

Clinical policy: critical issues in the evaluation and management of adult patients with suspected acute nontraumatic thoracic aortic dissection.

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Promes SB, Westafer L, Byyny R, et al. Clinical policy: critical issues in the evaluation and management of adult patients with suspected acute nontraumatic thoracic aortic dissection. Ann Emerg Med. 2025 Jul;86(1):e12-e26. [17 references] [PubMed](#)

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Overview

Guideline Objective

To provide updated recommendations on evaluation and management of adult patients presenting to the emergency department (ED) with suspected acute nontraumatic thoracic aortic dissection (AoD)

Patient Population

Adult patients presenting to the ED with suspected acute nontraumatic thoracic AoD

Note: This guideline is not intended for pediatric patients or pregnant patients.

Recommendations

Recommendation Statements

In adult patients presenting to the emergency department (ED) with suspected acute nontraumatic thoracic aortic dissection (AoD), can a clinical decision rule plus additional laboratory testing or imaging (plain film or point-of-care ultrasound) identify a group of patients at very low risk for the diagnosis of thoracic AoD?

- **Level A Recommendations.** None specified.
- **Level B Recommendations.** In adult patients who have an AoD detection risk score (ADD-RS) of 1 or less (low risk) and a highly sensitive D-dimer of less than 500 ng/mL fibrinogen equivalent units (FEU), emergency physicians can exclude acute nontraumatic AoD without obtaining advanced imaging (i.e., computed tomography angiogram [CTA], magnetic resonance imaging [MRI], or trans-esophageal echocardiogram [TEE]).
- **Level C Recommendations.** In adult patients who have an ADD-RS of 1 or less (low risk), emergency physicians can consider the use of focused cardiac point-of-care ultrasound as a secondary risk stratification tool. If emergency physicians trained in cardiac ultrasound identify direct signs of acute aortic syndromes (AAS), bypassing D-dimer testing should be considered, and patients should go directly to advanced imaging (i.e., CTA, MRI, or TEE).

Evidence Rating Scheme

Literature Classification Schema*

Design/ Class	Therapy [†]	Diagnosis ^{††}	Prognosis ^{†††}
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1	Randomized, controlled trial or meta-analysis of randomized trials	Prospective cohort using a criterion standard or meta-analysis of prospective studies	Population prospective cohort or meta-analysis of prospective studies
2	Nonrandomized trial	Retrospective observational	Retrospective cohort Case control
3	Case series	Case series	Case series

* Some designs (e.g., surveys) will not fit this schema and should be assessed individually.

† Objective is to measure therapeutic efficacy comparing interventions.

†† Objective is to determine the sensitivity and specificity of diagnostic tests.

††† Objective is to predict outcome, including mortality and morbidity.

Approach to Downgrading Strength of Evidence

Downgrading	Design/Class: 1	Design/Class: 2	Design/Class: 3
None	I	II	III
1 level	II	III	X
2 levels	III	X	X
Fatally flawed	X	X	X

Recommendation Rating Scheme

Translation of Classes of Evidence to Recommendation Levels

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

Level A Recommendations. Generally accepted principles for patient care that reflect a high degree of scientific certainty (e.g., based on evidence from 1 or more Class of Evidence I or multiple Class of Evidence II studies that demonstrate consistent effects or estimates).

Level B Recommendations. Recommendations for patient care that may identify a particular strategy or range of strategies that reflect moderate scientific certainty (e.g., based on evidence from 1 or more Class of Evidence II studies or multiple Class of Evidence III studies that demonstrate consistent effects or estimates).

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 where consensus recommendations are made, "consensus" is placed in parentheses at the end of the recommendation.

There are certain circumstances in which the recommendations stemming from a body of evidence should not be rated as highly as the individual studies on which they are based. Factors such as consistency of results, uncertainty of effect magnitude, and publication bias, among others, might lead to a downgrading of recommendations.

When possible, clinically oriented statistics (e.g., likelihood ratios, number needed to treat) are presented to help the reader better understand how the results may be applied to the individual patient. This can assist the clinician in applying the recommendations to most patients but allows adjustment when applying to patients with extreme degrees of risk (refer to Appendix E3 of the [original guideline](#)).

Related Content

Supporting Documents

- [American College of Emergency Physicians Clinical Policy Development.](#)

Implementation Tools

No implementation tools available.

Patient Education

No patient education materials available.

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TRUST Scorecard

Composition of Guideline Development Group (GDG)

Multidisciplinary GDG Members

Yes

Methodologist Involvement

Yes

Incorporation of Patient and Public Perspective



Systematic Review of Evidence

Literature Search



Study Selection



Evidence Synthesis



Foundations for Recommendations

Strength of Evidence Grade



Description of Benefits and Harms of Recommendations



Summary of Evidence Supporting Recommendations



Strength of Recommendations Rating



Clear Articulation of Recommendations



Funding Source

Yes

Disclosure and Management of Financial Conflicts of Interests



External Review



Updating

