

Supplementary material

Naylor K, Torres K. Approaches to stimulate clinical reasoning in continuing medical education during the coronavirus disease 2019 pandemic. Kardiol Pol. 2020; 78: 770-772. doi:10.33963/KP.15419

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Formative Assignment

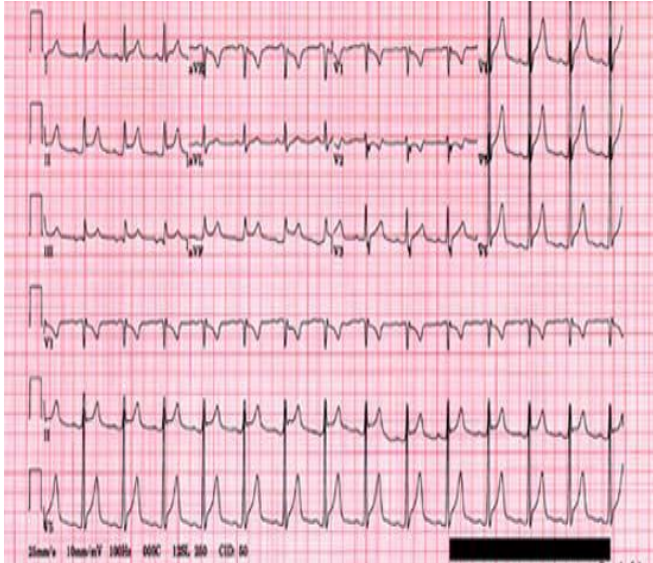

Proposal for formative assessment during continuing medical education in Emergency Medicine using Script Concordance Test (SCT). Sample question assesses critical reasoning across the 3 primary SCT domains; diagnosis, investigation and treatment, for the patient presenting with acute chest pain.

Sample SCT Question

[Please indicate your answers by selecting one option from the -2 to +2 scale.]

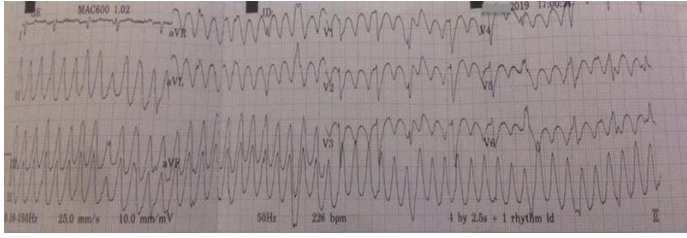
(a) Judgment type: Diagnosis

A 50-year-old Sandra Smith is admitted to the ED complaining of sharp chest pain that's more severe when she lies down, takes a deep breath, or coughs. She states that her chest pain decreases in intensity when she sits up and leans forward. Her vital signs are as follows: NBP: 140/80; HR: 110/minute, RR: 18/minute, unlaboured.

If you were thinking of:	And then you find:	This Diagnosis becomes:				
<p>Q1. Pleurisy</p> <p>Q2. Pericarditis</p>	<p>S- sudden chest pain, increasing with breathing, started about 1 h ago, starts to radiate to the shoulder, dyspnea A- penicillin M- Ramipril 2.5 g; Amlodipine 5mg P- hypertension, AMI 3 weeks ago L- 3 h ago, chicken soup E- wanted to lie down when the sudden pain occurred</p> 	-2	-1	0	+1	+2
<p>Q3. Pulmonary oedema</p>		-2	-1	0	+1	+2
<p>-2: contraindicated; -1: less indicated; 0: neither more or less indicated +1: more indicated; +2: completely indicated</p>						

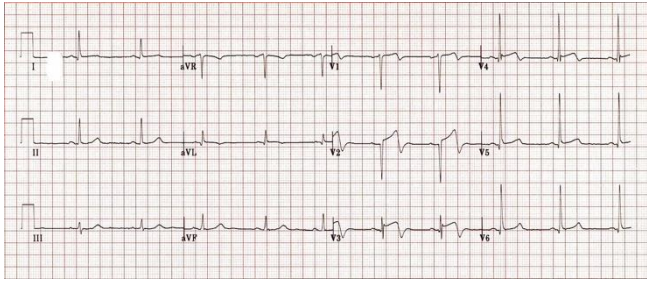
(b) Judgment type: Investigation

A 49-year-old Sam Johnson with the history of hypertension on Ramipril 5 mg once a day has been brought to the ER with chest pain by his wife. He is restless. RR 28; Heart Rate 140; NBP 140/90; Spo2 93%.

If you were thinking of:	And then you find:	The investigation becomes:				
<p>The following ECG was brought to you:</p>						
<p>Q4. Ordering the 12 leads ECG</p>		-2	-1	0	+1	+2
<p>Q5. Ordering repeated cardiac troponins checks in blood tests.</p>	<p>The patient has initially elevated cardiac troponin.</p>	-2	-1	0	+1	+2
<p>Q6. Ordering CCT coronary angiography</p>	<p>The patient reports that he experienced hives and itchy eyes during previous CT scan last year.</p>	-2	-1	0	+1	+2
<p>-2: contraindicated; -1: less indicated; 0: neither more or less indicated +1: more indicated; +2: completely indicated</p>						

(c) Judgement Type - Treatment

75 year old Mark Night with history of hypertension; taking amlodipine 10mg once a day, is brought to the ER with a 3 hour history of severe central chest pain. EMS have administered 300mg oral aspirin and 2 sublingual GTN sprays, with no perceived benefit to his symptoms.

If you were thinking of:	And then you find:	This treatment becomes:				
Q7. Administering morphine intravenously	The patient's vital signs are following: RR- 28 HR- 140 NBP- 90/70 Spo2- 90%	-2	-1	0	+1	+2
Q8. Referring to cardiology for primary percutaneous intervention	The following ECG:- 	-2	-1	0	+1	+2
Q9. Administering an initial heparin bolus of 60 U/kg (maximum, 5000 U)	A new onset of focal neurological deficit on examination	-2	-1	0	+1	+2
-2: contraindicated; -1: less indicated; 0: neither more or less indicated +1: more indicated; +2: completely indicated						

Answers

Scores are assigned to each answer based on the expert panel and their chosen responses (consisting of ideally at least 10 members). Therefore some answers are given partial scores. Scores are calculated according the following equation:-

$$\text{Score assigned to answer} = \frac{\text{Number of experts who chose this answer}}{\text{Number of experts who chose the most selected answer}}$$