IN A NUTSHELL

The knowledge platform for general practitioners

Wells’ Criteria for Pulmonary Embolism

The Wells’ Criteria for pulmonary embolism can be used to estimate the probability of pulmonary embolism based on the history and clinical criteria. This results in a recommendation for further diagnostics depending on the pretest probability.

Clinical signs and symptoms of deep vein thrombosis
(leg swelling or compressive tenderness along the deep veins)
○ No ○ Yes (+3)
Pulmonary embolism as likely or more likely than an alternative diagnosis
○ No ○ Yes (+3)
Hearth rate > 100 bpm
○ No ○ Yes (+1.5)
Immobilization (? 3 days) or surgery in the past 4 weeks
○ No ○ Yes (+1.5)
Previously diagnosed deep vein thrombosis or pulmonary embolism
○ No ○ Yes (+1.5)
Hemoptysis
○ No ○ Yes (+1)
Malignancy
(existing therapy, palliative therapy, or treatment discontinuation within the last 6 months)
○ No ○ Yes (+1)

Wells’ Criteria for Pulmonary Embolism:

Classification according van Belle et al. [2]

Recommendation:

Interpretation

Score	Original classification according to Wells et al. [1]	Classification according to van Belle et al. [2]
? 1	**Low probability of pulmonary embolism** Prevalence: 1.2 % Recommandation: perform D-dimer test - D-dimer negative: pulmonary embolism excluded - D-dimer positive: imaging to rule out pulmonary embolism	**Pulmonary embolism unlikely** Prevalence: 12.1 % Recommendation: perform D-dimer test - If D-dimer is negative, pulmonary embolism can be excluded. - If D-dimer is positive, CT angiography should be performed to rule out pulmonary embolism.
2 3 4 5 6	**Moderate probability of pulmonary embolism** Prevalence: 16.2 % Recommendation: imaging to rule out pulmonary embolism	
? 7	**High probability of pulmonary embolism** Prevalence: 37.5 % Recommendation: imaging to rule out pulmonary embolism	**Pulmonary embolism likely** Prevalence: 37.1 % Recommendation: CT angiography should be performed to rule out pulmonary embolism.

References

1. Wells PS, Anderson DR, Rodger M et al. Excluding pulmonary embolism at the bedside without diagnostic imaging: management of patients with suspected pulmonary embolism presenting to the emergency department by using a simple clinical model and d-dimer. Ann Intern Med 2001; 135: 98-107
2. van Belle A, Büller HR, Huisman MV et al. Effectiveness of managing suspected pulmonary embolism using an algorithm combining clinical probability, D-dimer testing, and computed tomography. JAMA 2006; 295: 172-179