

# Clinical Diagnostic Algorithms for PE and DVT

Document Title: Diagnostic Algorithms for Pulmonary Embolism (PE) and Deep Vein Thrombosis (DVT)

Source: Clinical guideline chart - Printed material

Purpose: To assist healthcare professionals in the stepwise diagnosis and treatment planning for suspected PE or DVT based on clinical presentation and test availability.

## 1. Algorithm for Diagnosis of Pulmonary Embolism (PE)

Initial Step:

- Patient presents with signs or symptoms of PE
- Exclude other causes via medical history, physical exam, and chest X-ray

Step 1: Use Two-level PE Wells Score

- PE Likely (>4 points)
- PE Unlikely ( $\leq 4$  points)

**For "PE Likely" Path:**

Is CTPA\* suitable and available immediately?

- Yes:
  - Offer CTPA (or V/Q SPECT or planar scan)
- No:
  - Begin immediate interim parenteral anticoagulant therapy
  - Then perform CTPA (or V/Q SPECT or planar scan)

Was the scan positive?

- Yes: Diagnose PE and treat

- No:
  - Is deep vein thrombosis suspected?
    - Yes: Consider a proximal leg vein ultrasound scan (See Diagnosis of DVT)
    - No: Advise patient that PE is unlikely and discuss further care

**For "PE Unlikely" Path:**

Perform D-dimer test

Was the D-dimer test positive?

- Yes:
  - Is CTPA suitable and available immediately?
    - Yes: Offer CTPA (or V/Q SPECT or planar scan)
    - No: Begin interim anticoagulant and scan later

Was the scan positive?

- Yes: Diagnose PE and treat
- No: Advise patient PE is unlikely
  
- No (D-dimer test was negative): Advise patient PE is unlikely

Footnotes:

- CTPA: Computed Tomography Pulmonary Angiogram
- V/Q SPECT/planar scan: For patients allergic to contrast media, renal impairment, or high radiation risk

**2. Algorithm for Diagnosis of Deep Vein Thrombosis (DVT)**

Initial Step:

- Patient presents with signs or symptoms of DVT
- Exclude other causes via history and physical exam

Step 1: Use Two-level DVT Wells Score

- DVT Likely ( $\geq 2$  points)
- DVT Unlikely ( $\leq 1$  point)

**For "DVT Likely" Path:**

Is proximal leg vein ultrasound available within 4 hours?

- Yes:
  - Perform scan
    - If positive: Diagnose DVT and treat
    - If negative: Perform D-dimer test
      - If positive: Repeat scan in 6-8 days
      - If negative: Advise patient DVT is unlikely
- No:
  - Give interim 24-hour anticoagulant
  - Perform ultrasound within 24 hours and proceed as above

**For "DVT Unlikely" Path:**

Perform D-dimer test

- If positive:
  - If scan available in 4 hours: Offer scan
    - If positive: Diagnose DVT and treat
    - If negative: Advise patient DVT is unlikely
  - If not: Give interim anticoagulant and perform scan within 24 hours
- If negative: Advise patient DVT is unlikely

Conclusion:

These diagnostic algorithms provide a clinical decision pathway to ensure evidence-based, timely management of suspected PE and DVT cases. They optimize resource use (imaging and labs) while maintaining patient safety.