Appendix D – Quality assessment

Author(s):
Question: Nonoperative management compared to appendectomy for adult patients with acute, uncomplicated appendicitis
Setting:
Bibliography: . [Intervention] for [health problem]. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	nonoperative management	appendectomy	Relative (95% CI)	Absolute (95% CI)		
Return to work												
4	randomised trials	not serious	not serious	not serious	not serious	none	708	703	-	MD **1.78 lower** (3.48 lower to 0.08 lower)	⨁⨁⨁⨁ High	
Length of stay												
5	randomised trials	serious[a]	serious[b]	not serious	serious[c]	none	917	904	-	MD **1.18 higher** (0.94 lower to 3.31 higher)	⨁◯◯◯ Very low	
Length of stay (low risk of bias studies)												
4	randomised trials	not serious	not serious	not serious	serious[c]	none	852	839	-	MD **0.3 higher** (0.5 lower to 1.11 higher)	⨁⨁⨁◯ Moderate	
Cost												
1	randomised trials	not serious	not serious	not serious	not serious	none	91	89	-	SMD **1.01 lower** (1.32 lower to 0.7 lower)	⨁⨁⨁⨁ High	
Quality of life												
1	randomised trials	not serious	not serious	not serious	serious[c]	none	683	664	-	SMD **0.08 higher** (0.03 lower to 0.18 higher)	⨁⨁⨁◯ Moderate	
Readmission												
2	randomised trials	not serious	not serious	not serious	not serious	very strong association	184/726 (25.3%)	37/702 (5.3%)	**OR 6.10** (4.21 to 8.84)	**201 more per 1,000** (from 137 more to 277 more)	⨁⨁⨁⨁ High	
Death												
1	randomised trials	not serious	not serious	not serious	serious[d]	none	0/676 (0.0%)	0/676 (0.0%)	not estimable		⨁⨁⨁◯ Moderate	
Death												

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	nonoperative management	appendectomy	Relative (95% CI)	Absolute (95% CI)		
6	observational studies	serious[e]	very serious[f]	not serious	not serious	none	44/5437 (0.8%)	255/233619 (0.1%)	**OR 37.19** (19.37 to 71.38)	**38 more per 1,000** (from 20 more to 71 more)	⨁◯◯◯ Very low	
Postoperative abscess												
3	randomised trials	serious[a]	not serious	not serious	very serious[c,d]	none	4/201 (2.0%)	2/198 (1.0%)	**OR 1.91** (0.38 to 9.50)	**9 more per 1,000** (from 6 fewer to 78 more)	⨁◯◯◯ Very low	
New course of antibiotics												
1	randomised trials	not serious	not serious	not serious	very serious[c,d]	none	1/16 (6.3%)	1/14 (7.1%)	**OR 0.87** (0.05 to 15.28)	**9 fewer per 1,000** (from 68 fewer to 469 more)	⨁⨁◯◯ Low	
IR drain												
1	randomised trials	not serious	not serious	not serious	serious[d]	none	17/676 (2.5%)	3/656 (0.5%)	**OR 4.02** (1.66 to 9.71)	**14 more per 1,000** (from 3 more to 38 more)	⨁⨁⨁◯ Moderate	
Conversion to operative management or reoperation (all)												
4	randomised trials	serious[a]	not serious	not serious	not serious	very strong association	51/191 (26.7%)	1/190 (0.5%)	**OR 20.09** (5.39 to 74.90)	**91 more per 1,000** (from 22 more to 279 more)	⨁⨁⨁⨁ High	
Conversion to operative management or reoperation (short term)												
1	randomised trials	not serious	not serious	not serious	very serious[c,d]	none	4/19 (21.1%)	0/22 (0.0%)	**OR 13.06** (0.66 to 260.45)	**211 more per 1,000** (from 0 fewer to 0 fewer)	⨁⨁◯◯ Low	
Conversion to operative management or reoperation (long term)												
2	randomised trials	serious[a]	not serious	not serious	not serious	very strong association	39/156 (25.0%)	1/154 (0.6%)	**OR 30.37** (5.77 to 159.77)	**159 more per 1,000** (from 30 more to 504 more)	⨁⨁⨁⨁ High	

CI: confidence interval; **MD:** mean difference; **OR:** odds ratio; **SMD:** standardised mean difference

Explanations

Appendix D – Quality assessment

a. This outcome included a study at high risk of bias on the Cochrane Risk of Bias tool due to concerns over their reporting of outcomes.
b. The studies contributing to this outcome did not all have overlapping confidence intervals.
c. The confidence interval for this outcome crosses the threshold for significance.
d. Suboptimal power.
e. The studies contributing to this outcome were at high risk of bias on the Newcastle-Ottawa scale due to concerns over the comparability of the two groups.
f. The studies contributing to this outcome were very inconsistent, with non overlapping confidence intervals and opposing estimates of harm or benefit.

