakauer, K., Schofield, C., Kenron, D., & Krishnaswami, S. (2023). Reducing Disposable Surgical Items: Decreasing Environmental Impact and Costs at a Children's Hospital, A Pilot Study. *Journal of Surgical Research*, 288, 309-314.