

Acute Appendicitis in Non-Pregnant Adults – Microbiology Summary Clinical Guideline

Reference number: CG-MICRO/4332/24

Clinical concerns re acute appendicitis (abdominal pain, anorexia, nausea, and vomiting; fever, tenderness, rebound tenderness, and guarding)

Investigation

- Biochemistry:
 - Urine pregnancy test
- Blood sciences:
 - FBC, CRP, lactate, U&Es, and LFTs
- Microbiology:
 - ± Blood cultures × 2, drawn approximately 1-15 minutes apart, from 2 locations/venepunctures:
 - For example, if the differential diagnosis includes complicated appendicitis, bloodstream infection, sepsis, or septic shock
- Radiology:
 - In general, symptoms and signs enable the clinician to establish diagnoses/differential diagnoses of acute appendicitis
 - However, if female < 40 years and/or the differential diagnosis includes tubo-ovarian pathology: US of the abdomen pelvis is recommended
 - If > 40 years and/or the differential diagnosis includes an acute abdomen, malignancy, an inflammatory mass/intra-peritoneal abscess, and other infectious/non-infectious aetiologies (e.g. Crohn's disease, terminal ileitis): CT of the abdomen pelvis is recommended

[Appendicitis Inflammatory Response \(AIR\) Score \(mdcalc.com\)](#) and/or [Adult Appendicitis Score Calculator](#)

Treatment

- Surgical opinion ± intervention:
 - Consult with the general surgery registrar/consultant on call
- Empiric, intravenous antibiotics (please note, page 2)
 - NB Empiric anti-fungals can be considered in specific patients, including recurrent intra-abdominal peritonitis (for example, after completion of anti-bacterials) or history of immunocompromise. However, in general, anti-fungals are reserved for patients with cultures of *Candida* species from blood or intra-operative fluid/pus/tissue

Investigation (if surgery/radiology intervenes):

- Microbiology:
 - Fluid, pus, or tissue for MC&S

Treatment

- Directed, intravenous antibiotics (please note, microbiology full clinical guideline, pages 4-6)
 - Duration (please note, microbiology full clinical guideline, page 6)

Empiric, intravenous antibiotics: community acquired

	If clinically stable	If clinically unstable (haemodynamic instability, sepsis , or septic shock)
First line	Co-amoxiclav 1.2 g 8 hourly	Piperacillin tazobactam 4.5 g 8 hourly
Second line, if non-immediate without systemic involvement penicillin allergy	Ceftriaxone 2 g 24 hourly and Metronidazole 500 mg 8 hourly	Ceftazidime 1 g 8 hourly and Vancomycin or teicoplanin, dose as per hospital guidelines , vancomycin target pre dose level 15-20 mg/l, teicoplanin target pre dose level 15-30 mg/l and Metronidazole 500 mg 8 hourly
Third line, if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy	Co-trimoxazole 960 mg 12 hourly and Metronidazole 500 mg 8 hourly	Ciprofloxacin 400 mg 12 hourly and Vancomycin or teicoplanin, dose as per hospital guidelines , vancomycin target pre dose level 15-20 mg/l, teicoplanin target pre dose level 15-30 mg/l and Metronidazole 500 mg 8 hourly

Empiric, intravenous antibiotics: hospital acquired

First line	Piperacillin tazobactam 4.5 g 6 hourly
Second line, if non-immediate without systemic involvement penicillin allergy	Ceftazidime 2 g 8 hourly and Vancomycin or teicoplanin, dose as per hospital guidelines , vancomycin target pre dose level 15-20 mg/l, teicoplanin target pre dose level 15-30 mg/l and Metronidazole 500 mg 8 hourly
Third line, if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy	Ciprofloxacin 400 mg 8 hourly and Vancomycin or teicoplanin, dose as per hospital guidelines , vancomycin target pre dose level 15-20 mg/l, teicoplanin target pre dose level 15-30 mg/l and Metronidazole 500 mg 8 hourly

Empiric anti-fungals

Empiric anti-fungals can be considered in specific patients, including recurrent intra-abdominal peritonitis (for example, after completion of anti-bacterials) or history of immunocompromise. However, in general, anti-fungals are reserved for patients with cultures of *Candida* species from blood or intra-operative fluid, pus, or tissue.