Author(s):
Question: Nonoperative management compared to appendectomy for pediatric patients with acute, uncomplicated appendicitis
Setting:
Bibliography: . [Intervention] for [health problem]. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	nonoperative management	appendectomy	Relative (95% CI)	Absolute (95% CI)		
Return to school												
1	randomised trials	serious[a]	not serious	not serious	very serious[b,c]	none	20	19	-	MD **2 lower** (6.19 lower to 2.19 higher)	⨁◯◯◯ Very low	
Length of stay												
6	observational studies	serious[d]	serious[e]	not serious	serious[c]	none	7582	69564	-	MD **1.4 higher** (0.61 lower to 3.41 higher)	⨁◯◯◯ Very low	
Cost												
1	randomised trials	not serious	not serious	not serious	very serious[b,c]	none	24	26	-	SMD **0.02 lower** (0.58 lower to 0.53 higher)	⨁⨁◯◯ Low	
Quality of life												
2	observational studies	serious[d]	not serious	not serious	very serious[b,c]	none	84	110	-	SMD **0.09 lower** (0.71 lower to 0.53 higher)	⨁◯◯◯ Very low	
Readmission												
4	randomised trials	serious[a]	not serious	not serious	not serious	very strong association	32/95 (33.7%)	3/98 (3.1%)	**OR 10.57** (2.30 to 48.69)	**220 more per 1,000** (from 37 more to 575 more)	⨁⨁⨁⨁ High	
Death												
1	randomised trials	not serious	not serious	not serious	very serious[f]	none	0/27 (0.0%)	0/27 (0.0%)	not estimable		⨁⨁◯◯ Low	
ICU admission												

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	nonoperative management	appendectomy	Relative (95% CI)	Absolute (95% CI)		
1	observational studies	serious[d]	not serious	not serious	very serious[b,c]	none	0/25 (0.0%)	1/19 (5.3%)	**OR 0.24** (0.01 to 6.28)	**39 fewer per 1,000** (from 52 fewer to 206 more)	⨁◯◯◯ Very low	
New/postoperative abscess												
4	observational studies	serious[d]	not serious	not serious	very serious[b,c]	none	0/141 (0.0%)	3/143 (2.1%)	**OR 0.13** (0.01 to 1.29)	**18 fewer per 1,000** (from 21 fewer to 6 more)	⨁◯◯◯ Very low	
New course of antibiotics												
1	randomised trials	not serious	not serious	not serious	very serious[b,c]	none	1/27 (3.7%)	1/27 (3.7%)	**OR 1.00** (0.06 to 16.85)	**0 fewer per 1,000** (from 35 fewer to 356 more)	⨁⨁◯◯ Low	
IR drain												
2	observational studies	serious[d]	not serious	not serious	very serious[b,c]	none	0/104 (0.0%)	1/112 (0.9%)	**OR 0.14** (0.00 to 6.82)	**8 fewer per 1,000** (from -- to 49 more)	⨁◯◯◯ Very low	
Conversion to operative management/reoperation (all)												
2	randomised trials	not serious	not serious	not serious	not serious	very strong association	20/48 (41.7%)	0/52 (0.0%)	**OR 38.31** (4.90 to 299.69)	**417 more per 1,000** (from 0 fewer to 0 fewer)	⨁⨁⨁⨁ High	
Conversion to operative management/reoperation (short term)												
2	randomised trials	not serious	not serious	not serious	very serious[b,c]	very strong association	4/48 (8.3%)	0/52 (0.0%)	**OR 5.89** (0.66 to 52.28)	**83 more per 1,000** (from 0 fewer to 0 fewer)	⨁⨁⨁⨁ High	
Conversion to operative management/reoperation (long term)												
2	randomised trials	not serious	not serious	not serious	serious[b]	very strong association	14/48 (29.2%)	0/52 (0.0%)	**OR 22.71** (2.87 to 179.78)	**292 more per 1,000** (from 0 fewer to 0 fewer)	⨁⨁⨁⨁ High	

CI: confidence interval; **MD:** mean difference; **OR:** odds ratio; **SMD:** standardised mean difference

Explanations

a. This outcome included a study deemed at high risk of bias using the Cochrane Risk of Bias tool due to inadequate descriptions of study protocol.

Appendix D – Quality assessment

b. Suboptimal sample size.
c. This outcome's confidence interval is non-significant.
d. Nearly all the observational studies included were rated high risk of bias on the Newcastle Ottawa scale due to concerns over the comparability of the two groups.
e. This outcome included studies with non-overlapping confidence intervals.
f. No events occurred.

