

Get in Touch

Clinical Reasoning

QUICK-REFERENCE-GUIDE

Welcome,

Critical thinking for tomorrow's clinicians

Practice limiting differentials by exploring each problem's clinical reasoning flow. Review illness scripts to guide your decisions.

Problems

Illness Scripts

Select a problem to evaluate

Each problem has an algorithm, possible differentials to explore.

All Problems

Signs & Symptoms

Abdominal Pain

Acid-Base Disorders

Altered Mental Status

Anemia

Back Pain

Chest Pain, Acute

Dizziness

Edema

Problem Modules

問題導向模組

選擇一個主訴病例出發，通過探索其臨床推理流程，練習如何逐步縮小監別診斷範圍。可依All Problems、Signs & Symptoms 或 Lab Abnormalities進行篩選主訴。

McGraw Hill Clinical Reasoning

Support My Account

Search

Welcome

Critical thinking for tomorrow's clinicians

Practice limiting differentials by exploring each problem's clinical reasoning flow. Review illness scripts to guide your decisions.

Problems Illness Scripts

Select a problem to evaluate

Each problem has an algorithm, possible differentials, and interactive flow to explore.

All Problems Signs & Symptoms Lab Abnormalities

Abdominal Pain >

Acid-Base Disorders >

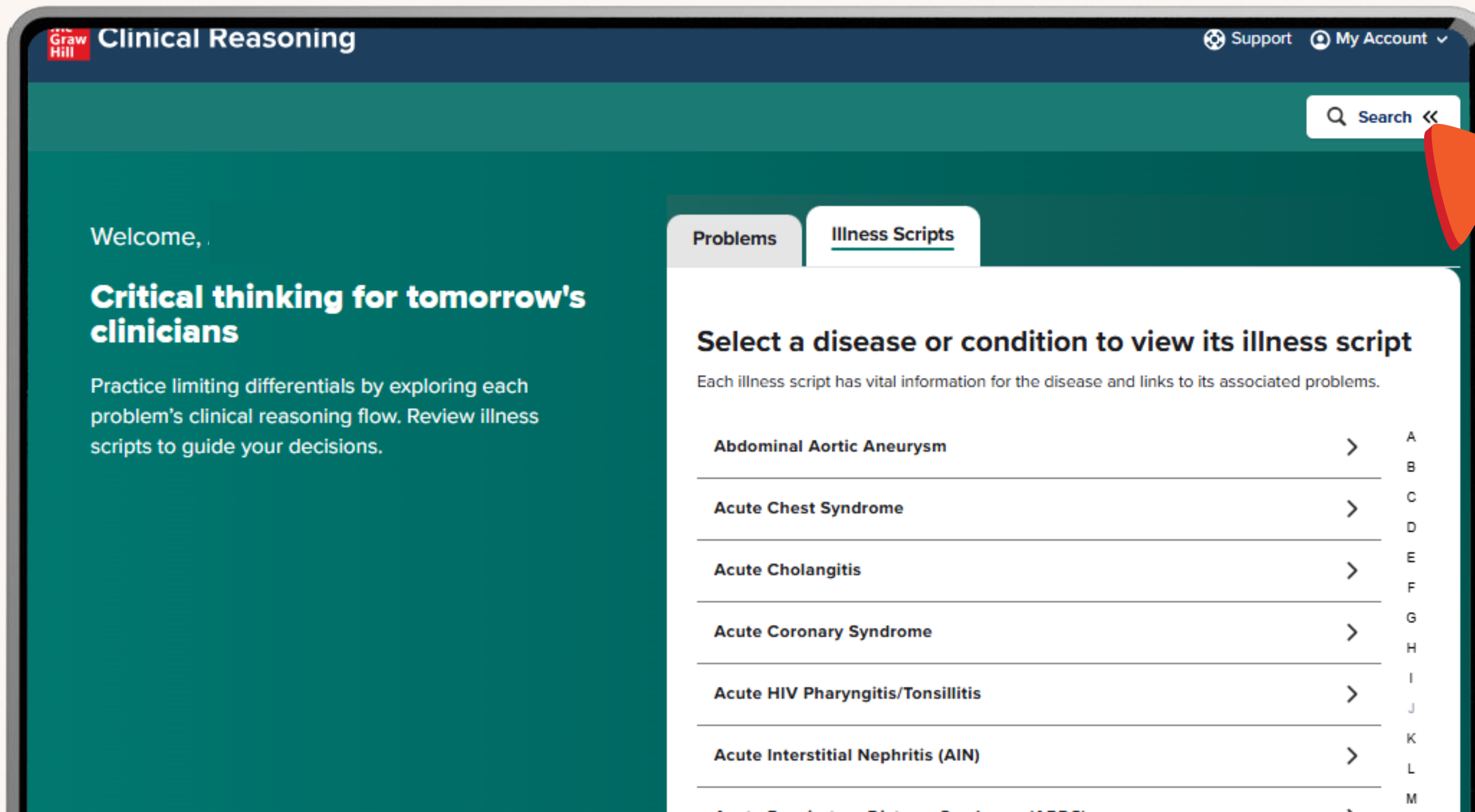
Altered Mental Status >

Anemia >

使用 Search (搜尋) 按鈕，快速找到特定問題模組或疾病腳本。

Illness Scripts 疾病腳本

探索與問題模組對應的 500+ 份詳細疾病資料庫。每一份腳本都整理了臨床醫師判斷時會用到的關鍵線索，從典型表現到危險警訊，協助你精準完善鑑別診斷。



