

PE Stratification and Management

PE

RV dilation/strain on EKG/Echo
OR
Elevated troponin/BNP

Systolic BP < 90 for 15 min OR SBP drop > 40 for 15 min OR requiring pressor support

Massive PE

No

One

Both

Low Risk PE

Low-Risk Submassive PE

High-Risk Submassive PE

Contraindication to Thrombolytics*

sPESI AND/OR Hestia criteria scores < 1

Anticoagulate only with Heparin + Admission

Anticoagulate with Heparin + Consider Systemic tPA* + Admission

No
Heparin + Admit to ICU + tPA*

Relative
Heparin + Admit to ICU + half dose tPA*

Absolute
Heparin + Admit to ICU + Interventional Therapies or ECMO*

Yes

No

No

Relative

Absolute

Anticoagulate only with DOAC + Discharge

Anticoagulate with Heparin or DOAC + Admit

*See Table

Dosing for PE tPA

Contraindications for tPA

High-Risk Submassive PE

Massive PE

Relative

Absolute

No contraindication

0.5 mg/kg with max of 50 mg tPA over 2 hours

Relative contraindication

25 mg tPA at rate of 1 mg/hour

Absolute contraindication

No tPA
Interventional Therapies

No contraindication

100 mg tPA over 2 hours

Relative contraindication

50 mg tPA over 2 hours
Interventional Therapies

Absolute contraindication

No tPA
Interventional Therapies
VA ECMO

- Age > 75 years old
- Current use of anticoagulation
- PE in pregnancy
- Noncompressible vascular punctures
- Recent (2-4 weeks) internal bleeding
- History of chronic, severe, or poorly controlled HTN
- Dementia
- Remote (>3 months) ischemic stroke
- Major surgery within 3 weeks

- Any prior intracranial hemorrhage
- Known intracranial AVM
- Known malignant intracranial neoplasm
- Ischemic stroke within 3 months
- Suspected aortic dissection
- Active bleeding or bleeding diathesis
- Recent surgery on spinal canal or brain
- Recent closed head or facial trauma with fracture or brain injury

sPESI Criteria: age > 80 years, history of cancer, history of chronic cardiopulmonary disease, HR >110 bpm, systolic BP < 100, O2 saturation < 90

Hestia Criteria: hemodynamically unstable, thrombolysis or embolectomy needed, active bleeding/high risk for bleeding, > 24 hours on supplemental O2 to maintain > 90% saturation, PE diagnosed while on anticoagulation, severe pain requiring IV pain meds > 24 hours, creatinine clearance < 30, severe liver impairment, pregnant, documented HIT, medical or social reason for admission > 24 hours