

Clinical scenario1: A 28 y.o. female diagnosed recently with SLE, comes to ER with pleuritic chest pain and SOB. She has no PMH or family history of clotting events. She is taking oral contraceptive. Physical exam is normal, chest x-ray is normal.

Simplified Wells Criteria score is 3(moderate) based on SOB with lack of alternative diagnosis.

	List of potential tests and corresponding results when requested	The order of appropriate diagnostic steps:	Score points assigned to this clinical scenario Total score points:2/2
D-dimer Rapid ELISA	Negative	1. Estimate of pre test probability: <i>Moderate</i> 2. Order D-dimer: <i>Negative</i> 3. Stop: <i>no need for further testing or treatment</i>	1 point for ordering D-dimer 1 point for not proceeding with further diagnostic tests in response to negative D-dimer result.
CT/PE or V/Q	Negative		
2 Serial Doppler studies one week apart of lower extremities	First Doppler: Negative Second Doppler: Negative		
Pulmonary arteriogram	Negative		

Clinical scenario2 : A 78 y.o. male presents with SOB and pleuritic chest pain started 2 days ago. He was discharged from the hospital 7 days ago after 20 days of admission for acute cholecystitis treated with antibiotics and surgery. PMH is positive for controlled HTN and a previous idiopathic DVT in right lower extremity. Physical exam shows tachycardia. Chest x-ray is normal.

Simplified Wells Criteria score is 7.5 (high) based on SOB with lack of alternative diagnosis, recent immobility/surgery, tachycardia and history of idiopathic DVT .

	List of potential tests and corresponding results when requested	The order of appropriate diagnostic steps:	Score points assigned to this clinical scenario Total score points:3/3
D-dimer Rapid ELISA	Negative	<ol style="list-style-type: none"> 1. Estimate of pre test probability <i>High</i> 2. Order CT/PE or V/Q scan <i>Negative</i> 3. Order angiography or 2 serial Doppler studies one week apart of lower extremities <i>Positive</i> 	1 point for not ordering D-dimer
CT/PE or V/Q	Negative		1 point for ordering CT/PE or V/Q scan
2 Serial Doppler studies one week apart of lower extremities	First Doppler is Positive		1 point for ordering angiography or a 2 serial Doppler study one week apart of lower extremities .
Pulmonary arteriogram	Positive		In this scenario there is no need for a second Doppler study because the first is positive

Clinical Scenario3: Patient is 65 y.o. male admitted with pneumonia. He has no history of recent immobilization, no previous clotting events. He is short of breath with low oxygen saturation with an initial chest x-ray on admission diagnostic for pneumonic infiltrate. On the second day of admission he becomes more hypoxic with tachycardic. A repeat chest x-ray shows fluid overload.

Simplified Wells Criteria score is 1.5(low) based on SOB with tachycardia in the setting of presence of alternative diagnosis.

	List of potential tests and corresponding results when requested	The order of appropriate diagnostic steps:	Score points assigned to this clinical scenario
			Total score points:2/2
D-dimer Rapid ELISA	Negative	<ol style="list-style-type: none"> 1. Estimate of pre test probability: <i>Low</i> 2. Order D-dimer: <i>Negative</i> 3. Stop: <i>no need for further testing or treatment</i> 	1 point for ordering D-dimer 1 point for not proceeding with further diagnostic tests in response to negative D-dimer result.
CT/PE or V/Q	No PE		
2 Serial Doppler study one week apart of lower extremities	First Doppler: Negative Second Doppler: Negative		
Pulmonary arteriogram	Negative		

Clinical Scenario 4. Pt is 45 y.o. male who was noticed by family member that he is unusually looking short of breath with common activities, came today to ER for sudden development of SOB at rest. There is no significant past medical history except one time swelling in left lower leg and foot with some erythema 2 months ago which was treated with antibiotics. The patient has a sedentary profession with sitting for long hours behind a computer screen.

On assessment he is mildly tachypenic, HR 110, Oxygen saturation is 89% on RA. Rest of exam is normal.

Simplified Wells Criteria score is 6(mod) based on SOB with tachycardia, immobility, and no alternative diagnosis for SOB.

	List of potential tests and corresponding results when requested	The order of appropriate diagnostic steps:	Score points assigned to this clinical scenario
			Total score points:2/2
D-dimer Rapid ELISA	Positive	1. Estimate of pre test probability: <i>mod</i> 2. Order CT/PE	1 point for ordering D-dimer 1 point for ordering CT/PE
CT/PE or V/Q	Positive		
2 Serial Doppler study one week apart of lower extremities	Doppler study showed findings of previous DVT in left lower extremity.		
Pulmonary arteriogram	Positive		

Clinical Scenario 5. Pt is 48 y.o. female with history of DVT in left lower extremity 2 years ago that happened weeks after initiation therapy with hormonal replacement therapy for menstrual irregularities. She comes to ER with SOB. Before presenting to the ER she was seen in an outpatient clinic where she was prescribed antibiotics for possible pneumonia. There is no history of malignancy, no immobility. Physical exam shows stable vitals and no signs of DVT. Chest x ray is normal.

Simplified Wells Criteria score is 4.5(mod) based on SOB with history of DVT and no alternative diagnosis for her SOB.

