

## Simplified Charlotte, Wicki, and Wells Criteria for Pulmonary Embolus Pre-Test Probability

### Simplified Charlotte Rule

If any two boxes are checked the patient is considered high risk and one should proceed directly to CT or VQ; if one or no boxes are checked a D-Dimer should be used for screening

- Age > 50
- HR > SBP
- Surgery in the past month
- Unilateral leg Swelling
- Hemoptysis
- Unexplained room air pulse ox < 95%

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### Wicki Criteria (Geneva Rule)

#### Clinical Scoring System for Pulmonary Embolism (Geneva Rule)

Probability Score Conversion

| Variable                          | Points |
|-----------------------------------|--------|
| Age 60-79                         | 1      |
| Age > 80                          | 2      |
| Previous PE or DVT                | 2      |
| Recent Surgery                    | 3      |
| Pulse rate > 100                  | 1      |
| PaCO <sub>2</sub> < 36 mmHg       | 2      |
| paCO <sub>2</sub> = 36-38.9 mmHg  | 2      |
| paO <sub>2</sub> < 48.7 mmHg      | 4      |
| paO <sub>2</sub> = 48.7-59.9 mmHg | 3      |
| paO <sub>2</sub> = 60-71.1 mmHg   | 2      |
| paO <sub>2</sub> = 71.2-82.3 mmHg | 1      |
| Plate-like atelectasis            | 1      |
| Hemi-diaphragm elevation          | 1      |

LOW CLINICAL PROBABILITY = or < 4 (intermediate 5-8; high > 8)

If **Low or moderate clinical probability** consider D-Dimer as first Diagnostic test

Adapted from Wicki J, et al. Assessing clinical probability of Pulmonary Embolism in the emergency ward .A Simple Score Arch Intern Med 2001;161; 92-97

### Wells Criteria

**Clinical signs and symptoms of PE Probability (points)\***

- Evidence of DVT (leg swelling and pain with palpation) 3.0
- Heart rate higher than 100 beats per minute 1.5
- Previous objectively diagnosed DVT or pulmonary embolism 1.5
- Immobilization for three or more consecutive days or surgery in previous four weeks 1.5
- Hemoptysis 1.0
- Malignancy 1.0
- Pulmonary embolism as a highly likely diagnosis 3.0

DVT = deep venous thrombosis.

\*--Probability of pulmonary embolism: <2 points = low; 2 to 6 points = moderate; >6 = high.

Wells PS, et. al. Excluding pulmonary embolism at the bedside without diagnostic imaging: management of patients with suspected pulmonary embolism presenting to the emergency department by using a simple clinical model and d-Dimer. *Ann Intern Med* July 17, 2001; 135:98-107.