

# MEDLEY

## Medical AI Ensemble Clinical Decision Report

Case ID: custom_20250909_034549	Title: Custom Case	Generated: 2025-09-09 03:46
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### Primary Diagnostic Consensus

Diagnosis	ICD-10	Agreement	Confidence	Status
Familial Mediterranean Fever <i>Evidence: Recurrent fever episodes, Abdominal pain</i>	E85.0	0.0%	Very Low	PRIMARY

### Alternative & Minority Diagnoses

Diagnosis	ICD-10	Support	Type
Periodic Fever Syndrome (other types) <i>Evidence: Recurrent fever episodes</i>	E85.8	3.7%	Minority (<10%)
Systemic Juvenile Idiopathic Arthritis <i>Evidence: Joint pain and swelling</i>	M08.2	3.7%	Minority (<10%)

Analysis Overview
Models Queried: 1
Successful Responses: 1
Consensus Level: High
Total Cost: <\$0.01

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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	FMF	Periodic	Systemic
Recurrent fever	Strong	Strong	-
Abdominal pain	Strong	-	-
Joint pain and	-	-	Strong
Elevated inflam	Moderate	Moderate	Strong
Family history	Strong	-	-

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

## Diagnostic Decision Tree

Step	Action	If Positive	If Negative
1	MEFV Genetic Test	→ Confirm FMF, Start Colchicine	→ Proceed to Step 2
2	Extended Genetic Panel	→ Alternative periodic fever	→ Proceed to Step 3
3	Autoimmune Workup	→ Consider SLE/Still's	→ Consider IBD
4	Inflammatory Markers	→ Monitor progression	→ Reassess diagnosis

# Executive Summary

## Case Description

A 28-year-old male of Mediterranean descent presents with:

- Recurrent episodes of fever lasting 1-3 days
- Severe abdominal pain during episodes
- Chest pain with breathing difficulties
- Joint pain affecting knees and ankles
- Family history: Father and paternal uncle have similar symptoms
- Episodes occur every 2-3 weeks
- Labs during attack: Elevated CRP, ESR, and WBC
- Between attacks: Completely asymptomatic

Patient reports episodes started in childhood around age 7. Recent genetic testing is pending.

## Key Clinical Findings

- Positive family history of similar episodes
- Recurrent fever episodes
- Severe abdominal pain with peritoneal signs
- Migratory arthritis affecting large joints
- Elevated inflammatory markers (CRP, ESR)

## Primary Recommendations

- Consider Familial Mediterranean Fever among differential diagnoses
- Obtain Genetic testing for MEFV mutations for diagnostic confirmation

## Primary Diagnosis Clinical Summaries

### ■ Key Clinical Findings

Finding	Supporting Evidence	Clinical Reasoning
Recurrent fever episodes	Clinical presentation	Key diagnostic indicator
Abdominal pain	Clinical presentation	Key diagnostic indicator
Joint pain and swelling	Clinical presentation	Key diagnostic indicator
Elevated inflammatory markers	Clinical presentation	Key diagnostic indicator
Family history of similar symptoms	Clinical presentation	Key diagnostic indicator

### ■ Recommended Tests

Test Name	Type	Priority	Rationale
Genetic testing for MEFV mutations	Laboratory	Urgent	Diagnostic confirmation
Complete blood count (CBC)	Laboratory	Urgent	Diagnostic confirmation

### ■ Immediate Management

Intervention	Category	Urgency	Clinical Reasoning
Confirm diagnosis with genetic testing	Medical	Immediate	Critical intervention
Initiate colchicine therapy	Medical	Immediate	Critical intervention

### ■ Medications

Medication	Dosage	Route/Frequency	Indication
Colchicine	1.2 mg	oral / once daily	Prevention of FMF attacks

# Diagnostic Landscape Analysis

## Detailed Diagnostic Analysis

The ensemble analysis identified **Familial Mediterranean Fever** as the primary diagnosis with limited consensus among 1 models.

## Detailed Alternative Analysis

Diagnosis	Support	Key Evidence	Clinical Significance
Periodic Fever Syndrome (other types) <i>Evidence: Recurrent fever episodes</i>	3.7%	1 models	Unlikely
Systemic Juvenile Idiopathic Arthritis <i>Evidence: Joint pain and swelling</i>	3.7%	1 models	Unlikely

## Minority Opinions

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

- **Periodic Fever Syndrome (other types)** (ICD-10: R50.9) - 3.7% agreement (1 models)  
Supporting Models: Unknown
- **Systemic Juvenile Idiopathic Arthritis** (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	Confirm diagnosis with genetic testing	Clinical indication	50%
2	Initiate colchicine therapy	Clinical indication	50%

### Recommended Diagnostic Tests

Test	Purpose	Priority	Timing
Genetic testing for MEFV mutations	Diagnostic confirmation	Routine	As indicated
Complete blood count (CBC)	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
deepseek-chat-v	China	Unknown	<\$0.01	Familial Mediterranean Fever	General

\*\*Total Estimated Cost: <\$0.01\*\*

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

**Primary Diagnosis:** Familial Mediterranean Fever (ICD-10: E85.0) - Confidence: 0.95

**Differential Diagnoses:**

- Periodic Fever Syndrome (other types) (ICD: E85.8) - 0.7
- Systemic Juvenile Idiopathic Arthritis (ICD: M08.2) - 0.4
- Acute Intermittent Porphyria (ICD: E80.21) - 0.3

**Key Clinical Findings:**

- Mediterranean descent
- Recurrent self-limited febrile episodes
- Serositis (abdominal pain, pleuritic chest pain)
- Family history of similar symptoms