Author(s):
Question: Nonoperative compared to operative management for adult patients with acute, complicated appendicitis
Setting:
Bibliography: . [Intervention] for [health problem]. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	nonoperative	operative management	Relative (95% CI)	Absolute (95% CI)		
Length of stay												
1	randomised trials	not serious	not serious	not serious	serious[a]	none	30	30	-	MD **1.12 higher** (0.65 higher to 1.59 higher)	⨁⨁⨁◯ Moderate	
Cost												
1	observational studies	serious[b]	not serious	not serious	very serious[a,c]	none	58	247	-	MD **124 higher** (9724.44 lower to 9972.44 higher)	⨁◯◯◯ Very low	
Readmission												
1	randomised trials	not serious	not serious	not serious	serious[a]	none	8/30 (26.7%)	1/30 (3.3%)	**OR 10.55** (1.23 to 90.66)	**233 more per 1,000** (from 7 more to 724 more)	⨁⨁⨁◯ Moderate	
Death												
1	randomised trials	not serious	not serious	not serious	serious[a]	none	1/30 (3.3%)	0/30 (0.0%)	**OR 7.39** (0.15 to 372.38)	**33 more per 1,000** (from 0 fewer to 0 fewer)	⨁⨁⨁◯ Moderate	
ICU admission												
1	observational studies	not serious	not serious	not serious	serious[a]	none	2/113 (1.8%)	7/70 (10.0%)	**OR 0.16** (0.03 to 0.80)	**83 fewer per 1,000** (from 97 fewer to 18 fewer)	⨁◯◯◯ Very low	
New/postoperative abscess												
1	randomised trials	not serious	not serious	not serious	very serious[a,c]	none	8/30 (26.7%)	3/30 (10.0%)	**OR 3.27** (0.77 to 13.83)	**167 more per 1,000** (from 21 fewer to 506 more)	⨁⨁◯◯ Low	

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	nonoperative	operative management	Relative (95% CI)	Absolute (95% CI)		
Reoperation												
1	randomised trials	not serious	not serious	not serious	serious[a]	none	15/30 (50.0%)	1/30 (3.3%)	**OR 29.00** (3.49 to 241.13)	**467 more per 1,000** (from 74 more to 859 more)	⨁⨁⨁◯ Moderate	
Reintervention - IR drain												
1	randomised trials	not serious	not serious	not serious	very serious[a,c]	none	2/30 (6.7%)	2/30 (6.7%)	**OR 1.00** (0.13 to 7.60)	**0 fewer per 1,000** (from 57 fewer to 285 more)	⨁⨁◯◯ Low	

CI: confidence interval; **MD:** mean difference; **OR:** odds ratio

Explanations

a. Suboptimal sample size.
b. This outcome was based on a study rated at high risk of bias on the Newcastle Ottawa scale due to concerns over the comparability of the two groups.
c. Non-significant confidence interval.
Author(s):
Question: Nonoperative management compared to operative management for pediatric patients with acute, complicated appendicitis
Setting:
Bibliography: . [Intervention] for [health problem]. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	nonoperative management	operative management	Relative (95% CI)	Absolute (95% CI)		
Return to school												
1	randomised trials	not serious	not serious	not serious	serious[a]	none	67	64	-	MD **5.6 higher** (2.82 higher to 8.38 higher)	⨁⨁⨁◯ Moderate	
Length of stay												
2	randomised trials	not serious	not serious	not serious	very serious[a,b]	none	87	84	-	MD **1.2 higher** (1.16 lower to 3.56 higher)	⨁⨁◯◯ Low	
Cost												

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	nonoperative management	operative management	Relative (95% CI)	Absolute (95% CI)		
1	randomised trials	not serious	not serious	not serious	very serious[a,b]	none	67	64	-	MD **4929 higher** (567.98 lower to 10425.98 higher)	⨁⨁◯◯ Low	
Quality of life												
1	randomised trials	serious[c]	not serious	not serious	serious[a]	none	20	20	-	SMD **2.88 lower** (3.79 lower to 1.97 lower)	⨁⨁◯◯ Low	
Readmission												
1	randomised trials	not serious	not serious	not serious	serious[a]	none	21/67 (31.3%)	5/64 (7.8%)	**OR 5.39** (1.89 to 15.37)	**235 more per 1,000** (from 60 more to 488 more)	⨁⨁⨁◯ Moderate	
Abscess												
2	randomised trials	not serious	not serious	not serious	serious[a]	strong association	30/87 (34.5%)	16/84 (19.0%)	**OR 2.23** (1.10 to 4.50)	**154 more per 1,000** (from 15 more to 324 more)	⨁⨁⨁⨁ High	
New course of antibiotics												
1	observational studies	serious[d]	not serious	not serious	serious[a]	none	16/148 (10.8%)	8/168 (4.8%)	**OR 2.42** (1.01 to 5.84)	**60 more per 1,000** (from 0 fewer to 178 more)	⨁◯◯◯ Very low	
Conversion to operative management/reoperation												
1	randomised trials	not serious	not serious	not serious	very serious[a,b]	none	4/20 (20.0%)	0/20 (0.0%)	**OR 11.18** (0.56 to 222.98)	**200 more per 1,000** (from 0 fewer to 0 fewer)	⨁⨁◯◯ Low	

