

OHVI RECOMMENDATIONS

PE CLINICAL PATHWAY

The goal of the PE clinical pathway is to standardize the treatment of PE at all OhioHealth facilities to ensure patients are not “under or over” treated based on established guidelines and evidence based scientific publications.

DEFINITIONS

Low Risk: Negative Troponin, normal RV function/dimensions, simplified PESI =0 and stable vitals.

Sub Massive PE: Acute PE without systemic hypotension (SBP > 90 mm Hg) but with either RV dysfunction or myocardial necrosis.

- + **Low Risk:** Positive troponin or RV strain, simplified PESI =0, Stable vitals,
- + **High Risk:** Must have moderate to severe RV dysfunction (CT/ECHO) and/or +Troponin with either:
 - Syncope as presenting symptom,
 - Simplified PESI Score >or = 1 (High risk)

Massive PE: Sustained hypotension (SBP <90 mm Hg for at least 15 minutes or requiring inotropic support, not due to a cause other than PE, such as arrhythmia, hypovolemia, sepsis, or LV dysfunction) – pulselessness – or persistent profound bradycardia (heart rate < 40bpm with signs or symptoms of shock).

Catastrophic PE: PEA w/ active CPR w/ROSC.

RECOMMENDATION

See updated PE Treatment Algorithm. Developed by a multidisciplinary PERT Team at OhioHealth Riverside Methodist Hospital, comprised of physicians representing Interventional Cardiology PV, VIR, CT Surgery, Critical Care, Emergency Dept. and Hospitalists. Algorithm developed around infrastructure and operations at Riverside Methodist. As other facilities adopt, respective operations may need adjusted to fit each institutions resources.

This pathway should not supersede the clinician's best bedside judgement.

*This document presents an evidence-based standard that is appropriate for most patients.
Clinical judgment and patient choice may occasionally require deviation from this standard.*

Low Risk Submassive PE:

- + Monitor Clinical Condition
- + Standard Anticoagulation w/ Lovenox 1mg/kg SQ BID
- + Call consultant if any features of Massive or High Risk Sub Massive PE

High Risk Sub Massive PE:

- + STAT consult to Interventional Cardiology PV or VIR for consideration of endovascular therapy vs. IV thrombolysis.
- + Assess contraindications to thrombolysis
- + If thrombolysis – Administer ½ Dose TNK
 - 60 kg = 15 mg
 - 60-69 kg = 17.5 mg
 - 70-79 kg = 20 mg
 - 80-89kg = 22.5 mg
 - >90kg = 25 mg
 - or –
 - tPA – 50 mg IV over 2 hrs.
- + Admit to ICU/Critical Care Primary
- + CT Surgery involvement on case by case basis per IC PV or VIR

Massive PE:

- + If no contraindication to thrombolytic therapy:
- + If thrombolysis indicated – Administer Full dose TNK
 - < 60 kg = 30 mg
 - 60-69kg = 35 mg
 - 70-79kg = 40 mg 80-89kg = 45mg
 - >90kg = 50mg
 - or –
 - tPA – 100 mg IV over 2 hrs.
- + Consult Cardiology PV if thrombolytic therapy is contraindicated, for consideration of emergent endovascular therapy and to follow patient’s clinical course/ response to therapy.
- + Admit to ICU/Critical Care Primary
- + CT Surgery involvement on case by case basis per IC PV or VIR

Catastrophic PE:

- + STAT Consult to Interventional Cardiology PV for consideration of Mechanical Support (ECMO)

Alteplase (tPA) is on label for PE.
Tenectaplaste (TNK) is off label for PE, but there is precedent for use in PE literature.

WHAT IS A RECOMMENDATION?

A guideline outlining the OhioHealth philosophy for care and/or treatment of a specific patient population.

ACTION REQUIRED:

- + **VI Education Pillar:** Communicate new recommendation at VI meeting.
- + **VI Members:** Communicate new recommendation at campus meetings.
- + **Physicians:** Use as a resource or guideline within your practice.
- + **Nurses:** utilize as a resource to address patient questions.

WHY?

PE Clinical Pathways is to standardize the treatment of PE at all OhioHealth facilities to ensure patients are not “under or over” treated based on established guidelines and evidence based scientific publications.

WHERE TO DOCUMENT:

Documentation should be maintained in the patient’s medical record.

APPROVED BY:

- + Vascular Institute Executive Committee-Jan.2020
- + Heart & Vascular Clinical Guidance Committee-April 2020
- + ED Clinical Guidance Committee
- + Critical Care Clinical Guidance Committee
- + System Clinical Guidance Committee

REFERENCES

See addendum.

