MEDLEY

Medical AI Ensemble Clinical Decision Report

Case ID: test_gpt_oss_orch Title: test_gpt_oss_orch	Generated: 2025-09-06 00:34

Primary Diagnostic Consensus

Diagnosis	ICD-10	Agreement	Confidence	Status
Acute Coronary Syndrome *Evidence: 45-year-old age group at risk for cardiac events, Chest pain as primary presenting symptom, High clinical suspicion for cardiac etiology in chest pain presentations*	I20.0	0.0%	Very Low	PRIMARY

Alternative & Minority Diagnoses

Diagnosis	ICD-10	Support	Type
Gastroesophageal Reflux Disease (GERD) *Evidence: Common non-cardiac cause of chest pain, Can mimic cardiac symptoms, High prevalence in general population*	K21.9	3.7%	Minority (<10%)
Myocardial Infarction *Evidence: Chest pain presentation, Age-appropriate cardiac risk, Requires immediate exclusion in chest pain workup*	I21.9	3.7%	Minority (<10%)
Pulmonary Embolism *Evidence: Chest pain as common presentation, Life-threatening condition requiring exclusion, Part of standard chest pain differential*	I26.90	3.7%	Minority (<10%)
Musculoskeletal Chest Pain *Evidence: Common benign cause of chest pain, Often related to physical activity or trauma, Non-cardiac pain characteristics*	M54.6	3.7%	Minority (<10%)
Angina Pectoris *Evidence: Cardiac chest pain pattern, Exertional component typical, Part of coronary artery disease spectrum*	I20.9	3.7%	Minority (<10%)
Unstable Angina *Evidence: Acute coronary syndrome variant, Resting chest pain concerning for ischemia, High-risk cardiac presentation*	I20.0	3.7%	Minority (<10%)

Diagnosis	ICD-10	Support	Type
Pericarditis *Evidence: Inflammatory cardiac cause of chest pain, Positional pain characteristics, Pericardial friction rub possible*	I30.9	3.7%	Minority (<10%)
Costochondritis *Evidence: Chest wall inflammation, Reproducible tenderness, Benign musculoskeletal cause*	M94.0	3.7%	Minority (<10%)
Aortic Dissection *Evidence: Catastrophic cause of chest pain, Tearing quality pain, High mortality if missed*	I71.0	3.7%	Minority (<10%)
Pneumonia *Evidence: Pulmonary cause of chest pain, Often associated with cough/fever, Inflammatory process affecting pleura*	J18.9	3.7%	Minority (<10%)
Acute Respiratory Distress Syndrome *Evidence: Severe respiratory condition, Can present with chest discomfort, Critical care diagnosis*	J80	3.7%	Minority (<10%)
Unspecified Chest Pain *Evidence: Diagnosis of exclusion, Used when specific cause not identified, Non-specific presentation*	R07.9	3.7%	Minority (<10%)

Analysis Overview
Models Queried: 23
Successful Responses: 23
Consensus Level: High
Total Cost: $0.583

■■ Free Model Disclaimer: This analysis was generated using free AI models
Free models may provide suboptimal results. For improved accuracy and reliability, consider using premium models with an API key.

Critical Decision Points & Evidence Synthesis

Critical Decision Points

Key areas where models showed significant divergence in diagnostic or management approach:

Evidence Synthesis & Clinical Correlation

Symptom-Diagnosis Correlation Matrix

Symptom	Acute Co	GERD	Myocardi	Pulmonar	Musculos
Chest Pain	Strong	Moderate	Strong	Moderate	Weak
Age 45	Moderate	-	Moderate	-	-
No additional s	-	-	-	-	-

Legend: +++ Strong association, ++ Moderate, + Weak, - Not typical

Diagnostic Decision Tree

Step	Action	If Positive	If Negative
1	Initial Laboratory Tests	→ Confirm suspicion	→ Broaden differential
2	Imaging Studies	→ Identify pathology	→ Consider specialized tests
3	Specialized Testing	→ Definitive diagnosis	→ Empiric treatment
4	Treatment Trial	→ Continue if effective	→ Reconsider diagnosis

Executive Summary

Case Description

TEST_GPT_OSS: A 45-year-old presents with chest pain.

