STRAC
Southwest Texas Regional Advisory Council
v_Final, January 2023

Regional Pulmonary Embolism Guidelines

ACUTE PULMONARY EMBOLISM (PE)

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INITIATE ANTICOAGULANTS

Low Risk PE

Stable vitals
No O_2 requirement
Normal Ti/BNP

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Consider inpatient admission observation vs outpatient follow-up in 1-2 days

Sub-massive PE

CTA/TTE with RV/LV>0.9
Ti> 500ng/l
BNP>90pg/ml

Low Risk Submassive PE

Short of breath, stable vital signs
Proximal PE
RV/LV>0.9 on CT or TTE
OR
Increase Ti or BNP

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Consider early consultation with an intermediate-risk center and consider transfer per healthcare system referral process

High Risk Submassive PE

Tachycardia, Hypoxia
Positive Ti and BNP
AND
RV/LV>0.9 on CT or TTE
Proximal PE on CT

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Consider early consultation with a high-risk center and consider transfer per healthcare system referral process

Massive PE

HR>SBP
Vasopressor requirement
History of syncope
Lactic acid > 2, SvO2 <65
Oliguria

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Consult **High Risk or ECMO Center** for possible transfer

- **High Risk Center Criteria**: 24hr on call radiologist, intensivist in hospital 24/7, advanced heart failure cardiologist, VA ECMO capable
- **Intermediate Risk Center Criteria**: 24/7 radiology coverage, critical care coverage, an ICU, interventional radiologist, vascular surgeon or cardiologist willing to do CDL
- **Low Risk Center Criteria**: Do not meet above criteria, account for 40-60% of hospitalizations, average mortality 1%

BNP = brain natriuretic peptide; CDL=catheter directed thrombolysis; CTA=CT Angiography; LV=left ventricle; PERT=pulmonary embolism response team; RV=right ventricle; SBP=systolic blood pressure; ST=systemic thrombolysis; Ti=high sensitivity troponin; TE=transthoracic echocardiogram

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STRAC REGIONAL ECMO CONSULTATION GUIDELINES

Early recognition of disease severity and request for consultation is essential to maximize outcomes for patients who may benefit from ECMO. Please refer ***ANY*** patient *(pediatric or adult)* meeting ***ANY*** one of the below criteria.

CONSIDERATIONS FOR ECMO CONSULTATION*
<u>Cardiac Considerations:</u> (cardiogenic shock, AMI, acute decompensated heart failure, refractory ventricular arrythmia, pulmonary embolism) • Hypotension despite 1 pressor (secondary to cardiac dysfunction, not septic shock) • Lactate > 2.5 • Decreased urine output (< 30 mL/hr) despite medical optimization <u>Pulmonary Considerations:</u> (ARDS, hypercapneic respiratory failure, PE) • PaO_2:FiO_2 Ratio <150 • pH <7.25 and/or $PaCO_2$ > 60 for > 4 hrs • High ventilator support: PIP > 30, PEEP > 10, or FiO_2 > 0.6 • Active air leak (pneumothorax/pneumomediastinum) despite lung protective mechanical ventilation settings

**These conditions are not all inclusive. They are recommendations for early consultation with an ECMO Center, not necessarily indications for ECMO.*

RELATIVE ECMO EXCLUSION CRITERIA:

- Severe neurologic injury/neurodegenerative conditions
- Intracranial bleeding or neurosurgical procedures within the last 5 days
- Mechanical Ventilation >10 days on PEEP > 10, PIP > 30, MAP > 25, FiO_2 > 0.6
- Active, uncontrolled bleeding
- Malignancy with poor prognosis

<u>STRAC ECMO Referral Centers</u>:

Children's Hospital of San Antonio (CHoSA) 877-255-5439	**Brooke Army Medical Center 210-916-ECMO (3266)**	**Methodist Hospital 210-575-ECMO (3266)**	**University Health 210-844-2347**
Pediatric Only Conventional transport capable	Adult (includes Civilians) ECMO transport capable	Adult and Pediatric ECMO transport capable	Adult and Pediatric Conventonal transport capable