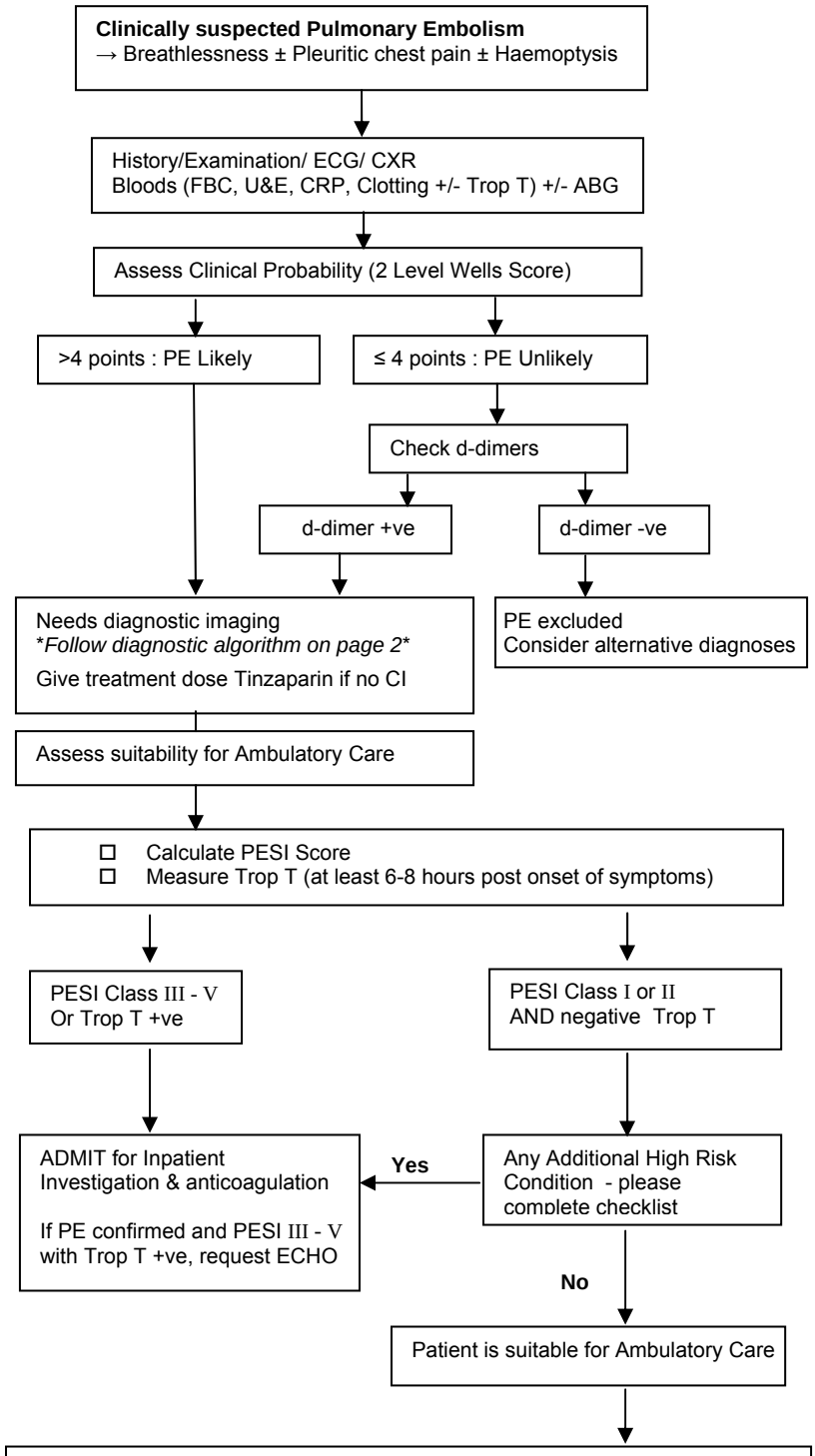
PULMONARY EMBOLISM AMBULATORY CARE - PRE SCAN PATHWAY

(Pathway applies to haemodynamically stable patients **only** and non pregnant patient)

Whittington Health NHS

Name……
Hosp No……**DOB**……



Give LMWH Heparin (if not already done so)

Arrange VQ Scan or CTPA (choice of test as per diagnostic algorithm page 2) :

Within working hours :→ **Same day scan preferable**

- If same day VQ not possible, arrange next day VQ scan appointment and post scan Ambulatory Clinic review appointment
- Provide patient information leaflet and discharge patient home to return next day for scan and review.