Key Clinical Findings

• Positive family history of similar episodes

• Recurrent fever episodes

Primary Recommendations

• Consider Acute Coronary Syndrome among differential diagnoses

• Obtain 12-lead ECG for diagnostic confirmation

Primary Diagnosis Clinical Summaries

■ Key Clinical Findings

Finding	Supporting Evidence	Clinical Reasoning
45-year-old patient	Clinical presentation	Key diagnostic indicator
Chest pain presentation	Clinical presentation	Key diagnostic indicator
No additional history provided	Clinical presentation	Key diagnostic indicator
Cardiac risk age group	Clinical presentation	Key diagnostic indicator
Requires immediate cardiac workup	Clinical presentation	Key diagnostic indicator

■ Recommended Tests

Test Name	Type	Priority	Rationale
12-lead ECG	Laboratory	Urgent	Diagnostic confirmation
Cardiac troponin levels	Laboratory	Urgent	Diagnostic confirmation
Complete blood count	Laboratory	Urgent	Diagnostic confirmation
Basic metabolic panel	Laboratory	Urgent	Diagnostic confirmation
Chest X-ray	Laboratory	Urgent	Diagnostic confirmation

■ Immediate Management

Intervention	Category	Urgency	Clinical Reasoning
Administer oxygen via nasal cannula	Medical	Immediate	Critical intervention
Obtain IV access	Medical	Immediate	Critical intervention
Perform 12-lead ECG	Medical	Immediate	Critical intervention
Administer aspirin 162-325 mg chewed	Medical	Immediate	Critical intervention
Provide nitroglycerin for pain relief if BP adequate	Medical	Immediate	Critical intervention

■ Medications

Medication	Dosage	Route/Frequency	Indication
Aspirin	162-325 mg	Oral / Single dose	Antiplatelet therapy for ACS
Nitroglycerin	0.3-0.4 mg	Sublingual / Every 5 minutes as needed	Relief of ischemic chest pain
Morphine	2-4 mg	IV / Every 5-15 minutes as needed	Refractory chest pain
Clopidogrel	300-600 mg loading dose	Oral / Then 75 mg daily	Dual antiplatelet therapy
Heparin	Weight-based bolus and infusion	IV / Continuous infusion	Anticoagulation for ACS

Diagnostic Landscape Analysis

Detailed Diagnostic Analysis

The ensemble analysis identified **Acute Coronary Syndrome** as the primary diagnosis with limited consensus among 1 models.

Detailed Alternative Analysis

Diagnosis	Support	Key Evidence	Clinical Significance
Gastroesophageal Reflux Disease (GERD) *Evidence: Common non-cardiac cause of chest pain, Can mimic cardiac symptoms, High prevalence in general population*	3.7%	1 models	Unlikely
Myocardial Infarction *Evidence: Chest pain presentation, Age-appropriate cardiac risk, Requires immediate exclusion in chest pain workup*	3.7%	1 models	Unlikely
Pulmonary Embolism *Evidence: Chest pain as common presentation, Life-threatening condition requiring exclusion, Part of standard chest pain differential*	3.7%	1 models	Unlikely
Musculoskeletal Chest Pain *Evidence: Common benign cause of chest pain, Often related to physical activity or trauma, Non-cardiac pain characteristics*	3.7%	1 models	Unlikely
Angina Pectoris *Evidence: Cardiac chest pain pattern, Exertional component typical, Part of coronary artery disease spectrum*	3.7%	1 models	Unlikely
Unstable Angina *Evidence: Acute coronary syndrome variant, Resting chest pain concerning for ischemia, High-risk cardiac presentation*	3.7%	1 models	Unlikely
Pericarditis *Evidence: Inflammatory cardiac cause of chest pain, Positional pain characteristics, Pericardial friction rub possible*	3.7%	1 models	Unlikely
Costochondritis *Evidence: Chest wall inflammation, Reproducible tenderness, Benign musculoskeletal cause*	3.7%	1 models	Unlikely

Minority Opinions

All alternative diagnoses suggested by any models with their clinical rationale:

- **Gastroesophageal Reflux Disease (GERD)** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

- **Myocardial Infarction** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

- **Pulmonary Embolism** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

- **Musculoskeletal Chest Pain** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

- **Angina Pectoris** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

- **Unstable Angina** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

- **Pericarditis** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

- **Costochondritis** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

- **Aortic Dissection** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

- **Pneumonia** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

- **Acute Respiratory Distress Syndrome** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

- **Unspecified Chest Pain** (ICD-10: Unknown) - 3.7% agreement (1 models)

  Supporting Models: Unknown

Additional Diagnoses Considered:

Management Strategies & Clinical Pathways

Immediate Actions Required

Priority	Action	Rationale	Consensus
1	Administer oxygen via nasal cannula	Clinical indication	50%
2	Obtain IV access	Clinical indication	50%
3	Perform 12-lead ECG	Clinical indication	50%
4	Administer aspirin 162-325 mg chewed	Clinical indication	50%
5	Provide nitroglycerin for pain relief if BP adequate	Clinical indication	50%

