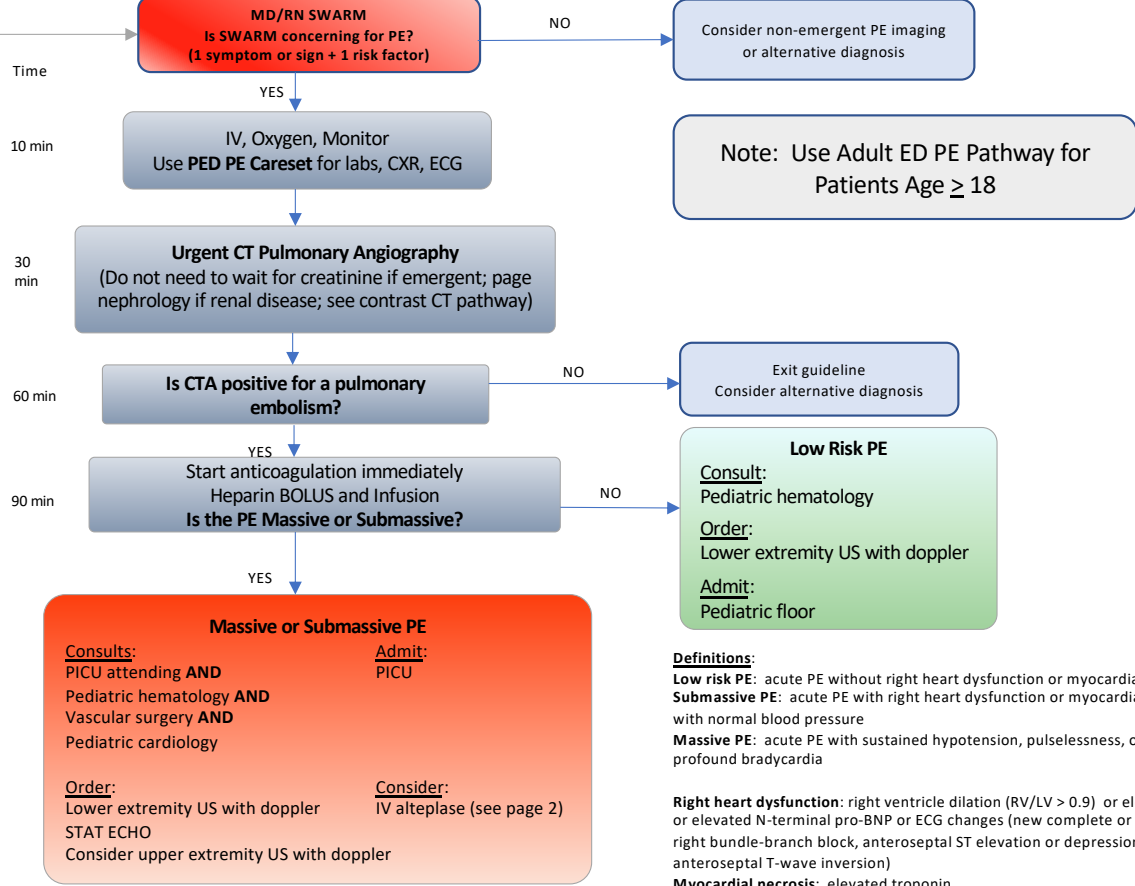


UNMH Pediatric ED Acute PE Pathway

PE Triage Screening Tool	
Presenting symptom	Patient presents with: <ul style="list-style-type: none"> Shortness of breath Pleuritic chest pain Hemoptysis Syncope Painful leg swelling
Presenting sign	<ul style="list-style-type: none"> Hypoxemia Tachypnea Tachycardia Shock Cardiovascular collapse
Plus ONE Risk factor	<ul style="list-style-type: none"> Central venous catheter Congenital heart disease Prothrombotic disorder Recent surgery Recent DVT Family or personal history of DVT or PE Recent immobilization Oral contraceptive use or pregnancy Acute or chronic inflammatory disorder (SLE, IBD) Obesity Recent trauma, especially with multiple fractures Hypercoagulable state (malignancy, nephrotic syndrome, sickle cell disease) Severe infection



Heparin dosing
(see pediatric heparin power plan)

{ Neonate through 1 year: Bolus 75 units/kg IV over 10 minutes and start 28 units/kg/hr
 >1 year through 17 years: Bolus 75 units/kg IV (max 10,000 units; 5,000 units if alteplase given) over 10 minutes and start 20 units/kg/hr (max 2,000 units/hr)

Definitions:
Low risk PE: acute PE without right heart dysfunction or myocardial necrosis
Submassive PE: acute PE with right heart dysfunction or myocardial necrosis with normal blood pressure
Massive PE: acute PE with sustained hypotension, pulselessness, or persistent profound bradycardia
Right heart dysfunction: right ventricle dilation (RV/LV > 0.9) or elevated BNP or elevated N-terminal pro-BNP or ECG changes (new complete or incomplete right bundle-branch block, anteroseptal ST elevation or depression, or anteroseptal T-wave inversion)
Myocardial necrosis: elevated troponin

UNMH Pediatric ED Acute PE Pathway

For patients with submassive or massive PE:
consider alteplase administration

Before giving alteplase, provider **MUST**:
First discuss with pediatric hematology and PICU attending
First review contraindications and obtain informed consent

Alteplase dosing (see pediatric alteplase power plan): 0.06 mg/kg/hr for 6 hours (max 16.7 mg/hr)
Note: decrease heparin infusion to 10 units/kg/hr during alteplase infusion

Alteplase Contraindications

ABSOLUTE:

Prior intracranial hemorrhage
Known structural cerebral vascular lesion
Known malignant intracranial neoplasm
Ischemic stroke within 3 months (excluding stroke within 3 months)
Suspected aortic dissection
Active bleeding or bleeding diathesis (excluding menses)
Significant closed head trauma or facial trauma within 3 months

RELATIVE:

Chronic, severe, poorly controlled hypertension
Severe uncontrolled hypertension on presentation
History of ischemic stroke more than 3 months prior
Major surgery less than 3 weeks ago
Traumatic or prolonged (>10 mins) CPR
Recent internal bleeding (within the past 2-4 weeks)
Noncompressible vascular punctures
Recent invasive procedure
Pregnancy
Active peptic ulcer
Pericarditis or pericardial fluid
Current use of anticoagulant (e.g., warfarin) with INR > 1.7 or PT > 15 secs

References

<https://www.childrenscolorado.org/globalassets/healthcare-professionals/clinical-pathways/pulmonary-embolism.pdf>

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