# Which Works Best in Managing Pediatric Abscesses: Vessel Loop or Packing?

## Introduction

Soft tissue infections and abscesses in pediatric patients are very prevalent and are a common cause of ED visits as well as hospitalizations and surgical interventions. While relatively straightforward, the ideal surgical technique to manage these has not been fully defined, with either vessel loop or packing techniques being proposed. The purpose of this study was to compare the effectiveness of both techniques in pediatric patients with abscesses. Additionally, this study was performed to better understand the use of cultures and antibiotics in managing pediatric patients with abscesses.

## Methods

A retrospective observational study was performed over an 8-year period on pediatric patients. The primary outcome was abscess recurrence, with complications and post-operative visits as secondary outcomes. Data regarding demographics, clinical course, procedures and follow up were collected. Cohorts were compared using appropriate statistical analyses for categorical and continuous variables, with logistic regressions done on significant variables.

## Results

893 patients met inclusion criteria, with both groups having similar demographic characteristics, insurance status, presence of predisposing factor(s), and abscess location. We noted no difference in complications or recurrence between vessel loop or packing. The logistic regression models run confirmed the lack of statistical difference in primary outcome between the two groups. There was a much higher need for post-operative clinic visits in the vessel loop group as most of them needed the vessel loop to be removed. Furthermore, out the 35 patients whose post-operative antibiotic treatment did not cover the organism cultured, only 10 of them received an adjusted treatment based on the resulted antibiotic susceptibilities.

| Variables | I&D + Packing (n=658) | I&D + Vessel Loop (n=235) | p value |
|---|---|---|---|
| **Post-op antibiotics administered** | 93.2% | 96.6% | .080 |
| **Organism cultured** | 67.6% MRSA<br>13.7% MSSA<br>18.7% Other | 59.6% MRSA<br>13.2% MSSA<br>27.2% Other | .020 |
| **Need for follow-up in surgery clinic** | 10.6% | 93.6% | < .0001 |
| **Complication rate** | 11.9% | 13.2% | .673 |
| **Recurrence rate within 90 days** | 3.5% | 3.4% | 1 |

## Conclusions

There was no difference in recurrence or complication rates between vessel loop or packing in the operative treatment of pediatric patients with abscesses. However, patients with vessel loops required post-operative visits significantly more frequently than those who underwent packing, which is a potentially large burden on patients and their families. In addition, the culture results most often did not change clinical management, indicating that these may not be required in most cases. These data will help to modify clinical practice. Further studies may help to clarify the role of cultures and post-operative antibiotic use.