

# Appendectomy Resource Utilization: Does it correlate with the severity of disease

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## Introduction

- Acute appendicitis is one of the most common emergent surgical procedures performed in the world.
- There are varying degrees of presentation, ranging from mild appendicitis to gangrenous appendicitis with perforation.
- Most appendectomies are performed laparoscopically, but the technique and utilization of instruments varies greatly between surgeons. With this variation comes variations in direct cost to the healthcare system

## Purpose

- The purpose of this study is to investigate whether the resource utilization costs associated with laparoscopic appendectomies correlate with the severity of the appendix based on pathologic findings.

## Methods

- The electronic health record for Prisma Health was queried for all laparoscopic appendectomies performed from January 1, 2020, through December 31, 2020.
- Additional retrospective chart review searched for patient demographics, comorbidities, operative time, perioperative and postoperative complications, clinical grading of the appendix, and the pathology reports for the disease state of the appendix.
- The appendixes will be categorized into six categories- normal, acute non-suppurative, suppurative, gangrenous, perforated, and chronic.
- In addition, direct supply costs of each procedure were obtained.
- Pearson correlation will be performed between perioperative supply costs and the severity of the disease state of the appendix. A p value of <0.05 will be determined to be significant



Image 1. An example of a suppurative appendix. Contributed by Elliot Weisenberg, M.D.



Image 2. An example of a gangrenous appendix. Contributed by Sanjay D. Deshmukh, M.D.



Image 3. An example of an endostapler, a surgical tool that has been identified as a leading driver of cost by several publications.<sup>1,2,3,4</sup>

## Anticipated Results

- Data collection was just recently completed, with statistical analysis to occur soon.
- We expect there to be no correlation between perioperative supply costs and the increasingly severe disease state of the appendix.

## Anticipated Conclusions

- If our hypothesis is correct and there is no correlation between cost and disease state of the removed appendix, an argument could then be made about standardizing the tools utilized during laparoscopic appendectomy cases across the Prisma Health System. This standardization would be accomplished by standardizing the laparoscopic appendectomy preference card utilized by surgeons based on the expected disease state of the appendix.

## Acknowledgements

- We would like to thank Dr. Robert Allen for his help in gathering perioperative cost data.
- This project was funded by the Prisma Health Department of Surgery

## References

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