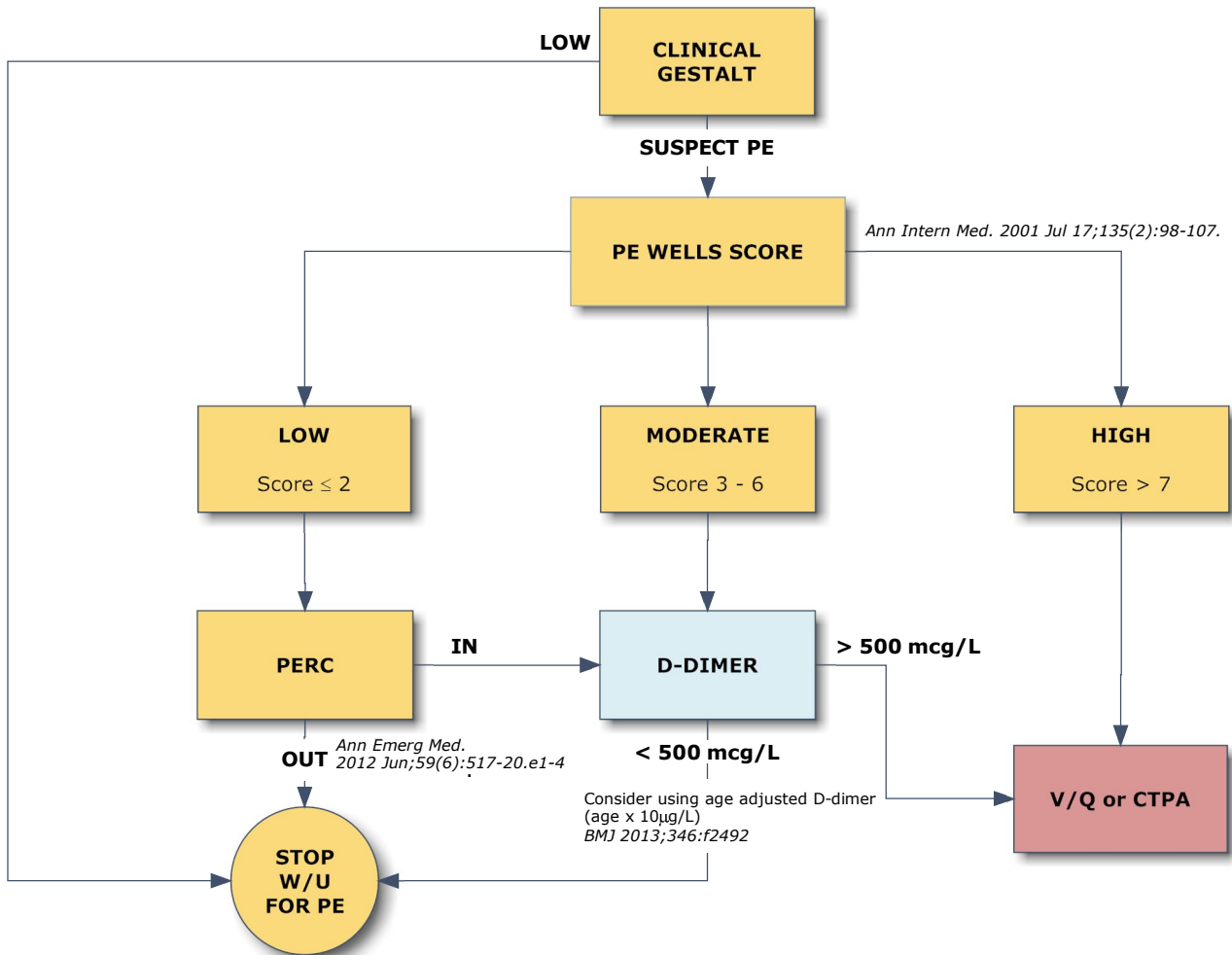


# PE DIAGNOSTIC FLOWCHART

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## Kinetics of D-Dimer post Surgery

Blood Coagulation & Fibrinolysis: July 2009 - Volume 20 - Issue 5 - p 347-352

	Type I Surgery	Type II Surgery	Type III Surgery
Peak D-Dimer (mcg/L)	300 (100-500)	1500 (200-7800)	4000 (500 - 14,400)
Time to Normal (d)	-	25 (±14)	38 (± 11)

Type I: Not entering the abdominal Cavity  
 Type II: Intra-abdominal  
 Type III: Retroperitoneal/ Liver

Dindo D, Breitenstein S, Hahnloser D, et al. “Kinetics of D-dimer after general surgery.” *Blood Coagulation & Fibrinolysis*. 2009;20(5):347–352.

### Summary Table: Kinetics of D-dimer After General Surgery

Study Component	Findings
<b>Objective</b>	To characterize postoperative D-dimer kinetics and determine when D-dimer testing becomes reliable again for excluding venous thromboembolism (VTE) after surgery.
<b>Design</b>	Prospective observational study.
<b>Patients</b>	154 general surgical patients (108 in derivation cohort, 46 in validation cohort).
<b>Surgical Classification</b>	<b>Type I:</b> Surgery not entering abdominal cavity; <b>Type II:</b> Intra-abdominal surgery; <b>Type III:</b> Retroperitoneal or liver surgery.
<b>Peak D-dimer Timing</b>	D-dimer levels peaked approximately <b>postoperative day 7</b> .
<b>Type I Surgery</b>	Peak D-dimer $\approx$ <b>300 ng/mL</b> (100–500); generally remained within normal range.
<b>Type II Surgery</b>	Peak D-dimer $\approx$ <b>1,500 ng/mL</b> (200–7,800); returned to normal after <b>25 <math>\pm</math> 14 days</b> .
<b>Type III Surgery</b>	Peak D-dimer $\approx$ <b>4,000 ng/mL</b> (500–14,400); normalized after <b>38 <math>\pm</math> 11 days</b> .
<b>Clearance Rate</b>	After the peak, D-dimer declined exponentially at approximately <b>6% per day</b> .
<b>Independent Predictors of Higher Peak D-dimer</b>	1. Greater surgical severity/type 2. Longer operative time 3. Elevated preoperative D-dimer level.
<b>Clinical Implication</b>	Postoperative D-dimer elevation is predictable and persists for weeks after major abdominal surgery; interpretation of D-dimer for suspected VTE must consider time since surgery and surgical magnitude.
<b>Key Conclusion</b>	D-dimer testing has limited utility immediately after surgery but may regain value for VTE exclusion once expected postoperative elevations have resolved according to the type of operation.

## Practical Clinical Reference

Surgery Type	Peak D-dimer	Peak Day	Approximate Time to Normalization
Type I (minor, extra-abdominal)	~300 ng/mL	Day 7	Usually remains normal
Type II (intra-abdominal)	~1,500 ng/mL	Day 7	~25 days
Type III (retroperitoneal/liver)	~4,000 ng/mL	Day 7	~38 days
D-dimer decline after peak	~6% per day	—	Exponential clearance