CI: confidence interval; **MD:** mean difference; **OR:** odds ratio; **SMD:** standardised mean difference

Explanations

a. Suboptimal sample size.
b. This outcome's confidence interval is non-significant.
c. This outcome included an RCT where the two groups had statistically significant differences at baseline, raising concerns about the randomization process.
d. This outcome included studies rated high or unclear risk of bias on the Newcastle Ottawa scale due to concerns about the comparability of the two groups.
Author(s):
Question: Operation >12 hours after diagnosis compared to operation <12 hours after diagnosis for patients with uncomplicated appendicitis undergoing appendectomy
Setting:
Bibliography: . Operation >12h versus Operation <12h for Appendectomy. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	operation >12 hours after diagnosis	operation <12 hours after diagnosis	Relative (95% CI)	Absolute (95% CI)		
Hospital LOS												
4	observational studies	serious[a]	not serious	not serious	not serious	none	1314	5867	-	MD **0.59 higher** (0.17 higher to 1 higher)	⨁◯◯◯ Very low	
Organ space infection												
8	observational studies	serious[a]	not serious	not serious	not serious	none	82/2974 (2.8%)	122/7458 (1.6%)	**OR 1.41 (0.90 to 2.21)**	**7 more per 1,000 (2 fewer to 19 more)**	⨁◯◯◯ Very low	
Readmission												
4	observational studies	serious[a]	not serious	not serious	serious[b]	none	38/1342 (2.8%)	64/4626 (1.4%)	**OR 1.08 (0.69 to 1.70)**	**1 more per 1,000 (4 fewer to 9 more)**	⨁◯◯◯ Very low	
Reoperation												
1	observational studies	not serious	not serious	not serious	very serious[b,c]	none	43/1296 (3.3%)	45/1263 (3.6%)	**RR 0.93** (0.62 to 1.40)	**2 fewer per 1,000** (from 14 fewer to 14 more)	⨁◯◯◯ Very low	
Postoperative drain placement												
1	observational studies	serious[a]	not serious	not serious	very serious[b,c]	none	7/269 (2.6%)	21/594 (3.5%)	**RR 0.74** (0.32 to 1.71)	**9 fewer per 1,000** (from 24 fewer to 25 more)	⨁◯◯◯ Very low	

CI: confidence interval; **MD:** mean difference; **RR:** risk ratio

Explanations

a. This outcome contained studies that were rated high risk of bias on the Newcastle Ottawa scale due to comparability of the intervention and comparison arms.
b. The confidence interval for this outcome is non-significant.
c. The fragility index of this outcome is 0.
Author(s):
Question: Operation >12 hours from diagnosis compared to operation <12 hours from diagnosis for pediatric patients with uncomplicated appendicitis undergoing appendectomy
Setting:
Bibliography: . Operation >12h versus Operation <12h for Appendectomy. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	operation >12 hours from diagnosis	operation <12 hours from diagnosis	Relative (95% CI)	Absolute (95% CI)		
Organ space infection												
2	observational studies	serious[a]	serious[b]	not serious	serious[c]	none	107/1871 (5.7%)	65/1133 (5.7%)	**OR 2.60 (0.05 to 127.83**	**79 more per 1,000 (54 fewer to 829 more)**	⨁◯◯◯ Very low	
Readmission												
2	observational studies	serious[d]	not serious	not serious	not serious	none	189/5555 (3.4%)	56/1103 (5.1%)	**RR 0.67** (0.46 to 0.96)	**17 fewer per 1,000** (from 27 fewer to 2 fewer)	⨁◯◯◯ Very low	
Reoperation												
1	observational studies	serious[a]	not serious	not serious	very serious[c,e]	none	14/1653 (0.8%)	9/1103 (0.8%)	**RR 1.04** (0.45 to 2.39)	**0 fewer per 1,000** (from 4 fewer to 11 more)	⨁◯◯◯ Very low	