The screenshot shows the 'Clinical Reasoning' website interface. At the top left is the Graw Hill logo and the text 'Clinical Reasoning'. At the top right are links for 'Support' and 'My Account'. Below the header is a search bar with a magnifying glass icon and the text 'Search <<'. The main content area has two tabs: 'Problems' and 'Illness Scripts', with 'Illness Scripts' being the active tab. Below the tabs is a heading 'Select a disease or condition to view its illness script' and a sub-heading 'Each illness script has vital information for the disease and links to its associated problems.' A list of diseases is displayed, each with a right-pointing chevron and a corresponding letter from A to M. The diseases listed are: Abdominal Aortic Aneurysm (A), Acute Chest Syndrome (C), Acute Cholangitis (E), Acute Coronary Syndrome (G), Acute HIV Pharyngitis/Tonsillitis (I), and Acute Interstitial Nephritis (AIN) (K).

使用 Search (搜尋) 按鈕，快速找到特定問題模組或疾病腳本。

Illness Scripts 疾病腳本

每份 Illness Script 都提供完整的疾病輪廓，包括：常見與非典型表現、重要病史與理學檢查重點、病理生理、危險警訊、病程時間軸，以及其他能引導診斷推理的重要臨床洞見。

Illness Script



Acute Chest Syndrome

* Emergent

Acute chest syndrome is a condition that affects patients with sickle cell disease and is defined as a new pulmonary infiltrate on chest film accompanied by fever and a combination of respiratory symptoms such as cough, tachypnea, and chest pain. It is a pneumonia-like illness and the second most frequent acute event related to sickle cell disease. The etiology includes in situ thrombosis, emboli, infections, and hypoventilation. Management involves supplemental oxygen, broad-spectrum antibiotics, incentive spirometry, bronchodilators, and transfusions. It can range from mild to severe, potentially leading to multiorgan failure and death.

