Review: Medical history, physical examination, and routine tests are useful for diagnosing heart failure in dyspnea


**Clinical impact ratings:** Emergency Med ★★★★★✩★ GIM/FP/GP ★★★★★☆★ Hospitalists ★★★★★☆★ Cardiology ★★★★★☆★

**Question:** In patients presenting to the emergency department (ED) with dyspnea, how useful are medical history, physical examination, and readily available tests in diagnosing heart failure (HF)?

**Methods:** Data sources: MEDLINE (1966 to July 2005) and reference lists of relevant articles and textbooks.

**Study selection and assessment:** English language studies that assessed the diagnostic accuracy of elements of the history, physical examination, or readily available tests in adults with undifferentiated dyspnea presenting to the ED. The reference standard was diagnosis by a panel of physicians based on clinical signs and symptoms and an appropriate measure of cardiac dysfunction.

2 reviewers independently assessed the studies for inclusion and methodological quality.

**Outcomes:** Pooled positive and negative likelihood ratios (LRs) for HF, calculated using a random-effects model.

**Main results:**
22 studies met the selection criteria, but only 18 high-quality studies were included. Features assessed in > 1 study and found to be useful in diagnosing HF are in the Table.

**Conclusions:**
In adults presenting to the emergency department with dyspnea, findings useful in ruling in heart failure include, in decreasing order, pulmonary venous congestion, interstitial edema, third heart sound, history of HF, and jugular venous distention.

Findings useful in ruling out HF include, in decreasing order, a serum B-type natriuretic peptide level < 100 pg/mL and the absence of cardiomegaly, pulmonary venous congestion, rales, dyspnea on exertion, and history of HF.

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**Reference**