CI: confidence interval; **RR:** risk ratio

Explanations

a. This outcome contained studies that were rated unclear risk of bias on the Newcastle Ottawa scale due to comparability of the intervention and comparison arms.
b. The studies contributing to this outcome had non-overlapping confidence intervals.
c. This outcome had a fragility index of 0.
d. This outcome contained studies that were rated high risk of bias on the Newcastle Ottawa scale due to comparability of the intervention and comparison arms.
e. This outcome had a non-significant confidence interval.
Author(s):
Question: Suction and lavage compared to suction alone in adult patients undergoing appendectomy for perforated appendicitis
Setting:
Bibliography: . Suction and lavage versus suction alone for perforated appendicitis. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Suction and lavage	suction alone	Relative (95% CI)	Absolute (95% CI)		
Organ space infection*												
4	randomised trials	serious[a]	not serious	not serious	very serious[b,c]	none	32/324 (9.9%)	36/389 (9.3%)	**RR 0.92 (0.41 to 2.06)**	**7 fewer per 1,000 (55 fewer to 98 more)**	⨁◯◯◯ Very low	
Postoperative drain placement												

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Suction and lavage	suction alone	Relative (95% CI)	Absolute (95% CI)		
3	randomised trials	serious[a]	not serious	not serious	very serious[b,c]	none	12/194 (6.2%)	13/259 (5.0%)	**RR 1.11** (0.53 to 2.30)	**6 more per 1,000** (from 24 fewer to 65 more)	⨁◯◯◯ Very low	
Hospital lengh of stay (LOS)												
2	randomised trials	serious[a]	serious[d]	not serious	Serious[b]	none	242	304	-	MD **1.28 lower** (3.32 lower to .76 higher)	⨁◯◯◯ Very low	
Readmission												
2	randomised trials	serious[a]	not serious	not serious	very serious[b,c]	none	18/152 (11.8%)	26/215 (12.1%)	**RR 0.90 (0.36 to 2.24)**	**12 fewer per 1,000 (77 fewer to 150 more)**	⨁◯◯◯ Very low	
Reoperation*												
3	randomised trials	serious[a]	not serious	not serious	very serious[b,c]	none	13/194 (6.7%)	8/259 (3.1%)	**RR 1.68 (0.59 to 4.79)**	**21 more per 1,000 (13 fewer to 117 more**	⨁◯◯◯ Very low	
Death*												
1	randomised trials	serious[a]	not serious	not serious	very serious[b,c]	none	0/112 (0.0%)	2/174 (1.1%)	**RR 0.31** (0.02 to 6.39)	**8 fewer per 1,000** (from 11 fewer to 62 more)	⨁◯◯◯ Very low	

CI: confidence interval; **MD:** mean difference; **RR:** risk ratio

Explanations

a. This outcome included a study rated at high risk of bias on the Cochrane Risk of Bias Tool due to inadequate description of the randomization process and ambiguity surrounding the number of patients lost to follow up.
b. This outcome's confidence interval is non-significant.
c. This outcome's fragility index is 0.
d. The papers contributing to this outcome had non-overlapping confidence intervals.
Author(s):
Question: Suction and lavage compared to suction alone in pediatric patients undergoing appendectomy for perforated appendicitis
Setting:
Bibliography: . Suction and lavage versus suction alone for perforated appendicitis. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Suction and lavage	suction alone	Relative (95% CI)	Absolute (95% CI)		
Organ space infection*												

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Suction and lavage	suction alone	Relative (95% CI)	Absolute (95% CI)		
3	randomised trials	not serious	not serious	not serious	very serious[a,b]	none	27/204 (13.2%)	29/202 (14.4%)	**RR 0.92 (0.57 to 1.49)**	**11 fewer per 1,000 (62 fewer to 70 more)**	⨁⨁◯◯ Low	
Death*												
3	randomised trials	not serious	not serious	not serious	very serious[b]	none	0/642 (0.0%)	0/363 (0.0%)	not pooled	see comment	⨁⨁◯◯ Low	
Post operative drain placement												
2	randomised trials	not serious	not serious	not serious	very serious[a,b]	none	12/160 (7.5%)	16/160 (10.0%)	**RR 0.75** (0.37 to 1.53)	**25 fewer per 1,000** (from 63 fewer to 53 more)	⨁⨁◯◯ Low	
Hospital lengh of stay (LOS)												
2	randomised trials	not serious	not serious	not serious	very serious[a,c]	none	160	160	-	MD **0.33 lower** (0.97 lower to 0.32 higher)	⨁⨁◯◯ Low	
Readmission												
2	randomised trials	not serious	not serious	not serious	very serious[a,b]	strong association	1/160 (0.6%)	6/160 (3.8%)	**RR 0.24 (0.04 to 1.45)**	**28 fewer per 1,000 (36 fewer to 17 more)**	⨁⨁⨁◯ Moderate	
Reoperation*												
4	randomised trials	not serious	not serious	not serious	very serious[a,d]	strong association	16/692 (2.3%)	2/413 (0.5%)	**RR 2.57 (0.47 to 13.97)**	**8 more per 1,000 (3 fewer to 63 more)**	⨁⨁⨁◯ Moderate	

