

**Keywords used:** interventions for acute appendicitis

**Problem:** Acute appendicitis is the most common cause of abdominal emergencies in the United States. Without interventions, the mortality rate of appendicitis is more than 50%.

**Purpose:** Several strategies learned from the pandemic help mitigate risks associated with acute appendicitis. This article aims to provide physicians with an overview of these strategies.

## New Interventions for Acute Appendicitis Stemming from COVID-19

*The pandemic exhausted our resources. It pushed our capacities. It necessitated innovation, invention and a unified approach to healthcare. Fear was pervasive, and the threat of contamination resulted in reduced appendicitis admissions. Surgical services, especially appendicitis management, were significantly impacted.*

*Though no one wants to relive those days, we have grown and become more resilient. The pandemic allowed us to test our theories and evaluate their effectiveness. Keep reading to learn how COVID-19 impacted interventions for acute appendicitis.*

### Key Takeaways

- Acute appendicitis is the most common cause of abdominal emergencies in the United States. Sans interventions, the mortality rate is more than 50%.
- An improved understanding of the SARS-CoV-2 virus helps mitigate risks associated with appendicitis.
- Improved screening protocols aid in operative and nonoperative management strategies. With knowledge of patients who are positive for COVID-19, physicians can make informed decisions.
- During the first wave of the pandemic, guidelines recommended open surgery for appendicitis. However, new evidence shows that laparoscopic appendectomy is the gold standard.
- Research indicates that the ingenuity and persistence of healthcare professionals improved surgical services.

### Acute appendicitis' global impact

Appendicitis is the most common cause of abdominal surgical emergencies worldwide. Since the mid-twentieth century, the Western world's appendicitis incident rates have decreased. However, newly industrialized countries observe an increase in appendicitis.

Uncomplicated appendicitis is the inflammation of the vermiform appendix without abscess or perforation. Patients with this condition present with nausea and vomiting. The telltale sign of appendicitis is rebound pain in the right lower quadrant of the abdomen.

Acute appendicitis is inflammation that results in intra-abdominal abscess or free perforation. This medical emergency can lead to extreme complications and even death. It affects 233 individuals for every 100,000. Illness resolution is unlikely without intervention. If treated promptly, the prognosis of appendicitis is good. However, **without intervention, more than 50% of individuals die.**

## Acute appendicitis during the pandemic

The pandemic significantly impacted surgical services. Patients postponed elective surgeries. Providers tailored therapies to accommodate the extreme demand for healthcare resources. However, acute appendicitis is a progressing disease with a high risk of perforation. Intervention cannot be postponed. This condition demands urgent healthcare attention regardless of a global crisis.

Post-pandemic studies presented interesting information regarding COVID-19's impact on appendicitis admission rates. During the spring of 2020, most hospitals observed a **25% reduction in appendicitis admissions**. Interestingly, patient outcomes pre- and post-COVID were similar. In the fall of 2021, the ACIE Appy II study collected information regarding these observations. The results of this study are intriguing.

## Mitigating risks with interventions for acute appendicitis

The ancient Greek philosopher Plato said it well, "Necessity is the mother of innovation." According to the National Institute of Health (NIH), the pandemic forced us to focus on mitigating risks with efficient, cost-effective interventions. Here are **some of the ways surgical services have improved since 2020**:

- Advanced understanding of the safety of minimally invasive surgeries
- Better surgical screening protocols
- Greater availability of personal protective equipment
- Enhanced understanding of SARS-CoV-2 infection transmission

The pandemic changed us all. No doubt, this shift came at a cost. But in many ways, we have used the challenge to make us better. The pandemic required that we learn to pull together for the benefit of the greater good. We can now more confidently approach surgical services even during a global crisis.

## Screening for SARS-CoV-2

Surgical screening protocols have drastically shifted since the onset of COVID-19. During the first wave of the pandemic, only 37.4% of individuals were screened before an appendectomy. **In 2021, 89.5% of patients preparing for an appendectomy were screened regardless of symptoms.**

Patients positive for COVID-19 have a 23.8% mortality risk and 51.4% risk of pulmonary complications. With knowledge of infected patients, physicians can make informed decisions. Nonoperative interventions may be a better solution for uncomplicated appendicitis. This strategy allows for postponing surgery until a safer time.

## Nonoperative management strategy

During the pandemic, physicians frequently utilized antibiotics for appendicitis in hopes of avoiding surgery. Consequently, interest in treating uncomplicated appendicitis with antibiotics is on the rise.

What's not to love? Prescribing an antibiotic seems like a viable solution to this life-threatening condition. However, recurrence rates after nonoperative management strategies are high. One study showed a **30% recurrence of appendicitis when using only antibiotics**. Additionally, NOM for appendicitis has a *lower efficacy rate than surgical intervention*.

## Surgical approach

During the pandemic, many guidelines suggested open appendectomy as opposed to laparoscopic appendectomy. Many worried that particles by smoke plumes and pneumoperitoneum would transmit the virus during laparoscopy.

SARS-COV-2 RNA was found in peritoneal fluid, and transmission is conceivable. However, after further study, no cases of COVID-19 transmission by laparoscopy were reported. Consequently, **laparoscopic appendectomy has become the gold standard of treatment**. It is now the first therapy option for all cases of appendicitis. Here are some of the advantages of these minimally invasive surgical interventions:

- Improved diagnostics
- Reduced recovery time
- Ambulatory appendectomy capabilities
- Proven safety even during the pandemic
- Better short- and long-term outcomes

Robotic surgical innovations have proven safe and effective. These interventions reduce hospital stays and financial burdens.

## Learning from the pandemic

The pandemic brought global grief and an abundance of anxiety. Healthcare resources were dispersed and overextended. Urgent conditions, like acute appendicitis, did not miraculously disappear. However, resilient healthcare professionals quickly adapted to meet the demands of an unforeseen crisis. Research indicates that **we have advanced the management of common conditions like appendicitis.**

## Delivering safe surgical services

More than 5% of Americans develop appendicitis during their lifetime. This medical emergency requires urgent attention regardless of a global crisis. The pandemic forever changed us. It taught us how to **expedite services, prioritize interventions and utilize resources.**

<Facility Name> prioritizes safe surgical services. We deliver evidence-based practices to promote positive patient outcomes. We would be honored to partner with you to provide safe surgical services to your patients. Click the "Refer" button to get started.

## Resources

“Evolving Trends in the Management of Acute Appendicitis During COVID-19 Waves: The ACIE Appy II Study.” NIH: National Library of Medicine, 2022, Evolving Trends in the Management of Acute Appendicitis During COVID-19 Waves: The ACIE Appy II Study - PMC.

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