

# CLINICAL DECISION-MAKING EXAM

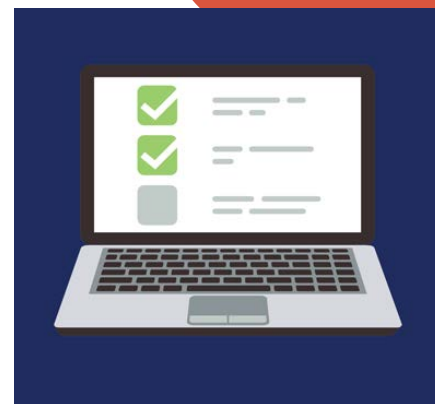
*formerly the Key Features Exam*

## How are you assessing students' clinical decision-making skills?

**INCLUDED  
WITH YOUR  
SUBSCRIPTION**

The Aquifer Internal Medicine Clinical Decision-Making Exam in the key features format is:

- ✓ **a unique and effective tool for assessing the clinical decision-making skills of your students.**
- ✓ designed to assess students' ability to prioritize a differential diagnosis, select which historical, physical exam, or testing data are necessary to diagnose the problem, and identify the most appropriate management of the problem.
- ✓ **created by expert CDIM educators**, trained by international experts in writing and reviewing key features questions.
- ✓ built to include a **strategic sampling of key conditions and decisions** from the CDIM national curriculum.
- ✓ bringing a popular international exam format to US medical schools for the first time.
- ✓ supported by validity evidence gathered in two multi-institutional studies published in *Academic Medicine* and *Medical Teacher*.
- ✓ able to provide individual, class, and case-level performance.



### Integrating the Exam into Your Program

The Clinical Decision-Making Exam (CDME) is available to any Aquifer Internal Medicine subscriber—the choice of how to integrate the exam and its performance data is up to each program. The exam was designed to be used as a complementary assessment during the third-year internal medicine clerkship, specifically to test clinical decision-making skills. Current users are using the exam summatively as part of the clerkship grade, as a mid-clerkship exam, for remediation, and as an Acting Internship (Sub-Internship) exam. It could also play a role in longitudinal integrated clerkship assessments.

### Validation & Development

The Clinical Decision-Making Exam was developed in the key features format by a group of experienced CDIM educators under the guidance of an expert in the key features approach. The **exam was rigorously developed, blueprinted, and pilot tested before a multi-institutional validation study.** The results of both the pilot test and validation study were published in peer-reviewed medical education journals.

### Why Use the Exam?

The CDME provides the unique ability to assess your students' individual abilities to apply their knowledge to make the decisions needed to provide quality patient care. The typical evaluations of student clinical decision-making—by residents and attendings working with students in a clinical setting—are important, but are limited due to the realities of clinical practice. The CDME helps to overcome some of these challenges and provides a way to enhance your understanding of students' skills.

- ✓ Students **decisions can be assessed at each important step in the diagnostic and management process.** The exam presents patients with undifferentiated symptoms and walks through different stages of patient care in a way that isn't always feasible in clinic or on the wards.
- ✓ Without the presence of residents, attending physicians and other team members, decisions on the exam **reflect only the student's own clinical reasoning skills.**
- ✓ The exam exceeds the typical number of cases included in a clinical evaluation, offering **15 carefully selected cases covering key internal medicine problems** outlined in the CDIM curriculum.



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## INSIDE THE KEY FEATURES FORMAT

Each exam case starts with a **clinical vignette** providing a realistic patient scenario, including relevant history, exam, and test results.

### MRS. SANCHEZ

Mrs. Sanchez is a 55-year-old woman who presents as a new patient to your office. For the past three months she has been experiencing frequent upper abdominal pain, nausea and heartburn that worsens during walking which has resulted in her cutting back on "doing things". But since she still has to purchase groceries, she manages to get through the store by leaning forward and supporting her weight on the grocery cart. She has tried over-the-counter antacids and changing her diet without relief. The symptoms worsen when she smokes or is under emotional stress. She has noticed feeling some shortness of breath with these episodes but says she does not have any fevers, night sweats, swollen ankles or trouble sleeping. She takes no regular medications or drugs. No one in her family has similar problems.

Vital signs: T 98.6 F (37 C), BP 120/80, RR 12, HR 80, BMI 32. On exam, she is a pleasant, well-dressed woman in no distress. Radial pulses are strong and symmetric but pedal pulses are mildly diminished. The remainder of the exam is normal.

The exam includes **15 cases** which cover a **strategic sample of the CDIM curriculum.**

**Question**  
What are your leading diagnoses at this time?  
You will be able to select up to 2 options.  
selected of 2 maximum

- A. Abdominal aortic aneurysm
- B. Angina
- C. Anxiety
- D. Aortic dissection
- E. Biliary colic
- F. Cocaine use
- G. Costochondritis
- H. Gastroesophageal reflux
- I. Hepatitis
- J. Herpes zoster
- K. Mediastinitis
- L. Pancreatitis
- M. Peptic ulcer disease
- N. Pericarditis, acute
- O. Pneumonia with pleural effusion
- P. Pneumothorax
- Q. Pulmonary embolism
- R. Scleroderma
- S. None of the above

**Question**  
What investigations, if any, will you order?  
Select as many options as are appropriate.

- A. Abdominal ultrasound
- B. Angiogram
- C. Barium swallow
- D. Cardiac enzymes
- E. Cardiac MRI
- F. Chest computed tomography
- G. Coagulation studies
- H. CXR
- I. Echocardiogram
- J. EKG
- K. Esophagogastroduodenoscopy
- L. Holter monitor
- M. Intraluminal coronary angiography
- N. Lipid panel
- O. Liver function tests
- P. Treadmill stress test
- Q. Type and screen
- R. Upper GI
- S. V/Q scan
- T. None

**Question**  
While waiting for the test results, what do you do next?  
You will be able to select up to 5 options. Please note that you will be able to select up to 5 maximum.

- A. Antibiotics for H. pylori
- B. Aspirin daily
- C. Begin exercise program
- D. Calcium channel blocker
- E. Enoxaparin (Lovenox)
- F. Esomeprazole (Nexium)
- G. Fluoxetine (Prozac)
- H. Furosemide (Lasix)
- I. Gluten free diet
- J. Ibuprofen
- K. Lactose free diet
- L. Prednisone, high dose
- M. Ranitidine (Zantac)
- N. Reassure
- O. Referral to marriage and family counselor
- P. Referral to psychiatry
- Q. Smoking cessation counseling and support
- R. Weight loss counseling
- S. None

Exam cases include **2-3 questions** requiring students to use **prioritized critical decision-making skills** to solve a clinical problem. Questions are designed to identify critical steps, essential steps, and critical errors in the clinical decision-making process. Exam cases are solved in stages:

- data gathering (history, physical, investigation)
- problem definition
- management

## SCORING

The **unique key features scoring system** focuses on the actions that are **ESSENTIAL** to correctly navigate a clinical scenario. Students must **prioritize their decisions, selecting only the options that matter most**—reflecting the realities of the practice of medicine and testing a key management skill.

Students may decide to take multiple actions at once, just as we do in authentic practice. They receive partial credit for each correct decision. In a portion of cases assessing high value care, they may be penalized for over-ordering.

## REPORTING

Reporting provides detailed results for each exam case by cohort and individual student in addition to overall exam performance statistics. Results reports provide the Aquifer Internal Medicine case number that corresponds to the content of each exam case, providing an opportunity for remediation.