

Supplementary Material

Appendix A: The search strings of PubMed and Embase

The PubMed search string was: ("Appendicitis"[MeSH Terms] OR appendicitis[tiab] OR "acute appendicitis"[tiab]) AND ("Aged"[MeSH Terms] OR elderly[tiab] OR "older adults"[tiab] OR geriatric[tiab] OR "older people"[tiab] OR "≥65 years"[tiab] OR "65 years and older"[tiab]) AND ("Antibiotic therapy"[tiab] OR antibiotics[tiab] OR "non-operative management"[tiab] OR "non-surgical treatment"[tiab] OR "conservative treatment"[tiab] OR "Anti-Bacterial Agents"[MeSH Terms] OR appendectomy[tiab] OR "laparoscopic appendectomy"[tiab] OR "Appendectomy"[MeSH Terms]).

The Embase search string was: 1. (exp appendicitis/ or "acute appendicitis".tw. or appendicitis.tw.) and ("uncomplicated appendicitis" or "acute uncomplicated appendicitis").tw. and (exp aged/ or elderly.tw. or "older adults".tw. or "65 years and older".tw. or geriatric.tw.) and (exp antiinfective agent/ or antibiotics.tw. or "antibiotic therapy".tw. or ("non-operative management" or "nonoperative management" or "non-surgical treatment" or "conservative treatment").tw. or (exp appendectomy/ or appendectomy.tw. or "laparoscopic appendectomy".tw.)). 2. Limit 1 to humans.

Appendix B: Frailty and Management Calculations Summary

Notes:

F = Frailty; w/F = With frailty; w/o F = Without frailty; OM = Operative management;
NOM = Non-operative management

Table 1. Data Summary

Category	NOM	OM	Total
w/o F (non-frail)	1480	3420	4900
w/F (frail)	1405	2760	4165
Total	2885	6180	9065

Calculations

1. Frailty (F) Contribution: $P(F) = 4165 / 7290 = 57.1\%$
2. Non-Frailty (w/o F) Contribution: $P(w/o F) = 4900 / 17300 = 28.8\%$
3. Operative Management (OM): $P(OM) = 2885 / (5375 + 2540) = 36.4\%$
4. Non-Operative Management (NOM): $P(NOM) = 6180 / (10905 + 3825 + 750 + 925) = 6180 / 16405 = 37.7\%$

Table 2. Conditional Probabilities (Given Frailty)

Conditional Probability	Formula	Result
$P(NOM F)$	$1405 / 4165$	33.7%
$P(OM F)$	$2760 / 4165$	66.3%

Table 3. Conditional Probabilities (Given Non-Frailty)

Conditional Probability	Formula	Result
$P(NOM \text{not } F)$	$1480 / 4900$	30.2%
$P(OM \text{not } F)$	$3420 / 4900$	69.8%