

ACOG

Committee on
Gynecologic Practice

Reaffirmed 2019

Committee Opinion



Number 323, November 2005

(Replaces No. 164, December 1995)

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ISSN 1074-861X

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Obstetricians and Gynecologists**
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Elective coincidental appendectomy.
ACOG Committee Opinion No. 323.
American College of Obstetricians and
Gynecologists. *Obstet Gynecol*
2005;106:1141-2.

Elective Coincidental Appendectomy

ABSTRACT: Because of a lack of evidence from randomized trials, it remains unclear whether the benefits of routine elective coincidental appendectomy outweigh the cost and risk of morbidity associated with this prophylactic procedure. Because the risk-benefit analysis varies according to patient age and history, the decision to perform an elective coincidental appendectomy at the time of an unrelated gynecologic surgical procedure should be based on individual clinical scenarios and patient characteristics and preferences.

Elective coincidental appendectomy is defined as the removal of the appendix at the time of another surgical procedure unrelated to appreciable appendiceal pathology. Cases in which appendectomy may be indicated on the basis of appendiceal pathology are not addressed in this document.

The possible benefits of performing elective coincidental appendectomy include preventing a future emergency appendectomy and excluding appendicitis in patients with complicated differential diagnoses, such as those who have chronic pelvic pain or endometriosis. Other groups that may benefit from elective coincidental appendectomy include women in whom pelvic or abdominal radiation or chemotherapy is anticipated, women undergoing extensive pelvic or abdominal surgery in which major adhesions are anticipated postoperatively, and patients in whom making the diagnosis of appendicitis may be difficult because of diminished ability to perceive or communicate symptoms (eg, the developmentally disabled).

Most studies suggest that there is little, if any, increased morbidity associated with elective coincidental appendectomy at the time of gynecologic surgery, whether performed during an open surgical procedure (1-3) or during laparoscopy (4, 5). However, most of these studies are affected by methodological limitations such as retrospective design, small sample size, and lack of an appropriate control group. One large retrospective study using discharge data from all general hospitals in Ontario during a 10-year period highlights some of the challenges of addressing this issue with data from nonrandomized studies (6). This study compared in-hospital fatality rates, complication rates, and lengths of hospital stay between patients undergoing open primary cholecystectomy with and without incidental appendectomy.

Initial results indicated a paradoxical reduction in morbidity and mortality after cholecystectomy when incidental appendectomy was performed. This most likely was because healthier, lower-risk patients are more likely to undergo an elective coincidental appendectomy. However, once multivariate adjustments were made to address these differences in patient characteristics, differences in complication rates were reduced or eliminated. Furthermore, when the study excluded high-risk subgroups, a consistently significant increase in complication rates among low-risk patients who underwent incidental appendectomy was found. These findings suggest that unmeasured or uncontrolled confounding or both make the interpretation of most nonrandomized studies of this topic difficult, but there is probably a small increased risk of nonfatal complications associated with elective coincidental appendectomy.

Given this presumed small but increased risk of complications, the primary debate surrounding elective coincidental appendectomy is whether the additional cost and morbidity incurred at the time of this prophylactic procedure outweigh the cost and risk of morbidity from developing appendicitis in the future. Because the estimated lifetime risk of appendicitis among women is less than 7% (7), a number of elective appendectomies will be required to prevent one case of acute appendicitis. Depending on hospital costs and physician reimbursement rates, the cost-effectiveness of this procedure will vary according to the clinical setting.

Although the incidence of acute appendicitis is greatest between the ages of 10 and 19 years and decreases with age (7), the risks associated with acute appendicitis increase with age. Therefore, the risk-benefit analysis changes according to patient age. A study involving open coincidental appendectomies in otherwise healthy women undergoing gynecologic procedures concluded that the greatest benefit was in patients younger than 35 years (8). The study also concluded that patients between 35 years and 50 years of age might benefit from elective coincidental appendectomy based on specific clinical circumstances. The data, however, did not

support elective coincidental appendectomy for patients older than 50 years.

The benefit of elective coincidental appendectomy remains controversial and is still open to debate. It appears, from limited data, that women 35 years of age and younger benefit most from elective coincidental appendectomy. The decision to perform elective coincidental appendectomy at the time of gynecologic procedures should be based on individual clinical scenarios after a discussion of risks and benefits with the patient. In light of the low risk of morbidity based on current limited data, a patient's concern about developing future appendicitis may be considered. If there is a reasonable probability that the benefits outweigh the risks, based on age or history, elective coincidental appendectomy during a primary gynecologic procedure may be appropriate. Because there are clinical situations in which the benefits of an elective coincidental appendectomy may outweigh the risks, insurance companies should be encouraged to pay for this procedure in select cases.

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