CI: confidence interval; **MD:** mean difference; **RR:** risk ratio

Explanations

a. This outcome has a non-significant confidence interval.
b. This outcome has a fragility index of 0.
c. N<400 with continuous variable.
d. This outcome has a fragility index of 1.
Author(s):
Question: Routine drain placement compared to no routine drain placement in adult patients undergoing appendectomy for complicated appendicitis
Setting:
Bibliography: . Drain replacement versus no drain replacement for appendectomy for complicated appendicitis. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	routine drain placement	no routine drain placement	Relative (95% CI)	Absolute (95% CI)		
Organ space infection*												
6	observational studies	serious[a]	not serious	not serious	very serious[b,c]	none	49/583 (8.4%)	107/1144 (9.4%)	**OR 1.12 (0.77 to 1.63)**	**10 more per 1,000 (20 fewer to 50 more)**	⨁◯◯◯ Very low	
Required new course of antibiotics*												
2	observational studies	serious[a]	not serious	not serious	very serious[b,c]	none	8/72 (11.1%)	18/255 (7.1%)	**OR 1.59 (0.66 to 3.82)**	**37 more per 1,000 (23 fewer to 154 more)**	⨁◯◯◯ Very low	
Postoperative drain placement/replacement*												
3	observational studies	serious[a]	not serious	not serious	very serious[b,c]	none	7/116 (6.0%)	27/360 (7.5%)	**OR 0.88 (0.25 to 3.10)**	**8 fewer per 1,000 (55 fewer to 126 more)**	⨁◯◯◯ Very low	
Readmission												
2	observational studies	serious[a]	not serious	not serious	very serious[b,c]	none	19/337 (5.6%)	38/654 (5.8%)	**RR 1.28** (0.75 to 2.17)	**16 more per 1,000** (from 15 fewer to 68 more)	⨁◯◯◯ Very low	
Reoperation*												
1	observational studies	not serious	not serious	not serious	very serious[b,c]	none	4/56 (7.1%)	7/169 (4.1%)	**OR 1.78 (0.50 to 6.32)**	**30 more per 1,000** (from 20 fewer to 173 more)	⨁◯◯◯ Very low	
Death*												
3	observational studies	not serious	not serious	not serious	very serious[b]	none	0/229 (0.0%)	0/404 (0.0%)	not estimable		⨁◯◯◯ Very low	
Length of stay												
2	observational studies	serious[a]	not serious	not serious	very serious[b,d]	none	59	191	-	**8 fewer per 1,000 (55 fewer to 126 more)**	⨁◯◯◯ Very low	

CI: confidence interval; **RR:** risk ratio

Explanations

Appendix D – Quality assessment

a. This outcome included studies rated at high risk of bias on the Newcastle Ottawa scale due to concerns over the comparability of the two groups.
b. This outcome has a non-significant confidence interval.
c. This outcome has a fragility index of 0.
d. This outcome is a continuous variable with n<400.
Author(s):
Question: Routine drain placement compared to no routine drain placement in pediatric patients undergoing appendectomy for complicated appendicitis
Setting:
Bibliography: . Drain replacement versus no drain replacement for appendectomy for complicated appendicitis. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	routine drain placement	no routine drain placement	Relative (95% CI)	Absolute (95% CI)		
Organ space infection*												
2	observational studies	serious[a]	serious[b]	not serious	serious[c]	none	88/345 (25.5%)	42/226 (18.6%)	**OR 2.01 (0.83 to 4.87)**	**57 more per 1,000 (10 fewer to 187 more)**	⨁◯◯◯ Very low	
Postoperative drain placement/replacement*												
1	observational studies	not serious	not serious	not serious	very serious[d]	none	24/270 (8.9%)	16/109 (14.7%)	**OR 0.57 (0.29 to 1.11**	**57 fewer per 1,000** (from 99 fewer to 14 more)	⨁◯◯◯ Very low	
Readmission												
2	observational studies	not serious	not serious	not serious	serious[e]	none	43/728 (5.9%)	48/1413 (3.4%)	**OR 1.14 (0.55 to 2.40)**	**5 more per 1,000 (15 fewer to 44 more**)	⨁◯◯◯ Very low	
Reoperation*												
2	observational studies	not serious	not serious	not serious	not serious	none	28/728 (3.8%)	27/1413 (1.9%)	**OR 2.04 (1.06 to 3.94)**	**19 more per 1,000 (1 more to 52 more)**	⨁⨁◯◯ Low	