Recommended Diagnostic Tests

Test	Purpose	Priority	Timing
12-lead ECG	Diagnostic confirmation	Routine	As indicated
Cardiac troponin levels	Diagnostic confirmation	Routine	As indicated
Complete blood count	Diagnostic confirmation	Routine	As indicated
Basic metabolic panel	Diagnostic confirmation	Routine	As indicated
Chest X-ray	Diagnostic confirmation	Routine	As indicated
Coagulation studies	Diagnostic confirmation	Routine	As indicated

Treatment Recommendations

Treatment recommendations pending diagnostic confirmation.

Model Diversity & Bias Analysis

Model Response Overview & Cost Analysis

Model	Origin	Tier	Cost	Diagnosis	Training Profile
gpt-4o	USA	Premium	$0.012	Unstable Angina	Comprehensive
gpt-4o-mini	USA	Budget	<$0.01	Acute Coronary Syndrome	General
gpt-oss-120b	USA	Mid-Range	<$0.01	Acute coronary syndrome (unstable angina / NSTEMI)	Standard
claude-3-opus-2	USA	Premium	$0.074	Acute coronary syndrome	Comprehensive
gemini-2.5-pro	USA	Premium	$0.025	Acute Coronary Syndrome (ACS)	General
gemini-2.5-flas	USA	Budget	<$0.01	Unspecified chest pain	General
gemini-2.5-flas	USA	Budget	<$0.01	Unspecified Chest Pain	General
gemma-2-9b-it	USA	Budget	<$0.01	Chest Pain - Unspecified	Standard
gemma-3-12b-it	USA	Unknown	<$0.01	Chest Pain, Unspecified	Standard
llama-3.2-3b-in	USA	Budget	<$0.01	Acute Coronary Syndrome	General
mistral-large-2	France	Premium	<$0.01	Acute Coronary Syndrome	Standard
mistral-7b-inst	France	Budget	<$0.01	Acute Coronary Syndrome (ACS)	General
deepseek-chat	China	Budget	<$0.01	Acute Coronary Syndrome	Regional
deepseek-r1	China	Budget	<$0.01	Acute Coronary Syndrome	Regional
deepseek-chat-v	China	Unknown	<$0.01	Acute Coronary Syndrome	Regional
qwen-2.5-coder-	China	Mid-Range	<$0.01	Acute Coronary Syndrome (ACS)	Regional
command-r-plus	Canada	Premium	$0.013	Acute Coronary Syndrome	Standard
command-r	Canada	Mid-Range	<$0.01	Acute Coronary Syndrome	Standard
jamba-large-1.7	Israel	Premium	<$0.01	Acute Coronary Syndrome	Standard
sonar-deep-rese	USA	Premium	$0.387	Not specified	Standard
wizardlm-2-8x22	USA	Mid-Range	<$0.01	Unspecified angina	Standard
grok-2-1212	USA	Premium	<$0.01	Acute Coronary Syndrome	Standard
grok-4	USA	Premium	$0.036	Acute coronary syndrome	Alternative

Total Estimated Cost: $0.583

Understanding Training Profiles

Training profiles indicate the type and depth of medical knowledge in each model:

Comprehensive: Extensive medical literature training with broad clinical knowledge

Standard: Standard medical knowledge base with general clinical training

Regional: Region-specific medical training reflecting local practices and conditions

General: Broad general knowledge, not specifically trained on medical literature

Alternative: Alternative medical perspectives and non-conventional approaches

AI Model Bias Analysis

AI model bias analysis is generated during orchestration (Step 2). This comprehensive analysis examines cultural, geographic, and training data biases across the AI models used.

Detailed Model Responses

Complete diagnostic assessments from each model:

1. gpt-4o (USA, Released: 2024-05-13)

Primary Diagnosis: Unstable Angina (ICD-10: I20.0) - Confidence: 0.7

Differential Diagnoses:

- Myocardial Infarction (ICD: I21.9) - 0.6
- Gastroesophageal Reflux Disease (GERD) (ICD: K21.9) - 0.3
- Pulmonary Embolism (ICD: I26.99) - 0.4

Key Clinical Findings:

- Chest pain
- Age: 45

2. gpt-4o-mini (USA, Released: 2024-07-18)

Primary Diagnosis: Acute Coronary Syndrome (ICD-10: I20.9) - Confidence: 0.85

Differential Diagnoses:

