**Diagnostic Treatment Algorithm for Suspected or Diagnosed Submassive/Massive Pulmonary Embolism**

**Suspected Massive PE** 
(As Defined by Table 1 and 2)

- (+) PE Likely
  - Spiral Chest CT (PE Protocol CT)
  - 1) LE Dopplers
  - 2) Consider Pulmonary angiogram or repeat test in 24 hours if clinical suspicion remains high

**Simplified clinical probability assessment**
- Score: PE likely >4.0
- PE unlikely ≤4.0

**TABLE 1**

**Modified Wells Criteria**

- Clinical Assessment for pulmonary embolism
  - Clinical Symptoms of DVT (leg swelling, pain with palpation) 3.0
  - Other Diagnosis less likely then pulmonary embolism 3.0
  - Heart rate > 100 1.5
  - Immobilization (≥3 days) or surgery in the previous 4 weeks 1.5
  - Previous DVT/PE 1.5
  - Hemoptysis 1.0
  - Malignancy 1.0
  - Simplified clinical probability assessment Score
  - PE likely >4.0
  - PE unlikely ≤4.0

**TABLE 2**

**Massive PE**
- Systolic arterial pressure <90 mm Hg or drop in 40 mm Hg from baseline
- Shock manifested by signs of tissue hypoperfusion

**Submassive PE**
- Right ventricular dysfunction or pulmonary hypertension
- Hemodynamically stable
- No evidence of shock

**TABLE 3**

**Massive PE Protocol Members* note pager #s may change so check with operator**
1) On call Hematology attending or fellow (413-1600) after hours
2) Trauma pager (413-0357) if surgery patient
3) MICU (fellow or attending) if medicine patient (413-7200)
   SICU (494-9189) if surgery patient

**Thrombolytic Therapy Contraindications**

**Absolute**
- History of hemorrhagic stroke
- Active intracranial neoplasm
- Recent (<2 months) intracranial surgery or trauma
- Active or recent internal bleeding in prior 6 months

**Relative**
- Bleeding diathesis
- Uncontrolled severe hypertension
- Systolic BP >200mmHg or diastolic BP > 110mmHg
- Surgery within the previous 10 Days
- Thrombocytopenia

**Absolute contraindication to any anticoagulation**
1) IVC Filter
2) Consider Surgical Embolectomy

**Diagnostic Treatment Algorithm for Suspected or Diagnosed Submassive/Massive Pulmonary Embolism**

- **Submassive PE Hemodynamically Stable**
  - 1) Continue UH 
  - 2) Continue Lovenox
    - Consider renal function
  - 3) TPA 100 mg over 2 hr
    - Consider contraindications (Table 4)
  - 4) Catheter directed embolectomy/TPA

- **Hemodynamically Unstable**
  - Massive or Submassive
  - 1) TPA 100 mg over 2 hr
    - Consider contraindications (Table 4)
  - 2) Catheter Embolectomy/TPA
  - 3) Surgical Embolectomy
    - IVC Filter placement

**Immediately Administer**
1) Unfractionated heparin (UH) 80 units/kg bolus followed by 18 units/kg/hr
   or
2) Lovenox 1 mg/kg SQ
   - Consider renal function
   - Consider need for procedures or surgery
   +
3) Stabilize patient and transfer to MICU/SICU
   +
4) Obtain EKG

**TABLE 4**

**Thrombolytic Therapy Contraindications**

**Absolute**
- History of hemorrhagic stroke
- Active intracranial neoplasm
- Recent (<2 months) intracranial surgery or trauma
- Active or recent internal bleeding in prior 6 months

**Relative**
- Bleeding diathesis
- Uncontrolled severe hypertension
- Systolic BP >200mmHG or diastolic BP > 110mmHG
- Surgery within the previous 10 Days
- Thrombocytopenia

*Note normal troponin I and pro-BNP values have been associated with low mortality and anticoagulation alone may be sufficient*