Classic Presentation



Atypical/Uncommon Presentation



Pathophysiology



Frequency



Etiology/Risk Factors



Symptoms



Signs



Time Course



Work-up



Fundamentals of Management



Pearls and Pitfalls





Problem Overview-概覽頁

選擇一個主訴問題，探索其臨床推理流程，開始練習如何逐步縮小鑑別診斷範圍。

1 緊急及不容錯過的診斷

查看可能由主訴引起的緊急及不容錯過的疾病

* Emergent ⚠️ Must Not Miss

2 診斷差異

查看由主訴引起的疾病之間的差異

3 決策樹

查看診斷流程之樹狀圖，幫助你把該問題可能的鑑別診斷逐步收斂，更接近最終診斷。

4 連結之其疾病腳本

點擊自動連至其疾病腳本閱讀典型/非典型表現、症狀與徵象基本處置與治療、臨床重點與陷阱等內容。

Q Search << Practice Case <<

PROBLEM OVERVIEW
Chest Pain, Acute

- * Emergent & Must Not Miss DDx >
- ☰ Possible Differentials >
- 🔗 Algorithm >

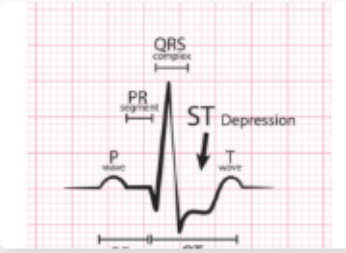
Summary of approach

There are 5 pivotal points in evaluating **4** chest pain.

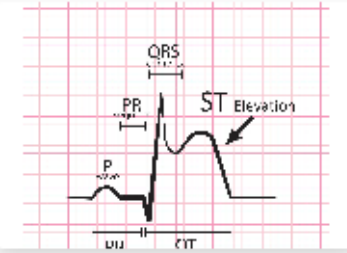
- Rule out acute **ST-segment elevation myocardial infarction:**
 - Time-critical diagnosis.
 - Indicates ongoing, complete blockage of a coronary artery, leading to rapid necrosis of heart muscle tissue.
- Identify red flags suggesting high risk of cardiovascular etiologies:
 - Tearing pain that is worst at onset and radiates to back.
 - Abnormal vital signs.
 - Hypoxemia.**
 - Unequal radial pulses/upper extremity blood pressures.
 - Diaphoresis.
 - Altered mental status.
 - Focal neurologic findings.
 - Dynamic ECG changes.
- Identify clinical and radiographic clues of noncardiac etiologies ([esophageal rupture](#), [pneumonia](#), [acute chest syndrome](#), [pneumothorax](#), [herpes zoster](#)).
- Risk-stratify for [pulmonary embolism](#), [acute coronary syndrome](#), and acute [aortic dissection](#) using validated decision pathway or clinical decision rule.
- Consider possible nonemergent, noncardiac etiologies (diagnoses of exclusion).

Begin Diagnostic Process


Related images




ECG of non-ST-segment elevation myocardial infarction (NSTEMI).



ECG of ST-segment elevation myocardial infarction (STEMI).



Aortic dissection.



Coronary angiogram demonstrating 95% stenosis of the left anterior descending (LAD) artery.



Problem Overview-概覽頁

5 檢索

6 [相關圖片](#)
點擊放大圖片觀看

7 [AI病患模擬](#)
以語音/輸入文字與真實的AI病患進行問診、檢查及診斷。

8 [開始診斷流程](#)
當你蒐集完臨床決策所需資訊與可能的鑑別診斷線索後，就可以開始正式的診斷流程。

5

Search <<

7

Practice Case <<

PROBLEM OVERVIEW

Chest Pain, Acute

* Emergent & Must Not Miss DDx >

☰ Possible Differentials >

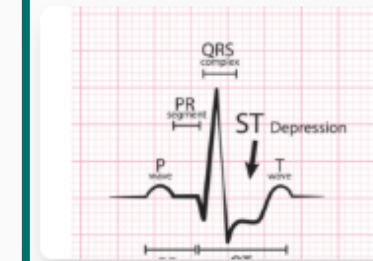
🔗 Algorithm >

Summary of approach

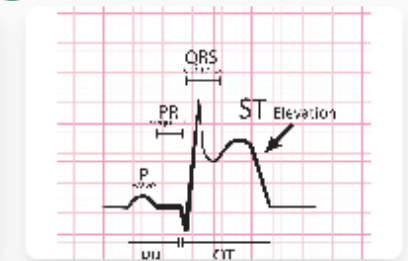
There are 5 pivotal points in evaluating chest pain.

