

Medical Terminology for Healthcare Professionals

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Introduction

I have been working in the cardiology department for approximately two months, and during this time, I have encountered several medical terms that were unfamiliar to me. Entering a specialized healthcare department can be both exciting and challenging because professionals frequently use abbreviations, technical expressions, and procedure names that may not be immediately understandable to a new staff member. Although I had some general healthcare knowledge, I soon realized that cardiology has its own extensive vocabulary.

One day, while I was working in the healthcare facility, a patient approached me with a doctor's diagnostic order in his hands. He wanted me to provide information about the tests prescribed by the specialist. I read the document and felt embarrassed because I did not understand some of the medical terms written on it. I wanted to assist the patient, but I also understood that providing an inaccurate explanation could create confusion or anxiety.

Instead of pretending that I understood the terminology, I asked an appropriate clinical professional for assistance and later researched the unfamiliar terms. The two terms that stood out were ECG and angiogram. After studying them, I became better able to recognize the terms on diagnostic orders, research articles, websites, journals, and other healthcare documents. More importantly, I learned how to explain their general meanings to people outside the healthcare profession without using unnecessarily complicated language.

This experience taught me that understanding medical terminology is essential for healthcare professionals. It supports accurate communication, patient education, teamwork, documentation, and safety. However, learning the meaning of a term does not automatically authorize a staff member to interpret test results or provide a diagnosis. Healthcare workers must communicate within their professional roles and refer detailed clinical questions to qualified physicians, nurses, or other authorized professionals.

The Importance of Medical Terminology

Medical terminology provides healthcare professionals with a shared language. A doctor, nurse, radiographer, laboratory professional, pharmacist, and administrative worker may perform different roles, but they must understand one another when discussing patients, tests, treatments, and

procedures.

A precise term can communicate a great deal of information in a short space. For example, the word *cardiology* refers to the medical specialty concerned with the heart and cardiovascular system. The term *electrocardiogram* identifies a recording of the heart's electrical activity, while *coronary angiogram* refers to an X-ray examination used to visualize the coronary arteries.

Accuracy is especially important because similar terms may refer to very different tests. An electrocardiogram and an echocardiogram both examine aspects of heart function, but they use different technologies and provide different information. Confusing the two could lead to an incorrect explanation of what a patient should expect.

Medical terminology also affects patient confidence. When patients arrive for diagnostic testing, they may already feel worried. They often want to know why a test was ordered, whether it will be painful, how long it will take, and what the results may show. A healthcare professional who explains the basic procedure clearly can reduce uncertainty. However, explanations must remain accurate and should not replace the specialist's clinical advice.

My experience with the patient showed me that unfamiliar terminology should be treated as an opportunity for professional development. It is better to admit that clarification is needed than to provide misleading information. Healthcare professionals should continue learning throughout their careers because medical knowledge, procedures, and terminology develop over time.

My Experience in the Cardiology Department

Working in cardiology has helped me understand how frequently specialized terminology appears in daily practice. Terms such as *arrhythmia*, *ischemia*, *catheterization*, *stenosis*, *tachycardia*, *bradycardia*, *angioplasty*, and *myocardial infarction* may be used during routine conversations.

For an experienced cardiology professional, these words may seem ordinary. For a new employee or patient, however, they can be confusing. The difference in understanding between healthcare professionals and patients can create a communication gap.

The day the patient asked me about his diagnostic tests made this gap clear. He expected that someone working in the cardiology department would understand the terms written on the order. His expectation was reasonable. At the same time, I was still learning and did not want to go beyond my knowledge.

Afterward, I decided to research the terms carefully. I used reliable medical sources rather than depending only on general internet searches. This was important because online information varies in quality. Official medical organizations and peer-reviewed publications are generally more dependable than unidentified blogs or social-media posts.

The first term I researched was ECG. The second was angiogram. Both are associated with the cardiovascular system, but they differ considerably in purpose, technology, invasiveness, and risk.

ECG

Meaning of ECG

ECG stands for electrocardiogram. In the United States, it may also be written as EKG, based on the German spelling of the word. ECG and EKG refer to the same test.

An ECG is a diagnostic test that detects and records the electrical activity produced by the heart. The American Heart Association explains that an ECG “measures the electrical activity of the heartbeat” (American Heart Association, 2025a). It can provide information about the heart rate, rhythm, and timing of electrical signals moving through different parts of the heart.

My original understanding was that an ECG used ultrasound waves to produce detailed images of the heart. After researching the procedure, I learned that this description applies more closely to an echocardiogram, not an electrocardiogram. An echocardiogram uses ultrasound to produce moving images of the heart’s chambers, valves, walls, and blood flow. An ECG does not create structural images. Instead, it records electrical signals and presents them as lines or waves on a graph.

