

Real-World Case Studies

Case 1: Sepsis Detection

Presentation: 72yo, fever 39.2°C, confusion, HR 125, BP 85/50

CoT Process: SIRS criteria → infection source → SOFA score → sepsis diagnosis

Outcome: Early recognition → prompt antibiotics → improved survival

Case 2: Atypical Presentation

Presentation: 45yo female, fatigue, no chest pain, mild dyspnea

CoT Process: Atypical symptoms → considered MI (women present differently) → ECG → troponin → diagnosed NSTEMI

Outcome: CoT helped recognize atypical presentation, standard prompting missed it

Case 3: Complex Comorbidity

Presentation: DM + CKD + CHF patient with worsening shortness of breath

CoT Process: Multiple potential causes → systematically evaluated each → identified CHF exacerbation + UTI

Outcome: Treated both conditions appropriately, avoided missing secondary diagnosis

Lesson: CoT excels at complex, atypical cases requiring careful reasoning