1. Rule out acute [ST-segment elevation myocardial infarction](#):
 - a. Time-critical diagnosis.
 - b. Indicates ongoing, complete blockage of a coronary artery, leading to rapid necrosis of heart muscle tissue.
2. Identify red flags suggesting high risk of cardiovascular etiologies:
 - a. Tearing pain that is worst at onset and radiates to back.
 - b. Abnormal vital signs.
 - c. [Hypoxemia](#).
 - d. Unequal radial pulses/upper extremity blood pressures.
 - e. Diaphoresis.
 - f. Altered mental status.
 - g. Focal neurologic findings.
 - h. Dynamic ECG changes.
3. Identify clinical and radiographic clues of noncardiac etiologies ([esophageal rupture](#), [pneumonia](#), [acute chest syndrome](#), [pneumothorax](#), [herpes zoster](#)).
4. Risk-stratify for [pulmonary embolism](#), [acute coronary syndrome](#), and acute [aortic dissection](#) using validated decision pathway or clinical decision rule.
5. Consider possible nonemergent, noncardiac etiologies (diagnoses of exclusion).

Related images



ECG of non-ST-segment elevation myocardial infarction (NSTEMI).



ECG of ST-segment elevation myocardial infarction (STEMI).



Aortic dissection.



Coronary angiogram demonstrating 95% stenosis of the left anterior descending (LAD) artery.



Begin Diagnostic Process

8

開始診斷流程

跟隨著專家設計的路徑，一步一步系統的學習如何進行診斷推理。

ST

EP

BY

ST

EP

1 Problem Evolution
追蹤診斷思路進度

2 Focused Differentials
隨著診斷流程，將逐漸縮小範圍

3 Algorithm
清晰呈現鑑別診斷流程

4 診斷時關鍵考量因素
涵蓋危險訊號、關鍵病史、關鍵體格檢查、關鍵診斷、臨床要點

5 關鍵問題
查看當前關鍵問題

6 決策規則
同一主訴下辨別不同子類型時，
需要用來推論與做判斷的提示點。

PROBLEM EVOLUTION

Acute Chest Pain

Is the patient experiencing an ST-segment elevation myocardial infarction (STEMI)?

43 Focused Differentials

Algorithm

DID YOU CONSIDER...

Red Flags

Key Medical History

Key Physical Exam

Key Diagnostics

Clinical Pearls

PIVOTAL QUESTION

Is the patient experiencing an ST-segment elevation myocardial infarction (STEMI)?

A STEMI is an emergency because it indicates an ongoing, complete blockage of a coronary artery, leading to rapid myocardial necrosis. Immediate restoration of coronary blood flow minimizes heart damage and reduces the risk of life-threatening complications, such as acute heart failure or cardiac arrest.

DECISION RULE

- ST-segment elevation myocardial infarction (STEMI) is diagnosed based on symptoms consistent with myocardial ischemia (ie, persistent chest pain) and any of the following ECG findings:

General STEMI Criteria

- ST elevation:
 - ≥ 1 mm in all leads except V2–V3
 - ≥ 2 mm in V2–V3 for men > age 40
 - ≥ 2.5 mm for men < age 40
 - ≥ 1.5 mm for women
- Reciprocal changes: ST depression and/or T-wave inversion opposite the ST-elevation
- Hyperacute T waves and pathological Q waves
- New left bundle branch block (LBBB): Suggestive of STEMI in the appropriate clinical context

Left Main Coronary Artery Occlusion

- ST depression ≥ 1 mm in ≥ 8 leads and ST elevation in aVR and/or V1
- High mortality risk: Immediate clinical correlation and intervention required