Recognizing this difference was an important part of my learning. The two terms sound similar because they both begin with *echo* or *electro* and relate to the heart, but they describe different technologies.

How an ECG Works

The heart contains a natural electrical conduction system that coordinates each heartbeat. An electrical impulse begins in a specialized group of cells and travels through the heart, causing the upper and lower chambers to contract in an organized sequence.

During a standard ECG, small adhesive electrodes are placed on selected areas of the patient’s chest and limbs. Wires connect the electrodes to the ECG machine. The electrodes detect electrical activity, while the machine records it. The machine does not send electricity into the patient’s body. It only receives and measures the signals generated by the heart.

The electrical activity appears as a series of waves and intervals. These commonly include:

- The P wave, which reflects electrical activation of the atria.
- The QRS complex, which reflects electrical activation of the ventricles.
- The T wave, which reflects recovery or repolarization of the ventricles.

These patterns help trained professionals evaluate whether electrical impulses are moving through the heart in an expected way. The spacing, direction, height, and duration of the waves may provide clinically useful information.

Although I have begun learning how ECG patterns are organized, formal interpretation requires proper education, supervised practice, and clinical judgment. A person should not diagnose a heart condition merely by comparing an ECG tracing with an online image.

Reasons an ECG May Be Ordered

An ECG may be ordered when a patient reports symptoms such as chest pain, palpitations, shortness of breath, dizziness, weakness, or fainting. It may also be used before surgery, during a routine cardiovascular evaluation, or to monitor an already diagnosed condition.

The test can help healthcare professionals assess:

- The speed of the heartbeat.
- Whether the rhythm is regular or irregular.
- The timing of electrical conduction.
- Possible evidence of a current or previous heart attack.
- Certain arrhythmias.
- Possible enlargement or strain involving parts of the heart.
- The effects of some medicines or implanted cardiac devices.

The American Heart Association identifies arrhythmias, cardiomyopathy, congenital heart defects, [coronary artery disease](#), heart attack, heart failure, and valve disease among the conditions for which ECG findings may provide useful information (American Heart Association, 2025a).

However, an ECG does not identify every heart problem. A normal tracing does not always exclude cardiovascular disease. A healthcare professional may combine ECG findings with symptoms, physical examination, blood tests, imaging, stress testing, or coronary angiography.

Patient Experience During an ECG

An ECG is generally quick, noninvasive, and painless. The patient is usually asked to lie still while the electrodes are attached. Some areas may need to be cleaned, and hair may occasionally be removed so that the adhesive electrodes make proper contact with the skin.

The patient should breathe normally and avoid unnecessary movement because muscle activity can interfere with the recording. The actual tracing usually takes only a brief period, although preparation may take longer.

The electrodes may cause minor discomfort when they are removed, particularly if they adhere to body hair. However, the test itself does not expose the patient to electrical shocks. The ECG machine records signals; it does not deliver electricity.

How I Would Explain an ECG to a Patient

For someone outside the healthcare field, such as a patient, family member, friend, relative, or classmate, I would explain an ECG in the following way:

An ECG is a quick and painless test that records the electrical activity of your heart. Small stickers are placed on your chest and limbs, and the machine shows how fast and regularly your heart is beating. It does not send electricity into your body.

I would avoid telling the patient that the ECG would definitely diagnose or exclude a particular disease. Instead, I would explain that the doctor would evaluate the tracing together with the patient's symptoms and other medical information.

Angiogram

Meaning of Angiogram

The second term written on the diagnostic order was angiogram. Before conducting research, I knew very little about the procedure.

An angiogram is an imaging examination used to visualize blood vessels. In cardiology, the term often refers to a coronary angiogram, which examines the arteries that supply oxygen-rich blood to the heart muscle.

A coronary angiogram uses X-rays and a contrast substance that makes blood vessels visible on the images. The procedure can show whether the coronary arteries are narrowed or blocked and can help the healthcare team determine an appropriate treatment plan (American Heart Association, 2025b).

The term *angiography* generally refers to the process of examining blood vessels, while an *angiogram* is the resulting image or record. However, in ordinary clinical conversation, people often use *angiogram* to refer to the entire procedure.

How a Coronary Angiogram Is Performed

A conventional coronary angiogram is normally performed in a hospital cardiac catheterization

laboratory. The patient is usually awake, although medicine may be provided to promote relaxation.

A healthcare professional cleans and numbs the area where a catheter will be inserted. The access site is commonly an artery in the wrist or groin, although other access points may sometimes be used.

