Community-acquired intra-abdominal infections - Antibiotics used for empirical treatment of community-acquired intra-abdominal infections should be active against enteric (gram-negative aerobic and facultative) and b-lactamase-producing gram-positive cocci. Coverage against obligate anaerobic bacilli should be provided for distal small-bowel and colonic-derived infections and for nonoperative gastrointestinal perforations when observation is present.

Hospital-acquired intra-abdominal infections - Postoperative (nosocomial) infections are caused by more-résistant flora, which may include:
- Pseudomonas aeruginosa.
- Enterococcus species.
- Multiresistant Staphylococcus aureus.
- Enteroococci, and
- Candida species.

For these infections, complex multidrug regimens are recommended, because adequate empirical therapy appears to be important in reducing mortality. Local nosocomial resistance patterns should dictate empirical treatment, and treatment should be altered on the basis of the results of a thorough microbiologic workup of infected fluid.

Bowel injuries due to penetrating, blunt, or iatrogenic trauma that are repaired within 12 h and intraoperative contamination of the operative field by enteric contents under other circumstances should be treated with antibiotics for no more than 24 h.

- For patients hypersensitive to penicillin (excluding immediate hypersensitivity), use:
  - Metronidazole 500 mg (child: 12.5 mg/kg up to 500 mg IV) 12-hourly.
  - If infection is derived from distal small-bowel perforations can be caused by gram-negative facultative and aerobic organisms with variable density.
- Perforations of this type often evolve into localized abscesses, with peritonitis developing only after rupture of the abscess.
- Antibiotics need not be administrated to cover all organisms present.
- For initial antibiotic treatment, use:
  - Acute pancreatitis (monitor blood levels and adjust dose accordingly).

Ascending cholangitis is usually associated with Gram-negative sepsis and prompt antibiotic treatment is essential. If biliary obstruction is present, appropriate drainage should be undertaken.

- Initial antibiotic treatment, use:
  - Ceftriaxone 1 g (child: 25 mg/kg up to 1 g) IV, daily.
  - Piperacillin+tazobactam 4+0.5 g (child: 100+12.5 mg/kg up to 4+0.5 g) IV, 8-hourly.
  - OR Tiaclinor+clavulanate 3+0.1 g (child: 50+1.7 mg/kg up to 3+0.1 g) IV, 8-hourly.

- If ongoing IV therapy is required after 3 days, a different regimen should be used.
- For patients undergoing biliary tract surgery or diversion, amend metronidazole 500 mg (child: 12.5 mg/kg up to 500 mg) IV) daily.

- For patients unresponsive to initial therapy or requiring IV therapy beyond 3 days, blood culture results may provide a guide to appropriate therapy. In the absence of this information, use:
  - Piperacillin+carbenicillin 4+0.5 g (child: 100+12 mg/kg up to 4+0.5 g) IV, 8-hourly.
  - OR Ticarcillin+clavulanate 3+0.1 g (child: 50+1.7 mg/kg up to 3+0.1 g) IV, 8-hourly.

- In patients unresponsive to initial therapy or requiring IV therapy beyond 3 days, blood culture results may provide a guide to appropriate therapy. In the absence of this information, use:
  - Piperacillin+carbenicillin 4+0.5 g (child: 100+12 mg/kg up to 4+0.5 g) IV, 8-hourly.
  - OR Ticarcillin+clavulanate 3+0.1 g (child: 50+1.7 mg/kg up to 3+0.1 g) IV, 8-hourly.