Out of hours :

- Book next day 9.30 am Ambulatory clinic appointment (at ED reception)
- Leave completed Ambulatory PE proforma, and Ambulatory care ICE referral form, in AEC Tray in ED reception.
- Provide patient info leaflet and discharge patient home to return next day
- At 9.30 am Ambulatory Consultant/SpR will review patient, formal radiologist review of CXR, and arrange appropriate scan

Wells Clinical Probability Score

Criteria	Score
Clinical signs of DVT	3
Alternative diagnosis les likely than PE	3
Immobilisation (>3 days) or surgery previous 4 weeks	1.5
Previous DVT or PE	1.5
HR > 100 /min	1.5
Haemoptysis	1
Active cancer	1
total	

Total score of > 4 points : PE likely
Total score of 4 points or less : PE unlikely

Pulmonary Embolism Severity Index (PESI)

Criteria	Scoring	Patients Score (score 0 if absent criteria)
Age	1 per year	
Male Sex	10	
Cancer	30	
Heart Failure	10	
Chronic lung disease	10	
Pulse > 110/min	20	
Systolic BP < 100 mmHg	30	
Resp Rate > 30/min	20	
Body Temp < 36C	20	
Altered mental state	60	
Oxygen Sats < 90% on air	20	
	total	

Low Risk	**Points**	**30 day mortality**
Class I	<65	0.7%
Class II	66-85	1.2%
Intermediate Risk		
Class III	86-105	4.8%
High Risk		
Class IV	106-125	13.6%
Class V	>125	24.5%

Additional High Risk Condition	Yes/No
SBP < 100mmHg, Persistent tachy >110/min	Y/N
O_2 Sats <94% on air, and/or RR > 24/min	Y/N
PE whilst on therapeutic anticoagulation	Y/N
Co-existing major proximal DVT	Y/N
High Bleeding Risk (discuss with Haematology): • Active Bleeding • Recent GI Bleed (within 2 weeks) • Recent Stroke (within 2 weeks) • Recent eye or CNS surgery (within 2 weeks) • Platelets < 75, or Coagulopathy	Y/N
Severe renal dysfunction (eGFR <20 ml/min)*	Y/N
Allergy to Heparin or Previous Heparin induced TCP	Y/N
Morbid Obesity (>150 kg)	Y/N
Compliance unlikely and social reasons for Ambulatory care being unfeasible : • alcoholic, homeless, IVDU • acute mental illness, cognitive impairment • immobility, unable to obtain transport to/from hospital, unable to access telephone at home, unaware of adverse symptoms	Y/N

*eGFR <20 ml/min – requires IV Heparin infusion
eGFR 20-30 ml/min – can manage as ambulatory with Tinzaparin, but requires antiXa monitoring

Clinician Name:.....**Signature**.....**Date**.....**designation**…….

PULMONARY EMBOLISM AMBULATORY CARE - POST SCAN PATHWAY

Name……

Hosp No……**DOB**……

VQ Scan / CTPA

Review by Ambulatory Care Consultant (Mon- Fri)
(Over weekend, Ambulatory Care doctor to discuss ALL cases with DMR or Medical Consultant)

Scan positive

Reassess if any Exclusion Criteria for Ambulatory Care

- ☐ PESI Class III - V
- ☐ Additional High Risk Condition
- ☐ Evidence of RV dysfunction/Strain (on CT or Echo)
- ☐ Evidence of myocardial injury (positive Troponin T)

IF ANY OF THE ABOVE

No

Continue Ambulatory Care

Daily LMWH (will require minimum 5 days treatment, doctor to prescribe 2 weeks supply)

- either teach patient to self inject or patient to attend Ambulatory Clinic or GP surgery daily

Contact anticoagulation pharmacist to provide warfarin counselling

Refer to Anticoagulation Clinic for warfarin loading and follow up

Active Cancer and PE – continue LMWH only. Inform oncologist

Yes

Inpatient Care

Continue anticoagulation with daily LMWH

Commence Warfarin loading (see dosing schedule in PE guideline), and continue LMWH minimum 5 days AND until INR in range for 2 consecutive days

Request ECHO if CT evidence of right heart strain or Trop T +ve with high risk PESI score.
All patients with Right Heart Strain at presentation will need repeat ECHO at 3 months and follow up - respiratory clinic OR cardiology clinic (if inpatient under cardiology)

Scan negative

PE Excluded
Consider Alternative diagnoses

N.B. d/w Thoracic Radiologist and Respiratory Consultant if discordant high clinical probability and no alternative diagnosis for symptoms – may need further imaging

