Clinical Policy: Critical Issues in the Evaluation and Management of Emergency Department Patients with Suspected Appendicitis (Executive Summary)

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From the American College of Emergency Physicians Clinical Policies Subcommittee (Writing Committee) on Appendicitis:

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Background

This clinical policy from the American College of Emergency Physicians addresses key issues in the evaluation and management of patients presenting to the emergency department with suspected appendicitis. A writing subcommittee conducted a systematic review of the literature to derive evidence-based recommendations to answer the below critical questions. For each question, a systematic literature search was performed, evidence was graded and synthesized, and recommendations were made based on the strength of the available data. The background text, systematic review, and critical analysis of the literature will be published later this year in the Annals of Emergency Medicine.

Critical Questions

1. In emergency department patients with possible acute appendicitis, can a clinical prediction rule be used to identify patients for whom no advanced imaging is required?

Patient Management Recommendations

Level A recommendations.

Level B recommendations. In pediatric patients, clinical prediction rules can be used to risk stratify for possible acute appendicitis. However, do not use clinical prediction rules alone to identify patients who do not warrant advanced imaging for the diagnosis of appendicitis.
**Level C recommendations.** In adult patients, due to insufficient data, do not use clinical prediction rules to identify patients for whom no advanced imaging is required.

2. **In emergency department patients with suspected acute appendicitis, is the diagnostic accuracy of ultrasound comparable to CT or MRI for the diagnosis of acute appendicitis?**

**Patient Management Recommendations**

**Level A recommendations.**

**Level B recommendations.** In pediatric patients with suspected acute appendicitis, if readily available and reliable, use right lower quadrant (RLQ) ultrasound (US) to diagnose appendicitis.

An unequivocally* positive RLQ US with complete visualization of a dilated appendix has comparable accuracy to a positive CT or MRI in pediatric patients.

**Level C recommendations.** In adult patients with suspected acute appendicitis, an unequivocally* positive RLQ US has comparable accuracy to a positive CT or MRI for ruling in appendicitis.

*A non-visualized or partially-visualized appendix should be considered equivocal. Reasonable options for pediatric patients with an equivocal ultrasound and residual suspicion for acute appendicitis include MRI, CT, surgical consult, and/or observation, depending on local resources and patient preferences with shared decision making.

3. **In emergency department patients who are undergoing CT of the abdomen and pelvis for suspected acute appendicitis, does the addition of contrast improve diagnostic accuracy?**

**Patient Management Recommendations**

**Level A recommendations.**

**Level B recommendations.** In adult and pediatric ED patients undergoing CT for suspected acute appendicitis, use IV contrast when feasible. The addition of oral or rectal contrast does not improve diagnostic accuracy.
**Level C recommendations.** In adult ED patients undergoing CT for suspected acute appendicitis, non-contrast CT scans may be used for the evaluation of acute appendicitis with minimal reduction in sensitivity.

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**Translation of Classes of Evidence to Recommendation Levels**

Based on the strength of evidence grading for each critical question, the subcommittee drafted the recommendations and the supporting text synthesizing the evidence using the following guidelines:

**Level A recommendations.** Generally accepted principles for patient care that reflect a high degree of clinical certainty (eg, based on evidence from 1 or more Class of Evidence I or multiple Class of Evidence II studies).

**Level B recommendations.** Recommendations for patient care that may identify a particular strategy or range of strategies that reflect moderate clinical certainty (eg, based on evidence from 1 or more Class of Evidence II studies or strong consensus of Class of Evidence III studies).

**Level C recommendations.** Recommendations for patient care that are based on evidence from Class of Evidence III studies or, in the absence of adequate published literature, based on expert consensus. In instances in which consensus recommendations are made, “consensus” is placed in parentheses at the end of the recommendation.