

Assessing Your Patients' Risk for DVT or PE

DVT/PE Risk Assessment Tools

Multiple tools are available to clinically assess deep vein thrombosis (DVT) and pulmonary embolism (PE). The use of these validated clinical assessment tools has been shown to improve diagnostic accuracy in DVT and PE.¹ The Wells Clinical Prediction Rules for DVT and PE and the Pulmonary Embolism Severity Index (PESI) score, which are the focus here, are widely used tools that have been validated across many different healthcare settings.¹⁻⁴

Assessing and Diagnosing DVT

Wells Clinical Prediction Rule for DVT⁵

Clinical Feature	Score
Active cancer (ongoing treatment, treatment within 6 months, or receiving palliative care)	1
Paralysis, paresis, or recent immobilization of lower extremities	1
Recently bedridden for >3 days or major surgery within 4 weeks	1
Localized tenderness along the distribution of the deep veins	1
Entire leg swollen	1
Calf swelling by >3 cm when compared with the asymptomatic leg*	1
Pitting edema (greater in the symptomatic leg)	1
Collateral superficial veins (nonvaricose)	1
Alternative diagnosis as likely or more likely than DVT diagnosis	-2

Adapted with permission from Wells PS et al. *Lancet*. 1997;350(9094):1796.

Note: For patients with symptoms in both legs, the more symptomatic leg should be used.

*Measured 10 cm below tibial tuberosity.

Calculating Your Patients' Pretest Probability of DVT⁵

Probability	Points
High	≥3
Moderate	1-2
Low	<1

Assisting Your Clinical Decision Making in DVT and PE†

- The Wells Clinical Prediction Rules allow healthcare professionals (HCPs) to accurately determine the probability that a patient has DVT or PE before more definitive diagnostic testing is conducted^{6,7}
 - Use of the Wells Clinical Prediction Rule for DVT, combined with a negative D-dimer test, is also an effective diagnostic strategy for ruling out DVT⁶
 - A negative SimpliRED D-dimer result, combined with the Wells Clinical Prediction Rule for PE, is also effective in excluding the presence of PE⁷
- PESI score consists of routinely available clinical findings, and does not require laboratory tests or radiographic procedures that are not routinely conducted in the management of PE⁸

†These tools are not intended to replace clinical judgment.

Diagnostic accuracy and patient management of DVT and PE is improved when clinical probability is determined prior to diagnostic testing.^{1,5,8,9}

Assessing and Diagnosing PE

Wells Clinical Prediction Rule for PE^{7,10}

Clinical Feature	Score
Clinical signs and symptoms of DVT (minimum of leg swelling and pain with palpation of the deep veins)	3
An alternative diagnosis is less likely than PE	3
Heart rate >100 beats per minute	1.5
Immobilization or surgery in the previous 4 weeks	1.5
Previous DVT/PE	1.5
Hemoptysis	1
Malignancy (ongoing treatment, treatment within 6 months, or receiving palliative care)	1

Adapted with permission from Wells PS et al. *Thromb Haemost.* 2000;83(3):418.

Calculating Your Patients' Pretest Probability of PE^{7,10}

Probability	Points
High	>6
Moderate	2–6
Low	<2

PESI Score⁸

Clinical Finding/Feature	Points
<i>Demographic characteristics</i>	
Age	+1 per year
Male gender	+10
<i>Comorbid illnesses</i>	
Cancer (history of cancer or active cancer)	+30
Heart failure	+10
Chronic lung disease	+10
<i>Clinical findings</i>	
Pulse ≥110 beats per minute	+20
Systolic blood pressure <100 mm Hg	+30
Respiratory rate ≥30 breaths per minute	+20
Temperature <36°C (<96.8°F)	+20
Altered mental status*	+60
Arterial oxygen saturation <90%†	+20

Calculating Your Patients' 30-Day PE Mortality Risk⁸

Class (Risk)	Point Total
Class I (very low)	≤65
Class II (low)	66–85
Class III (intermediate)	86–105
Class IV (high)	106–125
Class V (very high)	>125

PESI score provides HCPs with a validated, practical tool that accurately identifies low-risk and very low-risk patients with PE who may be potential candidates for outpatient treatment or early hospital discharge.⁸

Total point score for a patient is calculated by adding the patient's age in years and adding the points for each applicable characteristic.

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This modified table is based on the original table available from www.atsjournals.org.

*Defined as disorientation, lethargy, stupor, or coma.

†With and without administration of supplemental oxygen.

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