CI: confidence interval; **RR:** risk ratio

Explanations

a. This outcome included a study rated at high risk of bias on the Newcastle Ottawa scale due to concerns over the comparability of the two groups.
b. The studies contributing to this outcome had non-overlapping confidence intervals.
c. Fragility index of 0.
d. Fragility index of 0 and non-significant confidence interval.
e. Non-significant confidence interval
Author(s):
Question: Short term postoperative antibiotics compared to long term post operative antibiotics for Adult patients undergoing appendectomy for complicated appendicitis
Setting:
Bibliography: . Short term antibiotic versus long term antibiotic for appendectomy. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Short term postoperative antibiotics	long term post operative antibiotics	Relative (95% CI)	Absolute (95% CI)		
Organ space infection												
1	randomised trials	serious[a]	not serious	not serious	very serious[b,c]	none	3/39 (7.7%)	5/41 (12.2%)	**RR 0.63** (0.16 to 2.46)	**45 fewer per 1,000** (from 102 fewer to 178 more)	⊕◯◯◯ Very low	
Required new course of antibiotic												
1	randomised trials	serious[a]	not serious	not serious	very serious[b,c]	none	3/39 (7.7%)	3/41 (7.3%)	**RR 1.05** (0.23 to 4.90)	**4 more per 1,000** (from 56 fewer to 285 more)	⊕◯◯◯ Very low	
C diff infection												
2	observational studies	not serious	not serious	not serious	very serious[b,d]	none	0/235 (0.0%)	4/401 (1.0%)	**RR 0.14** (0.01 to 2.61)	**9 fewer per 1,000** (from 10 fewer to 15 more)	⊕◯◯◯ Very low	
Postoperative drain placement												
1	randomised trials	serious[a]	not serious	not serious	very serious[b,c]	none	2/39 (5.1%)	2/41 (4.9%)	**RR 1.05** (0.16 to 7.10)	**2 more per 1,000** (from 41 fewer to 298 more)	⊕◯◯◯ Very low	
Hospital length of stay												
1	randomised trials	serious[a]	not serious	not serious	serious[c]	none	39	41	-	MD **0.9 lower** (1.65 lower to 0.15 lower)	⊕⊕◯◯ Low	
Readmission												
1	randomised trials	serious[a]	not serious	not serious	very serious[b,c]	none	3/39 (7.7%)	3/41 (7.3%)	**RR 1.05** (0.23 to 4.90)	**4 more per 1,000** (from 56 fewer to 285 more)	⊕◯◯◯ Very low	
Reoperation												
2	observational studies	serious[e]	not serious	not serious	very serious[b,d]	none	15/231 (6.5%)	64/654 (9.8%)	**OR 0.82** (0.26 to 2.62)	**16 fewer per 1,000** (from 70 fewer to 123 more)	⊕◯◯◯ Very low	
Total compliactions												

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Short term postoperative antibiotics	long term post operative antibiotics	Relative (95% CI)	Absolute (95% CI)		
1	randomised trials	serious[a]	not serious	not serious	very serious[b,c]	none	7/39 (17.9%)	12/41 (29.3%)	**RR 0.61** (0.27 to 1.40)	**114 fewer per 1,000** (from 214 fewer to 117 more)	⨁◯◯◯ Very low	

CI: confidence interval; **MD:** mean difference; **RR:** risk ratio

Explanations

a. "Allocation to the short treatment group was violated in seven (17.9%) cases where antibiotic therapy was extended by the treating physician."
b. The confidence interval of this outcome is non-significant.
c. This outcome is based on one study with an N=80.
d. This outcome had a fragility index of 0.
e. This outcome includes data from studies rated high risk of bias on the Newcastle Ottawa scale due to concerns over the comparability of the intervention and comparison arms.
Author(s):
Question: Short term postoperative antibiotics compared to long term post operative antibiotics for Pediatric patients undergoing appendectomy for complicated appendicitis
Setting:
Bibliography: . Short term antibiotic versus long term antibiotic for appendectomy. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Short term postoperative antibiotics	long term post operative antibiotics	Relative (95% CI)	Absolute (95% CI)		
Organ space infection												
2	randomised trials	not serious	not serious	not serious	very serious[a,b]	none	82/402 (20.4%)	80/386 (20.7%)	**RR 0.98** (0.75 to 1.29)	**4 fewer per 1,000** (from 52 fewer to 58 more)	⨁⨁◯◯ Low	
Required new course of antibiotics												
1	observational studies	serious[c]	not serious	not serious	very serious[a,b]	none	19/97 (19.6%)	17/82 (20.7%)	**OR 0.93** (0.45 to 1.94)	**12 fewer per 1,000** (from 102 fewer to 129 more)	⨁◯◯◯ Very low	
C diff infection												
1	randomised trials	not serious	not serious	not serious	very serious[a,b]	none	4/350 (1.1%)	6/336 (1.8%)	**RR 0.64** (0.18 to 2.25)	**6 fewer per 1,000** (from 15 fewer to 22 more)	⨁⨁◯◯ Low	
Postoperative drain placement												

