# Wells' Criteria for Pulmonary Embolism

## INPUTS

|  |  |
| --- | --- |
| Clinical signs and symptoms of DVT | **Options:**   * No (0) * Yes (3) |
| PE is #1 diagnosis OR equally likely | **Options:**   * No (0) * Yes (3) |
| Heart rate > 100 | **Options:**   * No (0) * Yes (1.5) |
| Immobilization at least 3 days OR surgery in the previous 4 weeks | **Options:**   * No (0) * Yes (1.5) |
| Previous, objectively diagnosed PE or DVT | **Options:**   * No (0) * Yes (1.5) |
| Hemoptysis | **Options:**   * No (0) * Yes (1) |
| Malignancy w/ treatment within 6 months or palliative | **Options:**   * No (0) * Yes (1) |

## FORMULA

Addition of the selected points:

## FACTS & FIGURES

**Score interpretation:**

|  |  |
| --- | --- |
| Score | Risk Category |
| Three-Tier Model | |
| 0 - 1 | Low Risk |
| 2 - 6 | Moderate Risk |
| >6 | High Risk |
| Two Tier Model | |
| ≤4 | PE Unlikely (with d-dimer) |
| ≥5 | PE Likely (with CTA) |

## EVIDENCE APPRAISAL

* The original Wells study was performed on cohorts where prevalence of PE was high: approximately 30%. Two further emergency department studies validated this tool with a 9.5%-12% PE prevalence.
* The largest study demonstrated risk stratification with:
  + Low score of 0-1 having a 1.3% prevalence.
  + Moderate score of 2-6 having a 16.2% prevalence.
  + High score of >6 having a 37.5% prevalence.
* The Christopher study divided the Wells scoring system into 2 categories:
  + A score of 4 or less was defined as “PE unlikely” and tested with a d-dimer.
  + A score of 5 or more was defined as “PE likely” and went straight to CTA
* Overall Incidence of PE was 12.1% in the “unlikely” group vs. 37.1% in the “likely” group.
* If dimer was negative no further testing was performed.
* If dimer was positive the patient went to CTA.
* 20.4% of all patients who went to CTA had a diagnosis of PE.
* In the “PE unlikely” group, those with a negative dimer and discharged to home had an incidence of missed PE on 3 month follow up of 0.5% .