

## Practice guidelines for intra-abdominal infections

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Intra-abdominal infections (IAIs) remain a major challenge in clinical practice. They are the main cause of postoperative morbidity following abdominal surgery and the most frequent cause for admission to an intensive care unit. IAIs differ from infections encountered elsewhere in several respects. First, the clinical spectrum of IAI is extremely wide, ranging from uncomplicated acute appendicitis with a relatively benign course to diffuse peritonitis from perforated viscus or ischemic bowel with high morbidity and mortality. While both scenarios comprise of IAIs, they require different approaches to diagnosis and treatment. Additionally, the role of surgery in the management of patients with IAIs is pivotal and generally considered to be a decisive factor in the outcome. The clinical and microbiological diagnosis is also often problematic: IAIs are typically polymicrobial, and not every microorganism involved can be identified in the clinical microbiology laboratory by routine cultures; the pathogenicity of certain microorganisms cultured from IAIs is not considered to be the same for every patient and often relates more directly to the severity of underlying disease or co-morbid conditions of the host; and the clinical signs and symptoms do not often match the severity of disease and may lead to substantial delays in appropriate diagnosis and management. The procedure used to treat the infection depends on the anatomical site of infection, the degree of peritoneal inflammation, the generalized septic response, the patient's underlying condition, and the available resources of the treatment center. IAIs are subcategorized in 2 groups: uncomplicated and complicated IAIs.

In the event of an uncomplicated case of IAI, the infection involves a single organ and does not spread to the peritoneum. Patients with such infections can be treated with either surgical intervention or antibiotics. When the infection is effectively resolved by means of surgery, a 24-hour regimen of perioperative antibiotics is typically sufficient. Patients with uncomplicated intra-abdominal infections, such as acute diverticulitis, acute cholecystitis, and acute appendicitis, may be treated non-operatively by means of antimicrobial therapy.

In the event of complicated IAI, the infectious process proceeds beyond a single organ, causing either localized or diffuse peritonitis. The primary goal was to develop updated recommendations for the medical and surgical management of complicated IAIs. Particular focus is directed at risk stratification for poor outcomes based on epidemiological studies, current status of antimicrobial susceptibility and resistance profiles among enteric pathogens, therapeutic efficacy of antimicrobial regimens based on randomized clinical trials, operative versus percutaneous approaches for source control. Additionally, antibiotic resistance among enteric pathogens has evolved globally and at an alarming rate, while very few newer agents have emerged to replace older therapeutic regimens.

All judgments regarding interpretation of this evidence and the grade assignments were exercised by the members of the task force and subsequent reviewers based on their individual and collective expertise, recognizing that the evidence could be interpreted differently by others. These practice guidelines for IAIs were designed to support clinicians in making appropriate treatment decisions and not designed to supplant the judgment of the individual practitioner.