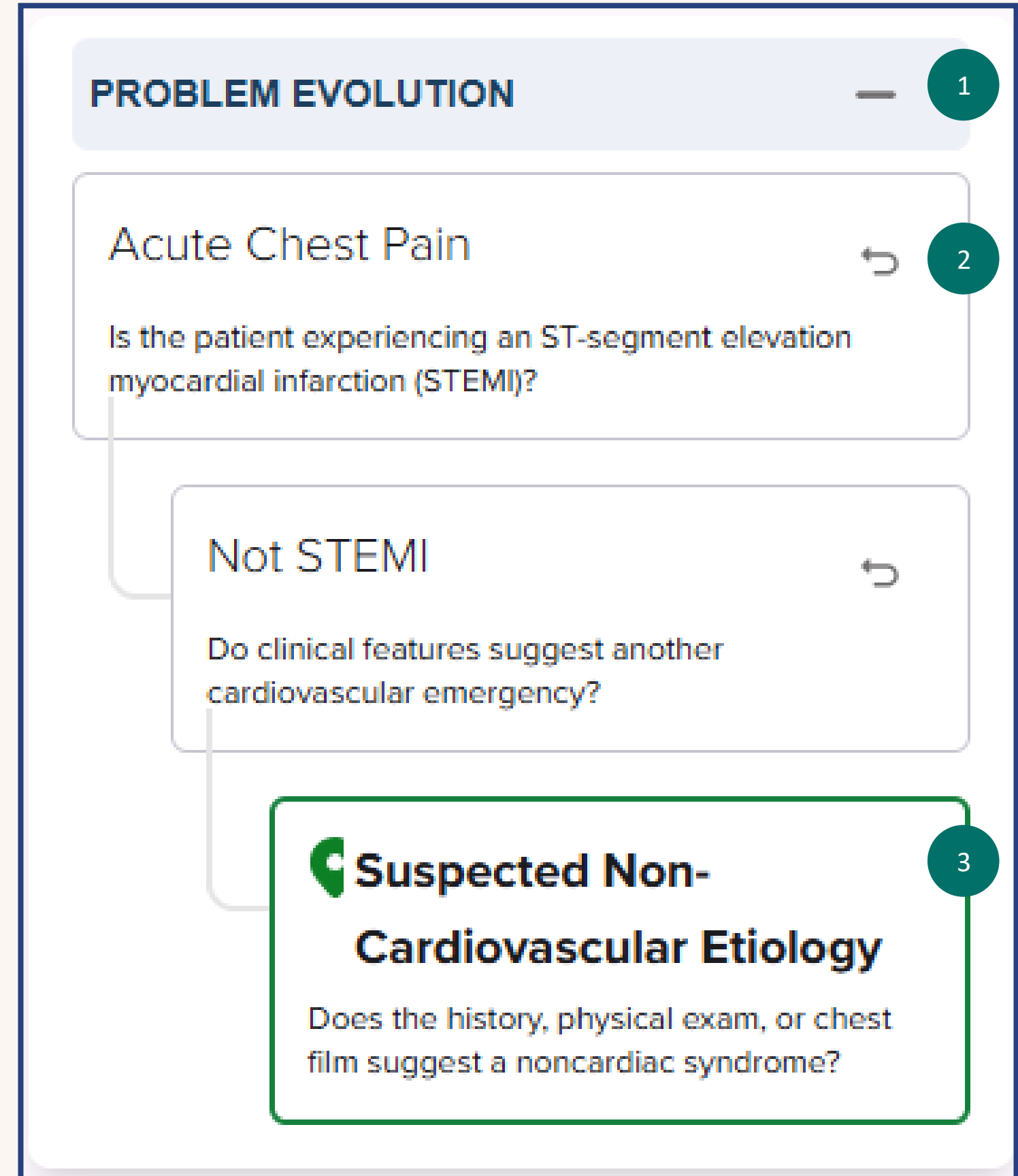
Isolated Posterior Myocardial Infarction (MI)

STEP BY STEP

開始診斷流程

關鍵決策

- 1 展開查看問題演變的過重程，追蹤診斷思路進度
- 2 使用「↶」可以回到上一個決策點
- 3 顯示當前你的診斷在哪一步、此前做了什麼決策





STEP BY STEP

開始診斷流程

可能的診斷清單：釐清的細微差異

1 涵蓋危險因子、相關症狀、臨床徵象、檢查評估

2 查看該疾病的檢查評估推薦

PROBLEM EVOLUTION

Acute Chest Pain

Is the patient experiencing an ST-segment elevation myocardial infarction (STEMI)?