FOR QUESTIONS OR TO PROVIDE FEEDBACK, PLEASE CONTACT:

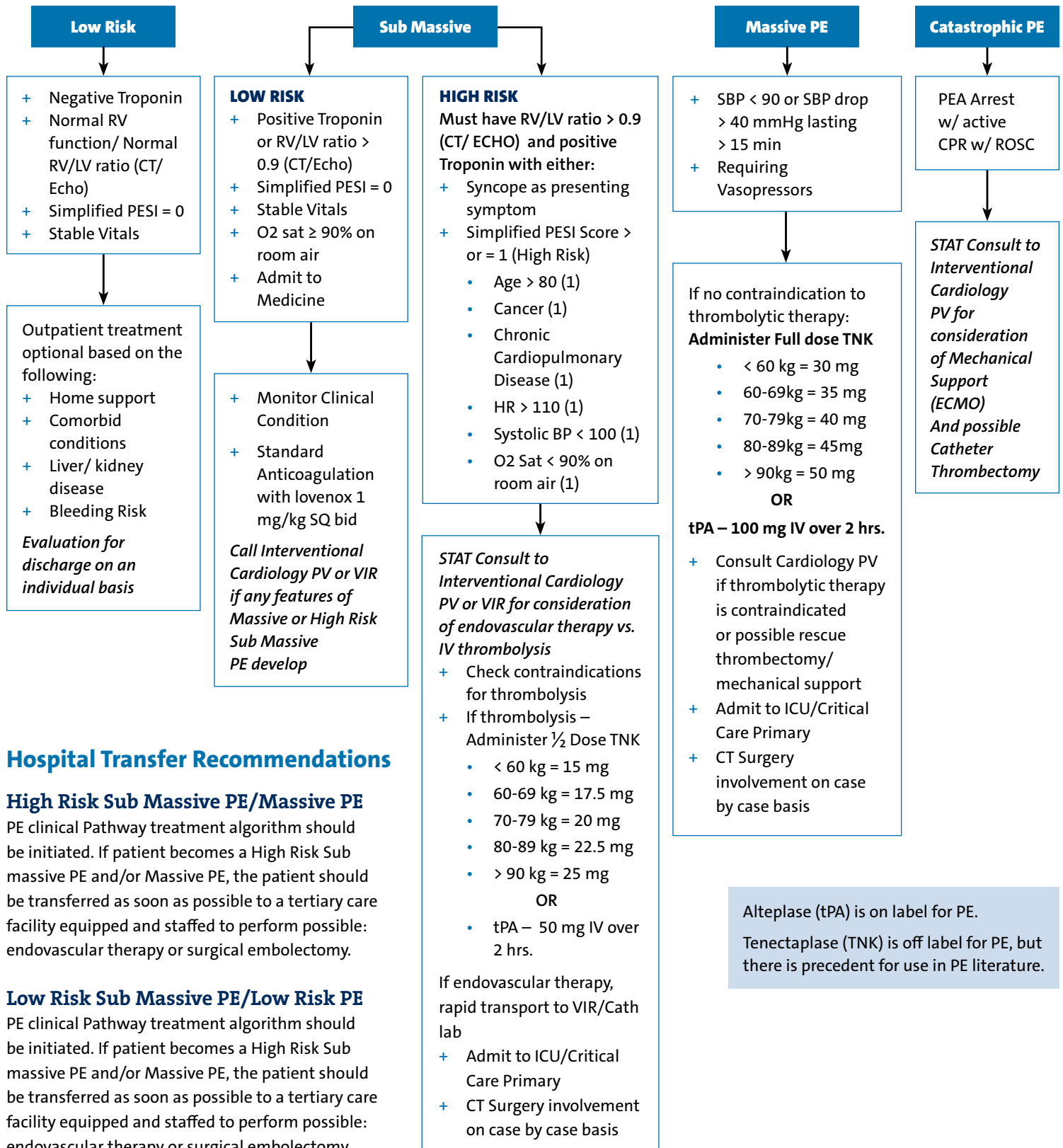
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Acute Pulmonary Embolism Clinical Treatment Algorithm

Unless contraindicated, all patients with a high clinical of suspicion for PE should be started on Lovenox 1 mg/kg SQ until imaging is completed.



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Hospital Transfer Recommendations

High Risk Sub Massive PE/Massive PE

PE clinical Pathway treatment algorithm should be initiated. If patient becomes a High Risk Sub massive PE and/or Massive PE, the patient should be transferred as soon as possible to a tertiary care facility equipped and staffed to perform possible: endovascular therapy or surgical embolectomy.

Low Risk Sub Massive PE/Low Risk PE

PE clinical Pathway treatment algorithm should be initiated. If patient becomes a High Risk Sub massive PE and/or Massive PE, the patient should be transferred as soon as possible to a tertiary care facility equipped and staffed to perform possible: endovascular therapy or surgical embolectomy.

References and Links

Journal articles

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- + Riera-Mestre A, Jiménez D, Muriel A, Lobo JL, Moores L, Yusen RD, Casado I, Nauffal D, Oribe M, Monreal M; RIETE investigators. Thrombolytic therapy and outcome of patients with an acute symptomatic pulmonary embolism. *J Thromb Haemost*. 2012 May;10(5):751-9. doi: 10.1111/j.1538-7836.2012.04698.x. PubMed PMID: 22417297.
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