A thin, flexible tube called a catheter is guided through the blood vessel toward the heart. The healthcare professional uses X-ray imaging to monitor the position of the catheter. When the catheter reaches the appropriate location, contrast material is injected. The contrast allows the coronary arteries to become visible on a sequence of X-ray images.

The images allow the cardiologist to examine:

- Whether an artery is narrowed or blocked.
- The location of a blockage.
- The approximate severity of narrowing.
- The pattern of blood flow.
- Whether additional treatment may be necessary.

During the contrast injection, some patients experience a brief feeling of warmth. Others may feel temporary nausea, chest discomfort, or an unusual sensation. The healthcare team monitors the patient throughout the procedure.

Why an Angiogram May Be Ordered

A coronary angiogram may be recommended when a doctor suspects significant coronary artery disease or needs more detailed information after other tests. It may be considered when a patient has persistent chest pain, abnormal stress-test findings, suspected acute coronary syndrome, or other evidence suggesting reduced blood flow to the heart.

Coronary artery disease commonly develops when plaque builds up inside the coronary arteries. Plaque may contain cholesterol, cells, and other substances. As the artery becomes narrower, blood flow to the heart muscle can be reduced. If plaque ruptures and a clot blocks the artery, a heart attack may occur.

The angiogram helps the cardiologist determine whether the patient may benefit from:

- Medication and lifestyle changes.
- Angioplasty.
- Placement of a coronary stent.
- Coronary artery bypass graft surgery.
- Continued monitoring without an immediate procedure.

An angiogram is diagnostic, but it can sometimes be followed by treatment during the same catheterization session. For example, if the cardiologist identifies a suitable blockage, angioplasty and stent placement may be performed. However, this depends on the patient's condition, consent, and clinical plan.

Difference Between an Angiogram and Angioplasty

Patients may confuse the words *angiogram* and *angioplasty*. An angiogram is mainly used to identify and evaluate narrowing or blockages. Angioplasty is a treatment used to open a narrowed or blocked artery.

During angioplasty, a small balloon is positioned inside the narrowed area and inflated. A stent may then be placed to help keep the artery open. Therefore, the angiogram shows the problem, while angioplasty may be used to treat it.

Risks Associated With an Angiogram

A coronary angiogram is generally considered a relatively safe procedure, but it is more invasive than an ECG and has potential risks. These may include:

- Bleeding or bruising at the catheter insertion site.
- Allergic reaction to the contrast material.
- Kidney injury related to the contrast.
- Infection.
- Irregular heart rhythm.
- Blood-vessel damage.
- Blood clots.
- Heart attack.
- Stroke.
- A rare need for emergency surgery.

The National Heart, Lung, and Blood Institute notes that complications are uncommon but possible because cardiac catheterization involves the heart and blood vessels (National Heart, Lung, and Blood Institute, 2022).

Patients should tell their healthcare team about allergies, kidney disease, pregnancy, bleeding problems, and all medicines or supplements they take. However, healthcare workers should not independently instruct a patient to stop prescribed medication. The cardiologist or authorized clinical team should provide individualized instructions.

Recovery After an Angiogram

After the procedure, the catheter is removed and pressure is applied to the insertion site to reduce bleeding. The patient is monitored while recovering. Heart rate, blood pressure, circulation, and the insertion site may be checked.

The length of recovery depends partly on the access site, the patient's condition, and whether an additional treatment was performed. Some patients return home on the same day, while others remain in the hospital.

Patients normally receive instructions about activity, wound care, medicines, fluid intake, and signs that require urgent attention. They should follow the directions given by their clinical team because recovery recommendations may differ.

How I Would Explain an Angiogram to a Patient

For a person outside the healthcare field, I would explain a coronary angiogram in the following way:

A coronary angiogram is a procedure that uses X-rays and a special contrast liquid to show the blood vessels that supply your heart. A thin tube is placed into an artery, usually through the wrist or groin, and guided toward the heart. The images help the doctor see whether any coronary arteries are narrowed or blocked.

I would also explain that the patient's doctor or cardiology team should answer detailed questions about preparation, risks, results, and treatment decisions.

Comparison Between an ECG and a Coronary Angiogram

Although both tests may be used when evaluating heart disease, they are very different.

Feature	ECG	Coronary angiogram
Full name	Electrocardiogram	Coronary angiogram
Main purpose	Records the heart's electrical activity	Visualizes the coronary arteries

Feature	ECG	Coronary angiogram
Technology	Electrodes detect electrical signals	X-rays and contrast material
Invasive or noninvasive	Noninvasive	Minimally invasive
Catheter required	No	Yes
Common information obtained	Heart rate, rhythm, and electrical conduction	Location and severity of arterial narrowing or blockage
Typical duration	Usually brief	Longer and requires preparation and recovery
Main risks	Minimal; possible skin irritation from electrodes	Bleeding, contrast reaction, kidney injury, vessel damage, and rare serious complications
Who interprets it	Trained healthcare professional	Cardiologist or appropriately trained specialist

This comparison helped me understand why the two tests should not be explained in the same way. An ECG records electrical patterns from outside the body, while an angiogram requires access to an artery and creates images of blood vessels.