Not STEMI

Do clinical features suggest another cardiovascular emergency?

12 WORKING DDx TO REVIEW

Working DDx	Risk factors	Associated symptoms	WORKUP >
Aortic Dissection *	<ul style="list-style-type: none">Hypertension, present in 72% of patientsAtherosclerosis, present in 31% of patientsKnown aortic aneurysm, present in 16% of patientsBicuspid aortic valve	<ul style="list-style-type: none">Severe or worst ever pain 90%Abrupt-onset pain 85%Ripping, tearing chest pain 51%Back pain 47%	<ul style="list-style-type: none">Pulse deficitBlood pressure differential > 20 mm Hg between two armsDiastolic murmur of aortic regurgitationFocal neurologic deficits
Aortic Regurgitation, Acute	<ul style="list-style-type: none">Infective endocarditisAortic dissectionAortic manipulation	<ul style="list-style-type: none">DyspneaExertional anginaSigns of heart failure (eg, peripheral edema)	<ul style="list-style-type: none">HypotensionTachycardiaNew early diastolic murmur following S2Crackles

DID YOU CONSIDER...

Red Flags +

Prioritizing the DDx +

Clinical Pearls +

Back Next Steps

回顧主訴病例



1 診療方案

2 回顧決策樹

3 參考來源


4 重新開始該模組

5 回到首頁

1 NEXT STEPS

- Emergent cardiology consult for primary percutaneous coronary intervention (PCI).
- If PCI is not available on site:
 - Make arrangements for immediate transfer to PCI-capable hospital.
 - If unable to provide percutaneous transluminal coronary angioplasty (or transfer), initiate medical thrombolysis.

2  Review Completed Path >

3  References >

4  Restart Module >

Back

5
Exit

PRACTICE CASE

AI 病患問診

[產品連結](#)



PRACTICE CASE

AI 病患問診

- 擬真互動：
 - 使用者可透過「語音」或「文字」與 AI 病人對話，練習病史採集。
- 完整流程：
 - 涵蓋病史詢問、檢查、實驗室數據判讀到影像檢查。
- 即時回饋：
 - 收集使用者的操作，包括初步鑑別診斷和最終診斷，以及診斷依據和信賴水準，生成一份回饋報告，從而對使用者的臨床技能進行全面評估。



病患之資訊

隨機至少3名病患

Miles Taylor

Chief Complaint: The patient is a 39 year old, man with a chief complaint of chest pain.

Use Speech

輸入/語音
(目前語音只支援英文)

Start the Case

[Past Cases](#)

查看回饋報告

Submit your final diagnosis to unlock access to additional labs and exams, and to proceed with submitting your final diagnosis to access your Results and view a comprehensive diagnostic report.

PRACTICE CASE

AI 病患問診 - 初步評估



Miles Taylor

CC: The patient is a 39 year old, man with a chief complaint of chest pain.



1 詢問病患狀況

Student: 你好，有哪裡不舒服的嗎？

Patient: 你好，我胸口有點痛。

Student: 除了胸口還有其他地方痛嗎？

Patient: 沒有。

Student: 是持續的痛還是間斷式的痛？

Patient: 是持續的痛。

Student: 你有沒有家族遺傳的病？

Patient: 我有家族性高膽固醇血症。

Type Message



退出

Quit

Case Details

Physical

Investigation

Working DDX

Summary

- Palpation
- Palpation
- Thyroid

Chest Examination

- Auscultation

Results:

- Breath Sounds: clear bilaterally, without wheezes, rhonchi or crackles

- Inspection

- Palpation

Results:

- Crepitus: no crepitus

- Percussion

Results:

- Chest Sounds: no dullness or hyperresonance to percussion

- Breast Examination

Cardiac Examination

- Cardiac Maneuvers

- Heart Auscultation

- Inspection

- Palpation

Peripheral Vascular Examination

2

勾選檢查以獲得更多的資訊

3

點按「Results」查看身體檢查結果

Results



Submit Differential

PRACTICE CASE

AI 病患問診 - 初步評估



4 一覽病患的狀況



Miles Taylor

CC: The patient is a 39 year old, man with a chief complaint of chest pain.

