Use of the D-dimer Test

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Background
D-dimer is a terminal degradation product of cross-linked fibrin that can be easily quantified in the laboratory and may be assessed in venous thrombosis and disseminated intravascular coagulopathy. D-dimer may also be elevated in other situations such as pregnancy, cancer, inflammation and post-operatively.

Scope
D-dimer testing in adults in hospitals in the Republic of Ireland.

Key recommendation
Do not use D-dimer as a screening test in all patients with suspected deep vein thrombosis (DVT) / pulmonary embolism (PE). Restrict initial D-dimer testing in suspected DVT / PE to patients with low clinical probability of DVT / PE.

Epidemiology
D-dimer is a commonly requested test. For example, in Tallaght Hospital during 2014, 3,699 requests for D-dimer testing were received. The majority (59%) of the requests were sent from the emergency department.

Testing
Who to test
- Patients with a low clinical probability of venous thromboembolism after assessment of the clinical probability score, e.g.
  - Well’s score less than 2 for deep vein thrombosis,
  - Well’s score of less than or equal to 4 for pulmonary embolism,
- Patients with clinically suspected deep vein thrombosis with a high clinical probability score and negative imaging studies,
- Planning duration of anticoagulation in selected patients,
- Diagnosis and monitoring of disseminated intravascular coagulation.

Who not to test
Do not test initially in patients with higher clinical probability scores as they require imaging to assess for venous thrombosis regardless of D-dimer result.

Do not test in upper limb DVT as the utility of D-dimer has not been confirmed in this group.
How to test
Sample type: sodium citrate bottle.

Clinical details on request form should include indication for test and clinical probability score if used for acute DVT / PE.

The test should be performed on a quantitative assay and the result reported in SI units, fibrin D-dimer DDU (μg/L) or fibrin D-dimer FEU (μg/L). When used for DVT / PE exclusion, the test should be validated for this purpose and have adequate sensitivity and negative predictive value.9

References


