

Cardiology Corner: Pulmonary Embolism Updates

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- The European Society of Cardiology recently released guidelines on the diagnosis and management of acute pulmonary embolism.
 - Konstantinides SV, Meyer G, Becattini C, et al. [2019 ESC Guidelines for the diagnosis and management of acute pulmonary embolism developed in collaboration with the European Respiratory Society \(ERS\): The Task Force for the diagnosis and management of acute pulmonary embolism of the European Society of Cardiology \(ESC\)](#). European Heart Journal 41(4), 21 January 2020, 543–603.
- The guideline endorses clinical decision rules using age-adjusted d-dimer cutoff such as the YEARS algorithm.
- They propose an algorithm for diagnosing pregnancy in PE starting with a revised Geneva score; if low, a dimer is obtained, if not, an imaging test is performed.
 - Imaging options include a chest x-ray followed by a ventilation-perfusion (VQ) scan, CT, and ultrasound of the lower extremities. If a clot is found with ultrasound, further imaging is not necessary.
- For **unstable patients** (cardiac arrest, systolic BP < 90, need for vasopressors, or drop in BP of 40 mm Hg), consider systemic **fibrinolytics** (eg, IV tPA), or **embolectomy**/directed fibrinolytics depending on your system.
- For **stable patients with RV dysfunction**, a PESI score and a troponin can be used to further stratify risk. If the PESI score is moderate or high, the patient is more likely to decompensate and should be observed more closely.
- **Intubation and ventilation** in these patients is challenging because of the pathophysiology of RV strain.

PEARLS

- It is best to avoid intubation, but if you have to do it, start vasopressors early and consider nitrous oxide (NO) or inhaled nitroglycerin (NTG) to provide pulmonary vasodilation.
- Consider **ECMO** early, if available.
- Low molecular weight heparin (LMWH) is the drug of choice in pregnancy
 - If the patient is close to delivery, unfractionated heparin is used.