

# **PULMONARY EMBOLISM**





# Pulmonary Embolism Severity Index (PESI)

Pulmonary Embolism Severity Index (PESI) Predicts 30-day outcome of patients with pulmonary embo- lism using 11 clinical criteria.	
Age (in years)	
Sex (male +10, female +0)	
History of Cancer	30
History of Heart Failure	10
History of Chronic Lung Disease	10
HR ≥ 110	20
Systolic BP < 100 mm Hg	30
RR ≥ 30	20
Temperature < 36°C	20
Altered Mental Status (Disorientation, lethargy, stupor, or coma)	60
O2 saturation < 90%	20
SCORE	

#### Management

If the patient is considered very low ( $\leq$  65) or low risk (66-85) by the PESI score.

- Patient has an overall low risk of mortality or severe morbidity.
- Consider outpatient management of PE if clinically appropriate and social factors allow for it.

If the patient is considered intermediate (86-105), high risk (106-125) or very high risk (>125) by the PESI.

- Patient has an overall high risk of mortality and severe morbidity.
- Consider higher levels of care (e.g., ICU) for those with higher scores.

#### Why Use It

The PESI is designed to risk stratify patients who have been diagnosed with a PE in order to determine the severity of their disease. This can help physicians make decisions on the management of those patients who could potentially be treated as out-patient, as well as raise concern for those who are determined to be high-risk and could benefit from higher levels of care.

## **Pearls/Pitfalls**

The Pulmonary Embolism Severity Index (PESI) is a risk stratification tool that has been externally validated to determine the mortality and outcome of patients with newly diagnosed pulmonary embolism (PE).

In the setting of a patient with renal failure or severe comorbidities, clinical judgement should be used over the PESI, as these patients were excluded in the validation study.

- The PESI score determines risk of mortality and severity of complications.
- The score does not require laboratory variables.
- It is meant to aid in decision making, not replace it. Clinical judgement should always take precedence.
- The PESI score determines clinical severity and can influence treatment setting for management of PE. Class I and II patients may possibly be safely treated as outpatients in the right clinical setting.

## Advice

- Social situation should also be taken into account before considering outpatient management (including the appropriate administration of anticoagulants).
- Given low mortality of low risk PE, outpatient management would save significant funds over hospitalization.
- The non-inferiority trial showed successful and safe outpatient management of Class I and II patients.