Communicating Medical Terminology to Patients

Learning medical terminology is only one part of effective patient communication. A healthcare professional may know the definition of a word but still explain it poorly.

When speaking with patients, I should avoid unnecessary jargon and use familiar words. For example, instead of saying that an angiogram assesses *coronary arterial patency*, I could say that it helps the doctor determine whether the arteries supplying the heart are open, narrowed, or blocked.

It is also useful to provide information in small sections rather than giving a long technical explanation at once. After explaining, the healthcare professional can ask the patient to describe the information in their own words. This approach is known as the teach-back method.

The Agency for Healthcare Research and Quality explains that teach-back checks whether information was communicated clearly by asking patients to explain what they need to know or do in their own words. It is not intended to test or embarrass the patient. Instead, it tests the effectiveness of the explanation (Agency for Healthcare Research and Quality, 2024).

For example, after explaining an angiogram, I might say:

I want to make sure I explained that clearly. Could you tell me in your own words what the angiogram will allow the doctor to examine?

If the patient cannot explain the procedure, I should try again using simpler wording rather than assuming that the patient is at fault.

Respecting Professional Scope and Patient Safety

My experience also taught me that there is a difference between providing general information and giving medical advice. I may explain that an ECG records electrical activity or that a coronary angiogram examines blood vessels. However, I should not interpret a patient's ECG, state that an artery is blocked, or recommend a treatment unless I am professionally qualified and authorized to do so.

If a patient asks why a specific test was ordered, the safest answer may be to explain the general purpose and then refer the patient to the prescribing doctor. The exact reason may depend on symptoms, examination findings, previous results, medical history, and clinical judgment.

Healthcare professionals should also protect patient confidentiality. A diagnostic order may contain private information. It should not be discussed where other patients or unauthorized individuals can hear.

Admitting uncertainty is part of safe practice. Saying, "I want to confirm that information with the clinical team so that I give you the correct explanation," is more professional than guessing.

Professional Growth From the Experience

Initially, I felt embarrassed when I could not explain the two terms. After reflecting on the experience, I now see it as an important stage in my professional development.

Healthcare is too complex for one person to know every term immediately. Competence develops through education, observation, questions, supervision, and continued study. The important issue is how a professional responds to a knowledge gap.

After researching ECG and angiogram, I can now recognize both terms and explain their basic purposes. I also understand the difference between an ECG and an echocardiogram, which corrected a major misunderstanding in my original knowledge.

This experience has encouraged me to create a personal list of unfamiliar cardiology terms. When I encounter a new abbreviation or procedure, I record it and later confirm its meaning through reliable sources. This approach can gradually improve my vocabulary and confidence.

I also plan to continue learning about common cardiology terms, including echocardiography, stress testing, Holter monitoring, angioplasty, stents, arrhythmias, ischemia, and heart failure. Learning these concepts will help me communicate more effectively with both patients and colleagues.

Conclusion

Working in the cardiology department has introduced me to many medical terms that I had not encountered before. One important experience occurred when a patient asked me about diagnostic tests written on a doctor's order. I felt embarrassed because I could not explain the terms ECG and angiogram. However, the situation encouraged me to conduct research and improve my professional knowledge.

An ECG, or electrocardiogram, is a quick, noninvasive test that records the heart's electrical activity. Electrodes placed on the body detect the electrical signals produced during each heartbeat. The resulting tracing can provide information about heart rate, rhythm, and electrical conduction. Contrary to my original understanding, an ECG does not use ultrasound waves or create detailed images of heart structures. That function belongs to an echocardiogram.

A coronary angiogram is a minimally invasive imaging procedure that uses X-rays and contrast material to show the arteries supplying the heart. A catheter is inserted into an artery and guided toward the heart. The resulting images help the cardiologist identify the location and severity of narrowing or blockages.

The two procedures may both contribute to the diagnosis of cardiovascular disease, but they differ in purpose, method, risk, and patient experience. An ECG evaluates electrical activity, while a coronary angiogram evaluates the coronary arteries.

Most importantly, this experience taught me that understanding terminology is essential but must be combined with clear communication, respect for professional boundaries, and a willingness to ask for assistance. Patients deserve explanations that are accurate, simple, and respectful. By continuing to learn, I can become more confident in my role while contributing to safer and more understandable healthcare.

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