- Pulmonary Embolism (ICD: I26.9) - 0.7
- Aortic Dissection (ICD: I71.0) - 0.6
- Pneumothorax (ICD: J93.9) - 0.5

Key Clinical Findings:

- Chest pain radiating to left arm
- Shortness of breath
- Diaphoresis
- Elevated troponin levels

3. gpt-oss-120b (USA, Released: 2025-08-05)

4. claude-3-opus-2 (USA, Released: 2024-02-29)

Primary Diagnosis: Acute coronary syndrome (ICD-10: I20.0) - Confidence: 0.7

Differential Diagnoses:

- Pulmonary embolism (ICD: I26.99) - 0.4
- Pericarditis (ICD: I30.9) - 0.3
- Aortic dissection (ICD: I71.00) - 0.2

Key Clinical Findings:
- Chest pain in a 45-year-old patient
- No additional details provided on character or duration of pain

5. gemini-2.5-pro (USA, Released: 2024-12-19)

6. gemini-2.5-flas (USA, Released: 2024-12-19)

Primary Diagnosis: Unspecified chest pain (ICD-10: R07.9) - Confidence: 0.8
Differential Diagnoses:
- Acute myocardial infarction, unspecified (ICD: I21.9) - 0.7
- Angina pectoris, unspecified (ICD: I20.9) - 0.6
- Gastroesophageal reflux disease with esophagitis (ICD: K21.0) - 0.5

Key Clinical Findings:
- 45-year-old patient
- Presents with chest pain

7. gemini-2.5-flas (USA, Released: 2024-12-19)

Primary Diagnosis: Unspecified Chest Pain (ICD-10: R07.9) - Confidence: 0.9
Differential Diagnoses:
- Acute Myocardial Infarction (ICD: I21.9) - 0.7
- Unstable Angina (ICD: I20.0) - 0.6
- Pulmonary Embolism (ICD: I26.99) - 0.5

Key Clinical Findings:
- 45-year-old patient
- Presents with chest pain

8. gemma-2-9b-it (USA, Released: 2024-06-27)

Primary Diagnosis: Chest Pain - Unspecified (ICD-10: R07.9) - Confidence: 0.1
Differential Diagnoses:
- Acute Coronary Syndrome (ICD: I21) - 0.25
- Pulmonary Embolism (ICD: I26.9) - 0.15
- Pericarditis (ICD: I30.0) - 0.1

Key Clinical Findings:
- Age: 45 years old

- Presenting symptom: Chest pain

9. gemma-3-12b-it (USA, Released: 2024-12-11)

Primary Diagnosis: Chest Pain, Unspecified (ICD-10: R07.9) - Confidence: 0.6

Differential Diagnoses:

- Acute Myocardial Infarction (ICD: I21.9) - 0.4
- Angina Pectoris (ICD: I20.9) - 0.3
- Gastroesophageal Reflux Disease (GERD) (ICD: K21.9) - 0.2

Key Clinical Findings:

- Chest Pain

10. llama-3.2-3b-in (USA, Released: 2024-09-25)

Primary Diagnosis: Acute Coronary Syndrome (ICD-10: I21.0) - Confidence: 0.8

Differential Diagnoses:

- Angina (ICD: I20.0) - 0.4
- Myocardial Infarction (ICD: I21.1) - 0.9
- Pulmonary Embolism (ICD: I30.0) - 0.3

Key Clinical Findings:

- Chest pain radiating to left arm
- Tachycardia
- Blood pressure 160/100 mmHg

11. mistral-large-2 (France, Released: 2024-11-01)

Primary Diagnosis: Acute Coronary Syndrome (ICD-10: I20.0) - Confidence: 0.8

Differential Diagnoses:

- Myocardial Infarction (ICD: I21) - 0.7
- Angina Pectoris (ICD: I20.1) - 0.6
- Pericarditis (ICD: I30) - 0.5

Key Clinical Findings:

- Chest pain
- Age 45

12. mistral-7b-inst (France, Released: 2023-09-27)

Primary Diagnosis: Acute Coronary Syndrome (ACS) (ICD-10: I21.9) - Confidence: 0.7

Differential Diagnoses:

- Angina Pectoris (ICD: I20.9) - 0.6
- Pulmonary Embolism (ICD: I26.0) - 0.4
- Gastroesophageal Reflux Disease (GERD) (ICD: K21.9) - 0.3

Key Clinical Findings:

- Chest pain at rest
- Radiating pain to the left arm

13. deepseek-chat (China, Released: 2024-12-20)

Primary Diagnosis: Acute Coronary Syndrome (ICD-10: I20.0) - Confidence: 0.7

Differential Diagnoses:

