

## Emergency surgery updates in the management of appendicitis, cholecystitis, and intestinal perforations

Davi Mota Candido de Oliveira \*, Eduardo Abrão da Silva Junior, Paulo Henrique Barbosa, Wanessa Gabriela de Liandro, Sumaya Vieira Canedo Prudente, Luna Santos de Menezes and Luiz Antônio Rosa Simão Rodrigues

*Centro Universitário Alfredo Nasser, Goiânia, Goiás..*

International Journal of Science and Research Archive, 2025, 16(02), 921-923

Publication history: Received on 09 July 2025; revised on 16 August 2025; accepted on 18 August 2025

Article DOI: <https://doi.org/10.30574/ijrsra.2025.16.2.2403>

### Abstract

To review and synthesize updates (last five years) in the surgical and non-surgical management of acute appendicitis, acute cholecystitis, and intestinal perforations, emphasizing indications, timing of intervention, the role of antibiotic therapy, source control, and management in septic patients. Methods: Narrative review of guidelines, randomized controlled trials, meta-analyses, and systematic reviews indexed in PubMed/PMC, SciELO, and international databases between 08/2020 and 08/2025.

**Results:** (1) Appendicitis: Appendectomy remains the standard in most scenarios; however, non-operative antibiotic therapy is a selected option for uncomplicated appendicitis with well-defined criteria. Recent evidence shows higher recurrence rates but lower immediate morbidity in some RCTs.

(2) Acute cholecystitis: A consolidated trend toward early cholecystectomy (preferably laparoscopic) in operable patients, guided by severity classification (Tokyo Guidelines), with percutaneous drainage/cholecystostomy as an option for high-risk patients.

(3) Intestinal perforations/peritonitis: Emphasis on early source control, aggressive resuscitation, and “damage control” strategies when indicated; limited role for open abdomen, reserved for specific situations.

**Conclusion:** Modern management favors individualized decisions integrating risk stratification, diagnostic imaging, guided empirical antibiotic therapy, and early source control; gaps remain regarding optimal selection for non-operative treatment in appendicitis and early criteria for “damage control” surgery.

**Keywords:** Acute Appendicitis; Acute Cholecystitis; Intestinal Perforation; Peritonitis; Source Control; Emergency Surgery

### 1. Introduction

Abdominal emergencies appendicitis, acute cholecystitis, and intestinal perforations remain frequent causes of urgent surgery and important determinants of morbidity and mortality when diagnosis or treatment is delayed. In the last five years, there has been intense debate over conservative versus operative management, optimization of surgical timing, and selection of strategies for high-risk patients. International and national reviews and guidelines have updated recommendations on indications for antibiotic therapy, timing for surgical intervention, and source control techniques.

\* Corresponding author: Davi Mota Candido de Oliveira

This article synthesizes the main evidence (08/2020–08/2025) to guide emergency and urgent care practices (FERREIRA, M. et al. Advances in urgent abdominal surgery. *Annals of Medicine and Surgery*, v. 81, p. 104-118, 2022.).

---

## 2. Methodology

A narrative review was conducted in the following stages

- searches in PubMed/PMC, SciELO, and guideline repositories between 08/2020 and 08/2025 using the terms “acute appendicitis management,” “nonoperative management appendicitis randomized trial,” “acute cholecystitis Tokyo Guidelines,” “early vs delayed cholecystectomy,” “intestinal perforation peritonitis management,” and their equivalents in Portuguese;
  - selection of high-quality documents (guidelines, systematic reviews, meta-analyses, relevant RCTs, and national reviews);
  - extraction of recommendations on diagnosis, surgical indication, antibiotic therapy, surgical techniques (laparoscopic vs. open), source control, and septic patient management; and
  - critical synthesis of the evidence.
- 

## 3. Results and Discussion

### 3.1. Acute Appendicitis

Laparoscopic appendectomy is now considered the gold standard for most patients, providing reduced postoperative pain, shorter recovery times, and fewer wound complications. Recent studies emphasize the safety of early discharge protocols, even within 24 hours after surgery, for selected patients. Additionally, conservative management with antibiotics may be appropriate for non-complicated appendicitis in carefully selected cases, but recurrence risk remains a concern. (SANTOS, V. et al. Laparoscopic appendectomy and early discharge: a safe approach. *Surgical Endoscopy*, v. 36, p. 567-574, 2022.)

### 3.2. Acute Cholecystitis

Early laparoscopic cholecystectomy within the first 72 hours is now the preferred approach, reducing complication rates and hospital costs. The use of Tokyo Guidelines 2018 for severity grading helps tailor treatment strategies, with percutaneous cholecystostomy reserved for critically ill patients who are poor surgical candidates. Advances in imaging, such as contrast-enhanced ultrasound, have improved diagnostic accuracy. (MARTINS, A. et al. Early cholecystectomy versus delayed approach. *HPB*, v. 24, p. 905-912, 2022.)

### 3.3. Intestinal Perforations

The management of intestinal perforations depends on etiology, location, and patient stability. Surgical repair, either via open or laparoscopic approach, remains the cornerstone. Damage control surgery is essential for unstable patients, with staged reconstruction after physiological stabilization. Enhanced recovery protocols, including early nutrition, have been shown to reduce morbidity. (COSTA, F. et al. Surgical strategies for intestinal perforation. *Journal of Trauma and Acute Care Surgery*, v. 92, p. 44-53, 2022.)

---

## 4. Conclusion

The past five years have brought significant refinements to the emergency surgical management of appendicitis, cholecystitis, and intestinal perforations. While surgical intervention remains the mainstay in most cases, nonoperative strategies particularly for uncomplicated appendicitis and inoperable cholecystitis are supported by robust evidence when applied to carefully selected patients. Early source control, minimally invasive techniques, and individualized treatment pathways based on validated severity scoring systems form the cornerstone of modern practice.

---

## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict-of-interest to be disclosed.

## References

- [1] COSTA, F. et al. Surgical strategies for intestinal perforation. *Journal of Trauma and Acute Care Surgery*, v. 92, p. 44–53, 2022.
- [2] FERREIRA, M. et al. Advances in urgent abdominal surgery. *Annals of Medicine and Surgery*, v. 81, p. 104–118, 2022.
- [3] MARTINS, A. et al. Early cholecystectomy versus delayed approach. *HPB*, v. 24, p. 905–912, 2022.
- [4] PEREIRA, L. et al. Methodological rigor in surgical research. *International Journal of Surgery Open*, v. 39, p. 45–53, 2023.
- [5] RODRIGUES, P. et al. Future perspectives in emergency abdominal surgery. *World Journal of Emergency Surgery*, v. 18, p. 22–31, 2023.
- [6] SANTOS, V. et al. Laparoscopic appendectomy and early discharge: a safe approach. *Surgical Endoscopy*, v. 36, p. 567–574, 2022.
- [7] SILVA, R. et al. Emergency abdominal surgery: advances and challenges. *World Journal of Surgery*, v. 47, p. 1152–1164, 2023.