



RETROSPECTIVE REVIEW ON GLOVE-FINGER EXTRACTION TECHNIQUE IN LAPAROSCOPIC APPENDECTOMY

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INTRODUCTION

- Di Saverio et al describes that acute appendicitis is one of the most common intra abdominal gastrointestinal surgical emergencies. Di Saverio et al, also emphasizes the importance of reducing costs for such common procedures.
- Several studies including Dayanada et al, Nazir et al, Siano et al, and Tebala et al, have shown the economical benefits of the glove-finger extraction (GFX).
- In the GFX technique, a surgical glove collects the appendix intraabdominally without the need for deployment.
- The Endocatch™ (EC) technique is one of current standards of care used for collecting the appendix.
- Compared to EC technique, the GFX is a more cost-effective technique.
- The goal of this study is to research the expenses, average operating time, patient length of stay, and number of complications.

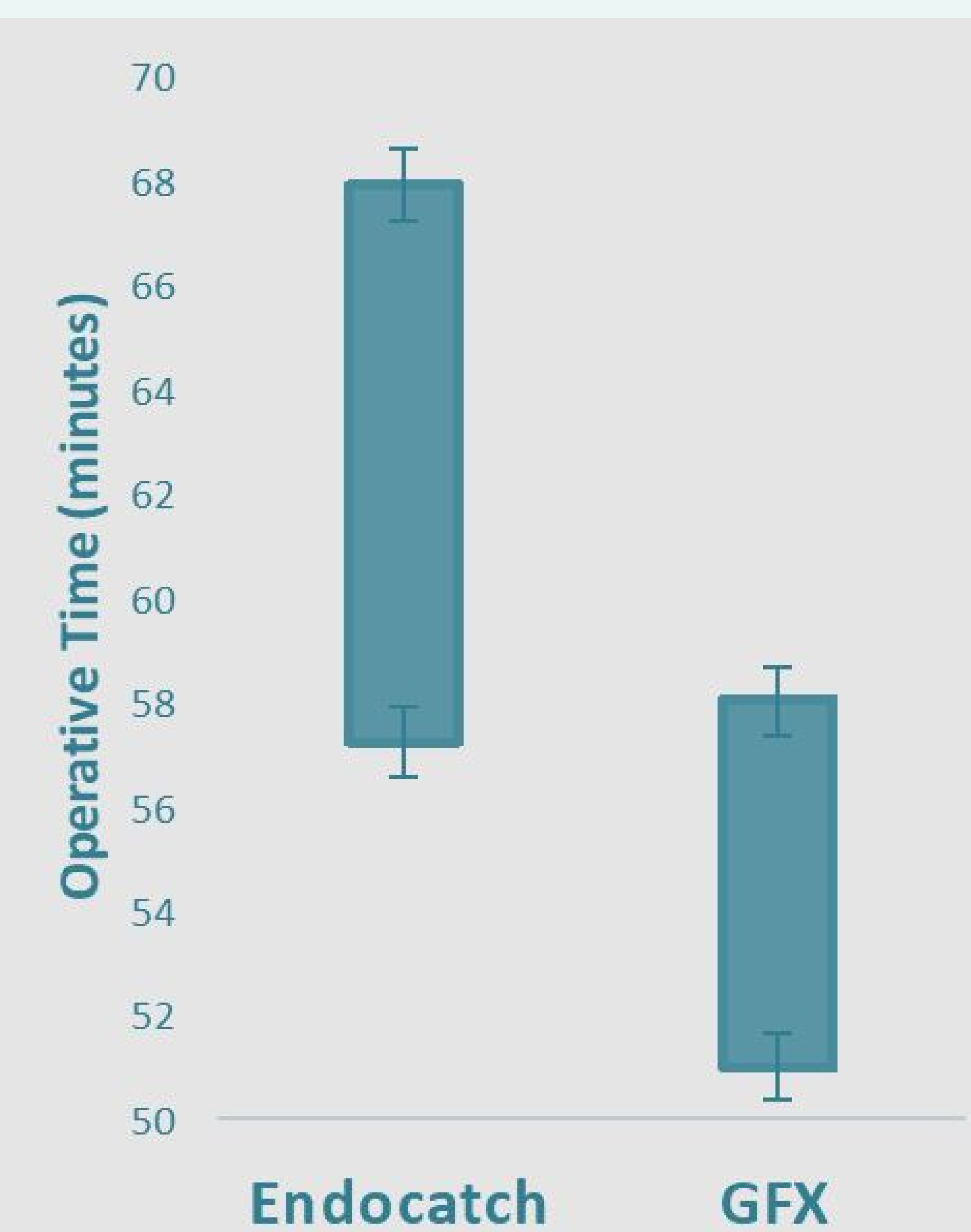
METHODS

- There were two groups, one group underwent an appendectomy with the GFX technique and the other group used the Endocatch (EC) technique.
- There was 49 patients that were treated with the GFX technique and 79 patients were treated with the EC technique in total there were 128 appendectomies.
- The retrospective study took place over a 3-year period.
- The duration of the operative, postoperative complications, readmissions rate, and length of hospital stay, and postoperative pain.

	Number of Patients	Length of Stay (hours)	Average Operative Time (min)	Approximate Cost per specimen bag	Number of Complications	Complication rate
EC	79	41.93	62.1	\$69	6	7.6%
GFX	49	43.20	54.4	\$2.06	2	4.1%
P-values		0.5810	0.009			

RESULTS & DISCUSSION

- The average operating time of the EC group was 62.1±0.7 minutes, while the average operating time of the GFX group was 54.4 ±0.6 minutes.
- The GFX group had an operating time that was 7.7 minutes faster than the EC group (p=0.009).
- In the EC group there was a complication rate of 7.6%, whereas the complication rate for the GFX group was 4.1%.
- The EC group had 6 complications, whereas the GFX group had 2 complications.
- The complications included post operative fever and abdominal pain.
- Complications were treated with acetaminophen.
- There was no significant difference in the length of stay in the hospital post operation(p=0.009).
- Therefore, the main economic benefit is in the reduced cost of the retrieval instrumentation.
- The price per specimen retrieval bag was \$2.06 for EC and \$66.94 for an EC bag.
- The savings of using GFX over EC are \$66.94.
- Further studies could be conducted to investigate surgeon preferences and satisfaction with the GFX technique compared to the EC technique.
- To minimize bias, future prospective studies could use a numerical pain scale with cutoff values to measure the complication of pain.



CONCLUSION

- Since laparoscopic appendectomies are so common, research should be dedicated to making this procedure more cost effective, safer, and more efficient.
- This study demonstrated that GFX can prevent unnecessary spending, reduce complications, and decrease the amount of time in the operating room.
- The average operating time was decreased in the GFX group (7.7 minutes faster than the EC group).
- Additionally, there was a lower complication rate associated with the GFX group.
- A larger sample size of GFX is needed to increase the power of the study. Using GFX over EC saves \$66.94. The complication rate of the EC was 7.6% compared to the GFX, which was 4.1%.
- The average time in the operating room was 7.7 minutes faster in the GFX group compared to the EC group.
- More studies are needed to investigate the safety, efficiency, and financial impact of using GFX over EC.

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