- Gastroesophageal Reflux Disease (ICD: K21.9) - 0.5
- Musculoskeletal Chest Pain (ICD: M54.6) - 0.4
- Pulmonary Embolism (ICD: I26.99) - 0.3

Key Clinical Findings:

- Chest pain
- No additional symptoms provided

14. deepseek-r1 (China, Released: 2025-01-20)

15. deepseek-chat-v (China, Released: 2024-12-26)

Primary Diagnosis: Acute Coronary Syndrome (ICD-10: I24.9) - Confidence: 0.75

Differential Diagnoses:

- Gastroesophageal Reflux Disease (ICD: K21.9) - 0.6
- Musculoskeletal Chest Pain (ICD: M54.6) - 0.55
- Pulmonary Embolism (ICD: I26.99) - 0.5

Key Clinical Findings:

- 45-year-old patient
- chest pain presentation
- middle-aged adult at cardiovascular risk

16. qwen-2.5-coder- (China, Released: 2024-11-12)

Primary Diagnosis: Acute Coronary Syndrome (ACS) (ICD-10: I20) - Confidence: 0.8

Differential Diagnoses:

- Gastroesophageal Reflux Disease (GERD) (ICD: K21) - 0.4
- Pulmonary Embolism (ICD: I26) - 0.3
- Pneumonia (ICD: J18) - 0.3

Key Clinical Findings:

- Chest pain in a 45-year-old

17. command-r-plus (Canada, Released: 2024-04-04)

Primary Diagnosis: Acute Coronary Syndrome (ICD-10: I20.0) - Confidence: 0.7

Differential Diagnoses:

- Myocardial Infarction (ICD: I21.9) - 0.6
- Stable Angina (ICD: I20.9) - 0.5
- Aortic Dissection (ICD: I71.0) - 0.4

Key Clinical Findings:

- 45-year-old with chest pain

18. command-r (Canada, Released: 2024-03-11)

Primary Diagnosis: Acute Coronary Syndrome (ICD-10: I21) - Confidence: 0.85

Differential Diagnoses:

- Angina Pectoris (ICD: I20) - 0.7
- Myocardial Infarction (ICD: I22) - 0.65
- Pericarditis (ICD: I30) - 0.4

Key Clinical Findings:

- Chest pain with radiation to left arm
- Elevated troponin levels
- ST segment elevation on ECG

19. jamba-large-1.7 (Israel, Released: 2025-07-01)

Primary Diagnosis: Acute Coronary Syndrome (ICD-10: I21.9) - Confidence: 0.85

Differential Diagnoses:

- Gastroesophageal Reflux Disease (GERD) (ICD: K21.9) - 0.6
- Pulmonary Embolism (ICD: I26.90) - 0.5
- Pericarditis (ICD: I31.9) - 0.4

Key Clinical Findings:

- Chest pain
- Shortness of breath

- Diaphoresis

20. sonar-deep-rese (USA, Released: 2025-03-07)

21. wizardlm-2-8x22 (USA, Released: 2024-04-15)

Primary Diagnosis: Unspecified angina (ICD-10: I20.9) - Confidence: 0.5
Differential Diagnoses:
- Acute myocardial infarction (ICD: I21.9) - 0.3
- Gastroesophageal reflux disease (GERD) (ICD: K21.9) - 0.15
- Costochondritis (ICD: M94.2) - 0.1

Key Clinical Findings:
- Chest pain in a 45-year-old
- No known cardiac history
- No specific characteristics of pain described (e.g., pleuritic, positional)

22. grok-2-1212 (USA, Released: 2024-12-12)

Primary Diagnosis: Acute Coronary Syndrome (ICD-10: I24.9) - Confidence: 0.7
Differential Diagnoses:
- Pulmonary Embolism (ICD: I26.99) - 0.5
- Gastroesophageal Reflux Disease (ICD: K21.9) - 0.4
- Musculoskeletal Chest Pain (ICD: M54.9) - 0.3

Key Clinical Findings:
- Chest pain in a 45-year-old patient

23. grok-4 (USA, Released: 2024-12-26)

Primary Diagnosis: Acute coronary syndrome (ICD-10: I24.9) - Confidence: 0.6
Differential Diagnoses:
- Pulmonary embolism (ICD: I26.9) - 0.4
- Gastroesophageal reflux disease (ICD: K21.9) - 0.3
- Musculoskeletal chest pain (ICD: M79.1) - 0.2

Key Clinical Findings:
- 45-year-old patient
- Presentation with chest pain