Acute shortness of breath: first steps

Differential and first tests



Step by step

1. Red flags and SpO_2 first
2. Pulse oximetry, ECG, chest x-ray
3. Bedside history and exam
4. BNP: heart or lung?
5. D-dimer only if PE chance is low

Where	Causes
Airway	Asthma, anaphylaxis, foreign body
Lung, pleura	Pneumonia, COPD, pneumothorax
Vessels	Pulmonary embolism
Heart	ACS, heart failure, tamponade

The oxygen road: where it breaks

Rule of thumb

Sort by where the oxygen road breaks

Low BNP helps rule out heart failure; threshold 100 pg/mL

Pulsus paradoxus: drop of more than 10 mm Hg on inspiration

Exam traps

- A normal SpO_2 does not exclude a serious cause.
- A high BNP is not specific: age, kidney failure, ACS, large PE.
- Up to 30% of patients with acute HFpEF fall below the 100 pg/mL BNP threshold; obesity lowers BNP too.

For exam study only, not medical advice. Follow local guidelines and your lab's ranges.
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