## Treatment and Referral Guidelines for High-Risk and Intermediate-Risk Pulmonary Embolism in Adult Patients

## Box 1. High Risk (massive) Pulmonary Embolism Box 3. Intermediate Risk (submassive) Pulmonary Criteria: Embolism With High-Risk Features Criteria: • CARDIAC ARREST; RV dysfunction as in Box 2 PLUS ANY of the following: • Systolic blood pressure (SBP) LESS than 90 mmHg for shock index (HR/SBP) GREATER than 1; GREATER than 15 min; • SBP LESS than 100 mmHg (but GREATER than 90 • SBP drop GREATER than 40 mmHg from baseline; • Vasopressors required; • HR GREATER than 110 beats per minute (bpm); Cardiogenic shock; • pulse pressure LESS than 30 mmHg; · Elevated troponin; • Persistent bradycardia heart rate (HR) LESS than 40. Patient with Acute • abnormal ECG – new complete or incomplete right Pulmonary Embolism bundle brach block (RBBB), S1Q3T3, ST elevation in Box 2. Intermediate Risk (submassive) Pulmonary augmented vector right (STE aVR), antero-septal ST-Embolism Criteria: segment elevation, depression, or T-wave inversion; • Right ventricular (RV) dysfuntion (ECHO/CT) syncope/near-syncope; WITHOUT hypotension (i.e. SBP GREATER than 90 • elevated lactate (GREATER than 2.0 mmol/L); mmHg): • hypoxia – SpO2% LESS than 92% on room air, PaO2 RV dilation (GREATER than 35mm mid-cavitary LESS than 70 mmHg, increasing supplemental oxygen diameter): requirements (in absence of baseline pulmonary • Right ventricular (RV): Left ventricular (LV) ratio High risk GREATER than 0.9; • clot burden and location on CT – main pulmonary (massive) PE • McConnell's sign (hypokinesis of RV free wall with artery (saddle), bilateral pulmonary arteries (right and (Box 1) apical sparing); • Contrast reflux into inferior vena cava (IVC)/liver on YES NO **Evaluate for tPA** DO NOT DELAY Intermediate Risk(submassive) PE High-risk features present (Box 2 & 3) Contraindications to **CARDIAC ARREST** thrombolytics YFS NO PE confirmed or highly suspected VFS NO 50 mg tPA IV **PERT CONSULT** Anticoagulation Anticoagulation Advanced NO DO AC Therapy tPA and PERT and **PERT** CONSULT CONSULT To Consult PERT: For HSC, St. Boniface, Grace and Patient stable Brandon Hospitals: contact site ICU oncall attending physician Successful For Urgent Care and all other sites (i.e. **Thrombolysis** NO YFS outside Winnipeg): contact ICU Provincial On-Call Attending Physician at HSC Paging (204) 787-207 Refer to Provincial Clinical Practice YES NO Guideline: Treatment and Referral Continue tPA or Advanced Guidelines for High-Risk and Anticoagulation Therapy Intermediate-Risk Pulmonary Embolism in Adult Patients for more detailed information LEGEND: Advanced Anticoagulation DOAC - direct oral anticoagulants Therapy ICU - intensive care unit PE - pulmonary embolism

Shard Health Emergency & Trauma PCT March 2024

PERT - Pulmonary Embolism Response Team

tPA- tissue plasminogen activator (Alteplase)