	List of potential tests and corresponding results when requested	The order of appropriate diagnostic steps:	Score points assigned to this clinical scenario
			Total score points:2/2
D-dimer Rapid ELISA	Positive	1. Estimate of pre test probability: <i>Mod</i> 2. Order D-dimer: <i>Positive</i> 3. Order CT/PE	1 point for ordering D-dimer 1 point for proceeding with further diagnostic tests in response to positive D-dimer result (CT/PE).
CT/PE or V/Q	Positive		
2 Serial Doppler study one week apart of lower extremities	Negative		
Pulmonary arteriogram	Positive		

Clinical Scenario 6. Pt is 68 y.o. with history of pulmonary fibrosis/asbestosis admitted with pancreatitis. The pt. developed worsening in SOB during his hospital stay even though his pancreatitis was resolving and he was on routine DVT prophylaxis. Chest x-ray was suspicious for alveolar pattern with either heart failure or infection. Oxygen requirement was increasing gradually. On lung exam, he had fine crackles same as compared to previous exam and explained by known pulmonary fibrosis. Vitals showed tachycardia up to 110, afebrile, no signs of DVT, no cough or signs for CHF. No increase in WBC.

Simplified Wells Criteria score is 3 (mod) based on SOB with history of tachycardia, immobility and no alternative definite diagnosis for SOB.

	List of potential tests and corresponding results when requested	The order of appropriate diagnostic steps:	Score points assigned to this clinical scenario
			Total score points:3/3
D-dimer Rapid ELISA	Positive	1. Estimate of pre test probability: <i>Mod</i> 2. Order D-dimer: <i>Positive</i> 3. Order CT/PE	1 point for ordering D-dimer 1 point for proceeding with further diagnostic tests in response to positive D-dimer result. 1 point for holding further investigations.
CT/PE or V/Q	negative		
2 Serial Doppler study one week apart of lower extremities	Negative		
Pulmonary arteriogram	negative		

Clinical Scenario 7. Pt is 42 y.o. male with history of nephrotic syndrome and unprovoked DVT in right lower extremity 3 years ago. He was admitted to the ICU with pneumonia and septic shock. After discharge to a medical unit he developed respiratory distress even though he was clinically improving in terms of sepsis and pneumonia and became hemodynamically unstable stable. Physical exam shows tachycardia and no signs of DVT. Improved lung exam with no crackles. Chest x ray shows resolving pneumonia.

Simplified Wells Criteria score is 7.5(high) based on SOB with history of DVT, tachycardia, immobility, and no alternative diagnosis for new SOB.

	List of potential tests and corresponding results when requested	The order of appropriate diagnostic steps:	Score points assigned to this clinical scenario
			Total score points:2/2
D-dimer Rapid ELISA	Positive	1. Estimate of pre test probability:	1 point for not ordering D-dimer
CT/PE or V/Q	Positive	<i>High</i>	1 point for ordering CT/PE as first diagnostic test
2 Serial Doppler study one week apart of lower extremities	Negative	2. Order CT/PE	
Pulmonary arteriogram	Positive		

Clinical Scenario 8. Pt is 89 y.o. female with history of dementia, aortic stenosis, diastolic congestive heart failure who comes from a nursing home with hypoxia and shortness of breath. The patient is not mobile because of osteoarthritic joint pains. There was not history of DVT or PE. Physical examination on admission showed sinus tachycardia 120/minutes, oxygen saturation 90% on RA. Lung exam was positive for few fine crackles at bases with edema in both lower extremities.

Simplified Wells Criteria score is 3 (mod) based on SOB with tachycardia and immobility.

	List of potential tests and corresponding results when requested	The order of appropriate diagnostic steps:	Score points assigned to this clinical scenario Total score points:2/2
D-dimer Rapid ELISA	Negative	1. Estimate of pre test probability: <i>mod</i> 2. Order CT/PE	1 point for ordering D-dimer 1 point for not ordering CT/PE as first diagnostic test
CT/PE or V/Q	Negative		
2 Serial Doppler study one week apart of lower extremities	Negative		
Pulmonary arteriogram	Negative		

Clinical Scenario 9. Pt is 25 y.o. male with no past medical history was brought to ER because of a pre syncopal episode followed by a feeling of shortness of breath. The patient is a student who has been studying for prolonged periods of times over the last few weeks without rest. On admission to ER he was diaphoretic, tachycardic (125/min) and tachypenic (28/min). Oxygen saturation was 90 % on RA. There was no chest pain, no neurological symptoms or any seizure activity. Cardiac exam and work up was negative.

Simplified Wells Criteria score is 4.5(mod) based on SOB with immobility and lack of alternative diagnosis.

	List of potential tests and corresponding results when requested	The order of appropriate diagnostic steps:	Score points assigned to this clinical scenario
			Total score points:2/2
D-dimer Rapid ELISA	Positive	1. Estimate of pre test probability: <i>mod</i> 2. Order CT/PE	1 point for ordering D-dimer 1 point for ordering CT/PE as next diagnostic test in response to positive D-dimer.
CT/PE or V/Q	Positive		
2 Serial Doppler study one week apart of lower extremities	Not done		
Pulmonary arteriogram	Positive		

Clinical Scenario 10. Pt is 38 y.o. obese female who is known to have large uterine fibroid tumours comes to the ER with complaints of weakness and increased shortness of breath. ER work showed normal chest ray, HB 74 g/l, other labs were normal. Her vital signs were stable except HR of 115/min. Physical exam was normal, negative for DVT. No history of DVT/PE, no malignancy, no immobility

Simplified Wells Criteria score is 1.5(low) based on SOB with tachycardia in the setting of presence of alternative explanation of her SOB.

	List of potential tests and corresponding results when requested	The order of appropriate diagnostic steps:	Score points assigned to this clinical scenario Total score points:2/2
D-dimer Rapid ELISA	Positive	1. Estimate of pre test probability: <i>Low</i> 2. Order D-dimer: <i>Positive</i> 3. Order CT/PE	1 point for ordering D-dimer 1 point for proceeding with further diagnostic tests in response to positive D-dimer result.
CT/PE or V/Q	Positive		
2 Serial Doppler study one week apart of lower extremities	Negative		
Pulmonary arteriogram	Positive		