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Short term postoperative antibiotics	long term post operative antibiotics	Relative (95% CI)	Absolute (95% CI)		
3	observational studies	serious[c,d,e]	not serious	not serious	very serious[a,b]	none	56/477 (11.7%)	79/533 (14.8%)	**OR 0.75** (0.52 to 1.09)	**33 fewer per 1,000** (from 65 fewer to 11 more)	⨁◯◯◯ Very low	
Hospital length of stay												
2	randomised trials	not serious	not serious	not serious	very serious[a]	none	402	386	-	MD 0.33 **lower** (4.03 lower to 3.38 higher)	⨁⨁◯◯ Low	
Readmission												
1	randomised trials	not serious	not serious	not serious	very serious[a,b]	none	10/350 (2.9%)	22/336 (6.5%)	**RR 0.44** (0.21 to 0.91)	**37 fewer per 1,000** (from 52 fewer to 6 fewer)	⨁⨁◯◯ Low	
Reoperation												
1	randomised trials	not serious	not serious	not serious	very serious[a,b]	none	3/350 (0.9%)	0/336 (0.0%)	**RR 6.72** (0.35 to 129.62)	**0 fewer per 1,000** (from 0 fewer to 0 fewer)	⨁⨁◯◯ Low	

CI: confidence interval; **MD:** mean difference; **RR:** risk ratio

Explanations

a. The confidence interval for this outcome is non-significant.
b. The fragility index for this outcome is 0.
c. This study was rated unclear risk of bias on the Newcastle Ottawa scale due to lack of information about follow up.
d. This outcome includes results from studies rated high risk of bias on the Newcastle Ottawa scale due to concerns over comparability of the two groups.
e. This outcome includes results from studies rated high risk of bias on the Newcastle Ottawa scale due to concerns over their selection criteria.
Author(s):
Question: Interval appendectomy compared to observation for adults with complicated appendicitis
Setting:
Bibliography: . Interval appendectomy versus Observation for complicated appendicitis. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Interval appendectomy	observation	Relative (95% CI)	Absolute (95% CI)		
Death												

Appendix D – Quality assessment

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Interval appendectomy	observation	Relative (95% CI)	Absolute (95% CI)		
1	observational studies	serious[a]	not serious	not serious	serious[b]	none	0/64 (0.0%)	5/106 (4.7%)	**OR 0.14** (0.01 to 2.63)	**40 fewer per 1,000** (from 47 fewer to 68 more)	⨁◯◯◯ Very low	
Length of stay												
1	observational studies	serious[a]	not serious	not serious	very serious[c,d]	none	26	3	-	MD **0.33 higher** (3.41 lower to 4.07 higher)	⨁◯◯◯ Very low	
Return to OR short term <30d												
1	randomised trials	not serious	not serious	not serious	very serious[b]	none	0/25 (0.0%)	1/27 (3.7%)	**RR 0.36** (0.02 to 8.43)	**24 fewer per 1,000** (from 36 fewer to 275 more)	⨁⨁◯◯ Low	
Return to OR long term >30d												
1	randomised trials	not serious	not serious	not serious	not serious[c]	none	0/25 (0.0%)	19/27 (70.4%)	**RR 0.03** (0.00 to 0.43)	**683 fewer per 1,000** (from 704 fewer to 401 fewer)	⨁⨁⨁⨁ High	
Abscess												
1	randomised trials	not serious	not serious	not serious	very serious[c,d]	none	1/25 (4.0%)	0/27 (0.0%)	**RR 3.23** (0.14 to 75.83)	**0 fewer per 1,000** (from 0 fewer to 0 fewer)	⨁⨁◯◯ Low	
Drain												
1	randomised trials	not serious	not serious	not serious	very serious[b,d]	none	1/25 (4.0%)	0/27 (0.0%)	**RR 3.23** (0.14 to 75.83)	**0 fewer per 1,000** (from 0 fewer to 0 fewer)	⨁⨁◯◯ Low	
Neoplasm												
1	randomised trials	not serious	not serious	not serious	very serious[c,d]	none	3/25 (12.0%)	9/27 (33.3%)	**RR 0.36** (0.11 to 1.18)	**213 fewer per 1,000** (from 297 fewer to 60 more)	⨁⨁◯◯ Low	

CI: confidence interval; **MD:** mean difference; **OR:** odds ratio

Explanations

Appendix D – Quality assessment

a. The included study was rated high risk of bias on the Newcastle Ottawa scale due to concerns over the comparability of the two groups.
b. This outcome had a low event rate and is very fragile.
c. This outcome was underpowered.
d. This outcome's confidence interval crosses from meaningful harm to meaningful benefit.