Can Appendectomies be Safely Delayed? An Updated Systematic Review and Meta-analysis Comparing Emergent vs Delayed Appendectomy in Adult and Pediatric Patients

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INTRODUCTION & OBJECTIVES

Uncomplicated appendicitis has been traditionally managed with urgent operation (<6-8 hours) to avoid perforation. Recent evidence suggests that mild delays (to <24h) do not result in harm.



Given the restraints in operating room availability and equivocal evidence regarding safety of mild delays of appendectomies, what does the updated literature suggest?



Objective: compare the safety of delayed vs urgent appendectomies (<6-8h vs >6-8h) in adult and pediatric populations.

METHODS

Systematic Review and Meta-Analysis

11,227 studies screened → 5 adult prospective studies
→ 19 pediatric studies

Definitions → urgent : <4-12h & overnight
→ delayed : >4-12h or next day

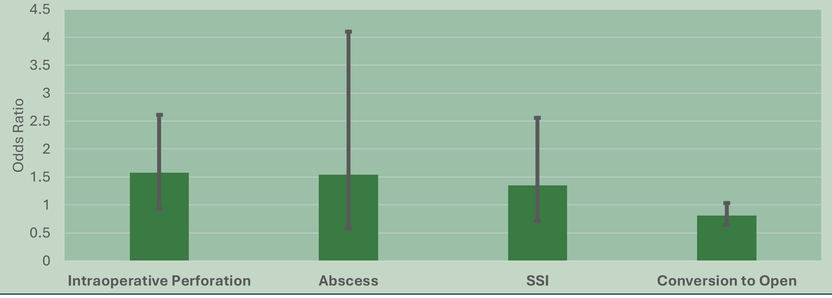
Outcomes collected → intraoperative perforation
→ abscess & SSI
→ conversion to open
→ length of stay & readmission

Analysis → random effects model
→ restricted maximum likelihood

RESULTS

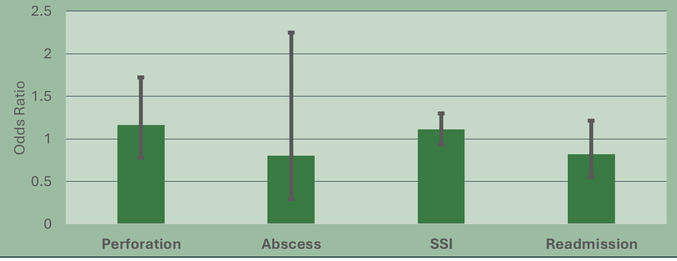
Adult Population

Studies included (n=5)	RCT: 2 Prospective cohort: 3
Number of patients	4250
Age (mean ± SD)	36.8±15.2
% Female	45.4



Pediatric Population

Studies included (n=19)	Retrospective cohort: 13 Prospective cohort: 3 Retrospective case-control: 2 Prospective case-control: 1
Number of patients	827,019
Age (mean ± SD)	11.9±4.2
% Female	39.5



Hospital Length of Stay
Mean difference: 1.24 days
[95% CI: -0.33 to 2.80, p=0.12]

CONCLUSION & DISCUSSION

For both adult and pediatric populations, there were **no significant differences** noted in complications when comparing urgent versus delayed operation for appendicitis.
This included for multiple outcomes such as **intraoperative perforation, abscess, SSI, conversion to open, readmission and length of stay**

These results suggest that for many patients, it **may be safe to have a short delay** in operation for uncomplicated appendicitis.
Future work should identify patient **factors associated with higher risk with delays** in operation and the impact of delayed appendectomy (booked as under 24 hours) on **workflow and healthcare resource utilization**.