

When should you order a D-Dimer?

- If you want to rule out a suspected *deep vein thrombosis* or *pulmonary embolus* in a patient with a low pre-test probability of venous thromboembolism, which is best assessed using a clinical prediction guide such as the Wells criteria or Geneva score.
- Note that D-dimer testing cannot be used as a stand-alone test. The result has to be used in combination with a low pretest probability or a negative compression ultrasound in the case of deep vein thrombosis and with other ancillary testing in the case of pulmonary embolism.
- The application of D-dimer in clinical settings other than excluding VTE has not been validated.
- Elevated D-dimers are not diagnostic of VTE. Remember that elevated levels of D-dimers are also present in many other physiologic or pathologic conditions which involve the formation and degradation of fibrin. These include, but not limited to, DIC, malignancy, infections, cardiac/renal/ liver failure, myocardial infarction, trauma, strokes, sickle cell crises, post-operatively, and in pregnancy and advanced age.
- A normal D-dimer CANNOT be used to exclude a diagnosis of VTE in patients with moderate and high pretest probability.
- D-dimer test is discouraged in the following situations:
 - * Patients with moderate and high pretest probability of VTE
 - * Hospital inpatient
 - * If duration of patient's symptoms is over 4 days since sensitivity of the test decrease over time.
- Recent surgery or trauma within 2 weeks.
- D-dimer negative patients can still develop VTE and should be advised to return if symptoms worsen or new symptoms develop.

References:

1. Goldhaber SZ, Bounameaux H. Pulmonary embolism and deep vein thrombosis. *Lancet*. 2012 May 12;379(9828):1835-46.
2. Hayes, T, Chapter 20, "Fibrinolytic Thrombotic Disorders" in An Algorithmic Approach to Hemostasis Testing, Kottke-Marchant ed., CAP Press, 2008.
3. Tripodi A. D-Dimer Testing in Laboratory Practice. *Clin Chem*. 2011 Sep;57(9):1256-62.

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