Idiopathic PE and Malignancy Screening

- Focused history and full examination including breast exam in females and external genitalia in males
- Review CXR, Hb, Calcium, LFTs, PSA, Urinalysis
- Aged > 40 - Consider CT Abdo/Pelvis and Mammogram (in women)

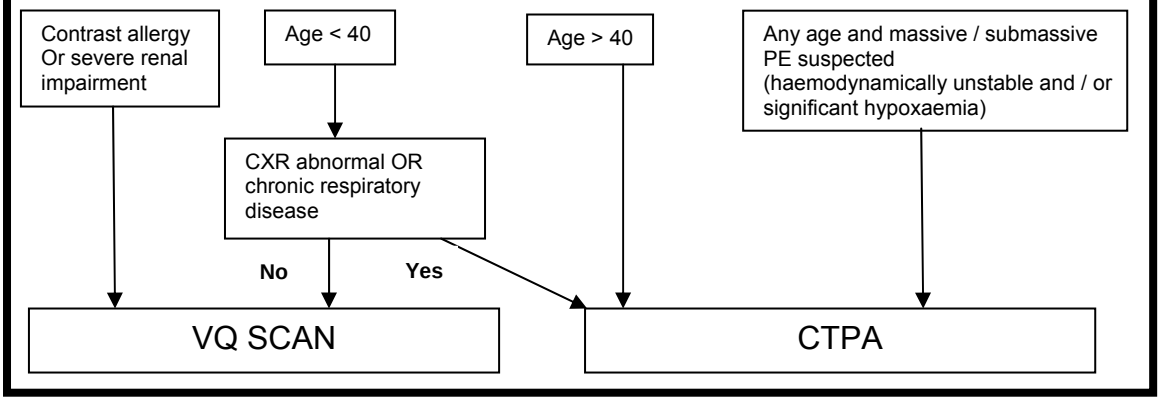
Duration of Anticoagulation

Provoked PE : 6 months

Idiopathic PE : ≥6 months
Consider longer term. Individual risk assessment required. Refer to haematology

Recurrent PE : Lifelong. Target INR 2.5

Diagnostic Test Algorithm for Pulmonary Embolism



Clinician Name:……**Signature**……**Date**……**designation**……

CHECK LIST FOR AMBULATORY CARE MANAGEMENT

Name……
Hosp No……..DOB…….

TREATMENT

Exclusion Criteria for ambulatory care assessed and checklist completed ☐

Patient had baseline FBC, U&Es, LFTs, Clotting ☐

Patient weighed and Allergy status checked ☐

Consult dosage table (available in UCC or intranet) and **prescribe** ☐
Weight based dose of Tinzaparin (175 mg/kg) on **drug chart**

Patient Weight	Dose of Tinzaparin given	Volume of injection
kg	Units	ml

ORGANISING INVESTIGATION

All PE suspected cases should have been reviewed by a Consultant (ED, Medical or AEC of the day) or by DMR if out of hours ☐

All patients must have investigation **within 24 hours**. Request on Anglia ICE. ☐
Within working hours arrange VQ or CTPA (as per guidelines) via radiology hot seat :
→ Mon – Fri : same day scan if possible
→ Weekend (after Fri 5 pm) : CTPA only

Outside working hours (Mon – Fri after 5 pm) – Arrange next day AEC appt for 9.30am.
Patient returns next working day for Ambulatory SpR/Consultant review & scan.
Leave proforma and ambulatory care ICE referral form in AEC Tray ED reception

Discharge the patient from Emergency Dept/ Ambulatory Clinic with the following:

GP Letter ☐ PE Leaflet ☐ VQ/CTPA Appt (if able to) ☐ AEC Clinic Appt (diary at reception) ☐

FOLLOW UP

Monday – Friday: Patient returns to Ambulatory Care Clinic for **Consultant** Review :

If VQ/CTPA negative, PE is excluded. Consider alternative diagnosis ☐
(N.B. If discordant high clinical probability and no alternative cause for symptoms
- d/w with Resp Consultant (Dr Kaiser) and Radiology Consultant re need for further imaging

If VQ/CTPA positive, continue treatment. Minimum 5 days of Tinzaparin. ☐
(Will need admission if Trop T +ve, High risk PESI score or CT evidence of Right Heart Strain)

Referral to Anticoagulation Clinic for warfarin loading ☐

Arrange Ambulatory Clinic review at 1 week
and Respiratory clinic referral for review at 3 months ☐

If unprovoked PE – focused screening for malignancy, and referral to Haematology ☐

Clinician Name:.....**Signature**.....**Date**.....**designation……**