

Acute Nonspecific Chest Pain-Low Probability of Coronary Artery Disease

Individuals who experience acute (sudden) chest pain can be difficult to diagnose. Chest pain can have many different causes. When chest pain is called “nonspecific,” it means that the cause of the pain is not clear. In that case, it is important to determine quickly if the cause of pain is an obstruction or blockage of the coronary arteries. The coronary arteries supply blood to the heart. When they are blocked, the heart muscle can be damaged, which is commonly referred to as a “heart attack.”

Doctors use several clinical tools to decide if an individual with chest pain is likely to be experiencing obstructive coronary artery disease (CAD) or a heart attack. These tools include a scoring system called HEART (history, results of electrocardiogram, age, risk factors and troponin blood protein levels) and other biochemical blood tests.

When the likelihood of obstructive CAD is felt to be low, imaging tests that are usually appropriate include chest x-ray (<https://www.radiologyinfo.org/en/info/chestrand>) and CTA coronary arteries (<https://www.radiologyinfo.org/en/info/angiocorct>) with intravenous (IV) contrast (CT scan of coronary arteries).

Depending on the individual’s symptoms, other tests that may be appropriate include ultrasound echocardiography transthoracic resting (“echocardiogram”), x-ray of the ribs and upper spine, and CT chest (<https://www.radiologyinfo.org/en/info/chestct>) with or without IV contrast. CTA chest with IV contrast (CT scan of the arteries of the lungs) or V/Q scan may be appropriate if a pulmonary embolism (<https://www.radiologyinfo.org/en/info/pulmonary-embolism>) is suspected (blockage of blood flow in the arteries that supply blood to the lungs).

— By Samantha Greben and Nina S. Vincoff, MD. This information originally appeared in the *Journal of the American College of Radiology*.

Disclaimer

This information is copied from the RadiologyInfo Web site (<http://www.radiologyinfo.org>) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at <http://www.radiologyinfo.org> to view or download the latest information.

Note: Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright © 2026 Radiological Society of North America, Inc.