Student: 你好，有哪裡不舒服的嗎？

Patient: 你好，我胸口有點痛。

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Student: 你有沒有家族遺傳的病？

Patient: 我有家族性高膽固醇血症。

Type Message



Quit

Case Details

Physical

Investigation

Working DDx

Summary



Working DDx

Acute Chest Syndrome



Physical

General Appearance

General Appearance:

Results:

- Overall Physical Condition: Well-developed, well-nourished, no apparent distress

Chest Examination

Auscultation:

Results:

- Breath Sounds: clear bilaterally, without wheezes, rhonchi or crackles

Inspection:

Results:

- Symmetry: symmetric
- Retractions: no retractions

Percussion:

Results:

- Chest Sounds: no dullness or hyperresonance to percussion

Cardiac Examination

Cardiac Maneuvers:

Results:

- Squat to Stand Maneuver: no change in murmur
- Passive Leg Elevation: no change in murmur

Heart Auscultation:

Results:

- Heart Rate and Rhythm: regular rate and rhythm



Submit Differential

PRACTICE CASE

AI 病患問診 - 初步評估



Miles Taylor

CC: The patient is a 39 year old, man with a chief complaint of chest pain.

Student: 你好，有哪裡不舒服的嗎？

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Patient: 我有家族性高膽固醇血症。

Type Message



Quit

Case Details

Physical

Investigation

Working DDX

Summary

- Acute Chest Syndrome
- Aortic dissection
- Aortic Stenosis
- Asthma
- Chronic obstructive pulmonary disease (COPD)
- Costochondritis
- Esophageal Rupture (Boerhaave Syndrome)
- Esophageal Spasm
- Fibromyalgia
- Gastroesophageal Reflux Disease
- Herpes Zoster
- Lung Abscess
- Mastitis
- Myocarditis
- Non-ST-Segment Elevation Myocardial Infarction (NSTEMI)
- Panic attack
- Pericarditis
- Pleurisy
- Pneumonia
- Pneumothorax

5

勾選初步鑑別診斷

6

提交鑑別診斷，以解鎖檢驗/檢查項目，並進行最終診斷



Submit Differential



Miles Taylor

CC: The patient is a 39 year old, man with a chief complaint of chest pain.

Student: 你好，有哪裡不舒服的嗎？

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Student: 你有沒有家族遺傳的病？

Patient: 我有家族性高膽固醇血症。

Type Message



Quit

Case Details

Review new Labs & Exams and select your final diagnosis.

Physical Investigation - NEW Working DDx Summary

- Lungs
- Mesenteric Arteries

CT Scan

- Abdomen
- Abdomen and pelvis
- Brain
- Chest

Results:

- chest: None

Interpretation:

Conclusion: The findings demonstrate no abnormalities or pathological findings

- Lungs
- Spine
- Whole Body Low-Dose
- Dopamine Transporter Scan
- Electromyography (EMG)
- Gallium Scan

Order



Submit Final Diagnosis

7 勾選檢驗/檢查項目，獲得病患更多資訊

PRACTICE CASE

AI 病患問診 - 進階評估





Miles Taylor

CC:The patient is a 39 year old, man with a chief complaint of chest pain.

Student: 你好，有哪裡不舒服的嗎？

Patient: 你好，我胸口有點痛。

Student: 除了胸口還有其他地方痛嗎？

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Student: 是持續的痛還是間斷式的痛？

Patient: 是持續的痛。

Student: 你有沒有家族遺傳的病？

Patient: 我有家族性高膽固醇血症。

Type Message



Quit

Case Details

Review new Labs & Exams and select your final diagnosis.



Physical

Investigation - NEW

Working DDX

Summary

Select final diagnosis. Choose from the options below, including previously submitted.

