

PULMONARY EMBOLISM INITIAL DIAGNOSTIC PATHWAY

ID NUMBER:

Surname:

Forename:

Gender:

DOB:

PLEASE PLACE
PATIENT LABEL
WITHIN THIS BOXCONFIRM 3 POINT PATIENT ID: ☐ YESRead and follow ALL stages in the pathway until end point is reached or pathway is altered by advice from a consultant**THIS FORM MUST BE FULLY COMPLETED OR TESTS WILL BE REFUSED**

Stage 1: DETAILS

Doctor's name

Doctor's signature

Doctor's contact

Date (MM/DD/YY)

☐ Intern☐ RMO☐ Reg☐ Cons

Stage 2: CLINICAL ASSESSMENT

If hypotensive, hypoxic O₂ Sats <90% or PaO₂ <60, HR >120 or signs of shock, call consultant re urgent management (+MET on ward if criteria met)

History, examination, (includes DVT/leg exam): Is PE a realistic differential diagnosis?

Investigations: O₂ Sats, ECG, FBC, UE, ± VBG/ABG, 'hold' a blue tube (for coag and D-dimer if required later), CXR

Stage 3: WELLS PRE-TEST PROBABILITY

- ☐ 3 Signs of DVT (at least leg swelling and deep venous pain)
- ☐ 3 PE most likely (or as likely) cause for symptoms / signs
- ☐ 1.5 Previous objectively diagnosed DVT or PE
- ☐ 1 Active cancer (<6/12 since therapy / palliative stage)
- ☐ 1.5 Recent immobilisation (can only score once)

Bed rest

POP lower limb > 2/52

Post-op 4/52 or less

- ☐ 1.5 Heart rate >100 at rest

- ☐ 1 Haemoptysis by history

Wells PTP

Points for Wells PTP (circle appropriate)

0 - 1.5 = Low
(< 20%)2 - 6 = Intermediate
(20-50%)≥6.5 = High
(>50%)

GO TO STAGE 4

GO TO STAGE 5

GO TO STAGE 8

Stage 4: PERC RULE

- ☐ Does the patient score <2 points in Stage 3 or is the patient low risk as judged by an experienced practitioner
- ☐ Age <50y
- ☐ Heart rate <100
- ☐ O₂ Sats at room air >94%
- ☐ No Hx of DVT / PE
- ☐ No recent trauma / surgery
- ☐ No haemoptysis
- ☐ No exogenous oestrogen
- ☐ No clinical signs suggestive of DVT (unilateral leg swelling)

Points for PERC rule

If ALL PERC rule boxes ticked:
PE EXCLUDED, PATHWAY ENDS HERE
(INVESTIGATE ALTERNATE DIAGNOSIS)
OTHERWISE **GO TO STAGE 5**

Stage 5: IS A D-dimer REQUIRED? (HIGH SENSITIVITY)

Do ANY of the following exclusion criteria apply?

- ☐ Symptoms > 7days
- ☐ 3rd trimester pregnancy or < 1/52 post-partum
- ☐ Recent major trauma in the past < 1/52
- ☐ Invasive surgery (major ortho / body cavity) in the past < 1/52

- ☐ Currently on anticoagulants (NOAC, Warfarin)
- ☐ Current hospital inpatient
- ☐ Unstable patient
- ☐ Other DVT / VTE / major thrombosis diagnosed in previous 1/52

If ANY box is ticked do NOT do a D-dimer: **GO TO STAGE 8**
If none of the criteria apply, do a D-dimer: **GO TO STAGE 6**

Stage 6: D-dimer RESULT INTERPRETATION

<input type="checkbox"/> D-dimer not done (see Stage 5)	Low / Int / High pre-test probability	Pre-test probability unchanged GO TO STAGE 7
<input type="checkbox"/> Negative	Low / Int pre-test probability	PE EXCLUDED, PATHWAY ENDS HERE (INVESTIGATE ALTERNATE DIAGNOSIS)
	High pre-test probability	Pre-test probability alters to LOW GO TO STAGE 7
<input type="checkbox"/> Age (>50y) adjusted result	<u>ALL</u> the following apply: Age >50y Wells ≤ 4 D-dimer result < Age x 0.01ng/mL	PE EXCLUDED, PATHWAY ENDS HERE (INVESTIGATE ALTERNATE DIAGNOSIS)
<input type="checkbox"/> Positive	All other positive results where the above age related adjustment does not apply	Pre-test probability unchanged GO TO STAGE 7

Stage 7: REVISED PRE-TEST PROBABILITY SCORE (see Stage 6)

☐ Low

☐ Negative

☐ High

Stage 8: FURTHER IMAGING AND INTERPRETATION OF RESULTS

CTPA[†]

†foetal cancer / foetal abnormality rate negligible

The preferred test in all patients EXCEPT:
Premenopausal females (breast cancer induction 1:150)
Dye allergy
Reduced creatinine clearance

CTPA result	PTP	Outcome / results	
<input type="checkbox"/> Negative	Low / Int	PE EXCLUDED	
	High	Do USS lower limb or CT venogram at time of CTPA to exclude DVT	Negative: PE EXCLUDED, INVESTIGATE ALTERNATIVE DIAGNOSIS Positive: PE CONFIRMED
<input type="checkbox"/> Positive	Low / Int / High	PE CONFIRMED: (if single subsegmental clots, discuss with senior regarding benefit of treatment over possible risks)	
<input type="checkbox"/> Alternative diagnosis	Low / Int / High	PE not seen:	PE EXCLUDED, CONFIRMS ALTERNATIVE DIAGNOSIS
		PE seen:	PE CONFIRMED plus CO-EXISTANT DISEASE. Manage both conditions
<input type="checkbox"/> Inadequate technical scan	Low / Int / High	Consider VQ ± USS lower limb for DVT or repeat CTPA scan if conditions can be optimized Positive: PE CONFIRMED Negative: PE EXCLUDED, INVESTIGATE ALTERNATIVE DIAGNOSIS	

VQ[‡]

‡foetal cancer / foetal abnormality / female cancer rate negligible

The preferred test in the following patients:
Premenopausal
Pregnancy (discuss with consultant)
Contra-indication to CTPA

VQ / PLANAR or SPECT ± CT result	PTP		
	Low	Intermediate	High
<input type="checkbox"/> Negative (very low likelihood)	PE EXCLUDED, INVESTIGATE ALTERNATIVE DIAGNOSIS	PE EXCLUDED, INVESTIGATE ALTERNATIVE DIAGNOSIS	PE EXCLUDED, INVESTIGATE ALTERNATIVE DIAGNOSIS
<input type="checkbox"/> Positive	Do USS lower limb for DVT Positive: PE CONFIRMED Negative: CONSIDER CTPA ± INVESTIGATE ALTERNATIVE DIAGNOSIS	PE CONFIRMED	PE CONFIRMED
<input type="checkbox"/> Indeterminate / Inadequate scan	Do USS lower limb for DVT Positive: PE CONFIRMED Negative: CONSIDER CTPA ± INVESTIGATE ALTERNATIVE DIAGNOSIS		

Stage 9: DOCUMENT DIAGNOSIS IN NOTES

THIS DOCUMENT SHOULD BE FILED IN PATIENT NOTES