- Non-ST-Segment Elevation Myocardial Infarction (NSTEMI) Previously submitted
- Acute Chest Syndrome
- Aortic dissection
- Aortic Stenosis
- Asthma
- Chronic obstructive pulmonary disease (COPD)
- Costochondritis
- Esophageal Rupture (Boerhaave Syndrome)
- Esophageal Spasm
- Fibromyalgia
- Gastroesophageal Reflux Disease
- Herpes Zoster
- Lung Abscess
- Mastitis
- Myocarditis
- Panic attack
- Pericarditis

8

勾選最終診斷

7

提交最終診斷



Submit Final Diagnosis

PRACTICE CASE

AI 病患問診 - 最終診斷



PRACTICE CASE

AI 病患問診 - 撰寫診斷推理



Raj Singh

CC: The patient is a 71 year old man with a chief complaint of chest pain.

10 描述您的診斷推理依據

Final Diagnosis - Acute Chest Syndrome

*Describe your reasoning:

Could you briefly explain the reasoning and process behind your diagnosis?

Positive D-Dimer
Relatively normal and healthy otherwise
Estrogen
CT angio showing embolism

*Confidence Level

Low

Medium

High

11

選擇信心水平

12

生成回饋報告

Quit

Finalize and Get Report


回饋報告

評估報告會將您的診斷決策與專家的推理思路進行對比，提煉影響最終診斷的關鍵臨床發現，並為您提供提升未來問診能力的指導建議。



Case

Past Cases

Patient	Chief Complaint	Submission Date	Report
 Betsy Welch	The patient is a 82 year old woman with a chief complaint of chest pain.	2026年1月21日 上午11:24	View Report >

Final Diagnosis

Correct Diagnosis:

The diagnosis for this case was ✔ Mechanical Low Back Pain

Your Diagnosis

The diagnosis you submitted was ✘ Cauda Equina Syndrome

CASE FEEDBACK

Brief case synopsis

In summary this is a 45 year old man with acute non-radiating low back pain with no symptoms, signs or risk factors for serious diseases. Specifically, he has no neurological complaints or findings to suggest cord compression or cauda equina and no signs or symptoms of infection nor cancer history. His pain is not radiating and thus the most likely diagnosis is mechanical back pain. Imaging is not indicated.

Use of Pivotal Clues

Focused Differential Diagnosis

Working Differential Diagnosis

Comparing Differential Diagnosis

The following table outlines your differential diagnosis for this case:

* Emergent △ Must Not Miss ⓪ Not included on your list

Appropriate	Disease	Emergent/Must Not Miss
✔	Herniated Lumbar Disk	
⓪	Lumbar Spinal Stenosis	
⓪	Mechanical Low Back Pain	

Working Differential Diagnosis

Comparing Differential Diagnosis

* Emergent △ Must Not Miss

✔ 1 Correct

Non-ST-Segment Elevation Myocardial Infarction (NSTEMI) *

✘ 0 Incorrect (Not Indicated in Expert DDx)

⊖ 6 Missed (Indicated in Expert DDx)

Type II Myocardial Infarction *

Unstable Angina (UA) *

Myocarditis △

Pulmonary Embolism (PE) *

Prinzmetal Angina

Aortic Dissection *

Transcript

Student Doctor
Jan 21, 2026, 11:24 AM
你有哪裡不舒服的嗎?

Patient
Jan 21, 2026, 11:24 AM
我的胸口有點不舒服。

Student Doctor
Jan 21, 2026, 11:25 AM
會痛嗎

Patient
Jan 21, 2026, 11:25 AM
不算是痛，比較像是不舒服的感覺。

Student Doctor
Jan 21, 2026, 11:25 AM
悶悶的?

Patient
Jan 21, 2026, 11:25 AM
對，有點悶悶的感覺。

Student Doctor
Jan 21, 2026, 11:25 AM
還有嗎

Patient
Jan 21, 2026, 11:25 AM
嗯，走路的時候感覺會更明顯。

Student Doctor
Jan 21, 2026, 11:26 AM
除了胸口還有什麼地方不舒服嗎

THANK YOU
VERY MUCH!

