



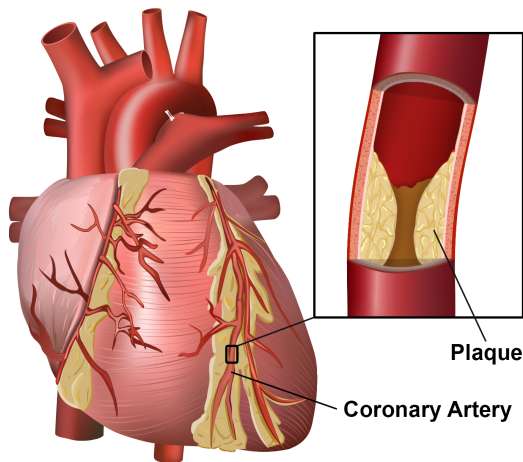
A Roadmap for Patients with **CORONARY ARTERY DISEASE**

— C · A · D —

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WHAT IS CORONARY ARTERY DISEASE (CAD)?



Blocked Coronary Artery

CAD is when the arteries that carry blood to the heart become narrowed or blocked. CAD is a long term disease, but it can be treated.

What are the symptoms of CAD?

Common symptoms include chest pain (angina) that gets worse with exercise and gets better with rest, shortness of breath, and tiredness. Some people with CAD do not have any symptoms at all.

If I have CAD does this mean I'm at high risk of dying?

Not necessarily. CAD is a long term disease, but it can be treated. Lots of people with CAD live a long time with the right treatments.

If I have CAD does this mean I'm going to have a heart attack?

Not necessarily. People with CAD usually have a higher risk of heart attacks compared to people without CAD. But with the right treatment, people with CAD may never have a heart attack.

How do I know if I have CAD?

Many people have CAD and don't know it. Sometimes the first time they learn about it is when they have a heart attack. Other people start having pain or pressure in their chest during walking or exercise, and their doctor orders a stress test. The purpose of a stress test is to see how the heart does when it is working harder.

The rest of this booklet will talk about what to expect if you have an abnormal stress test result and are told you have CAD.

What to Expect If You Have an Abnormal Stress Test

Many people learn they have CAD when they get an abnormal stress test result. If this happens, you will probably have a lot of questions:

What does this mean?

What will happen next?

What are my options?

What does this mean for my long-term health?

This booklet will help answer these questions and to support you on your healthcare journey.

We call this booklet a "Roadmap" because it will tell you what to expect in the coming weeks, months and years if you have a positive **stress test**. There are different paths that you can take and decisions where you can participate!

This roadmap is not meant to replace conversations with your doctor. It is meant to provide more information to help you talk to your doctor and ask questions about your care options.



An abnormal stress test does not necessarily mean you have Coronary Artery Disease (CAD). Getting this booklet is not a diagnosis. You and your doctor will talk about what your test result means for you.

This booklet is not meant for patients who are having a heart attack. If you think you are having a heart attack, seek immediate medical attention.

WHAT CAN YOU EXPECT IN THE WEEKS AFTER AN ABNORMAL STRESS TEST?

If you have an abnormal stress test, the next step is to make an appointment with your doctor. Your doctor will interpret your result and determine if it is low, intermediate, or high risk, or if your result is unclear (your doctor might say "indeterminate" or "equivocal" which also mean unclear).



LOW-RISK RESULT

This means that you have a lower chance of major problems—such as a heart attack or death—from a blockage. Your doctor will probably recommend medications and lifestyle changes.



INTERMEDIATE-RISK RESULT

This means that you have a medium chance of major problems—such as a heart attack or death—from a blockage. You and your doctor will decide whether more intensive or less intensive treatment is best for you.



HIGH-RISK RESULT

This means that you have a higher chance of major problems—such as heart attack or death—from a blockage. Your doctor will probably recommend more intensive treatment in addition to discussing medications and lifestyle changes.

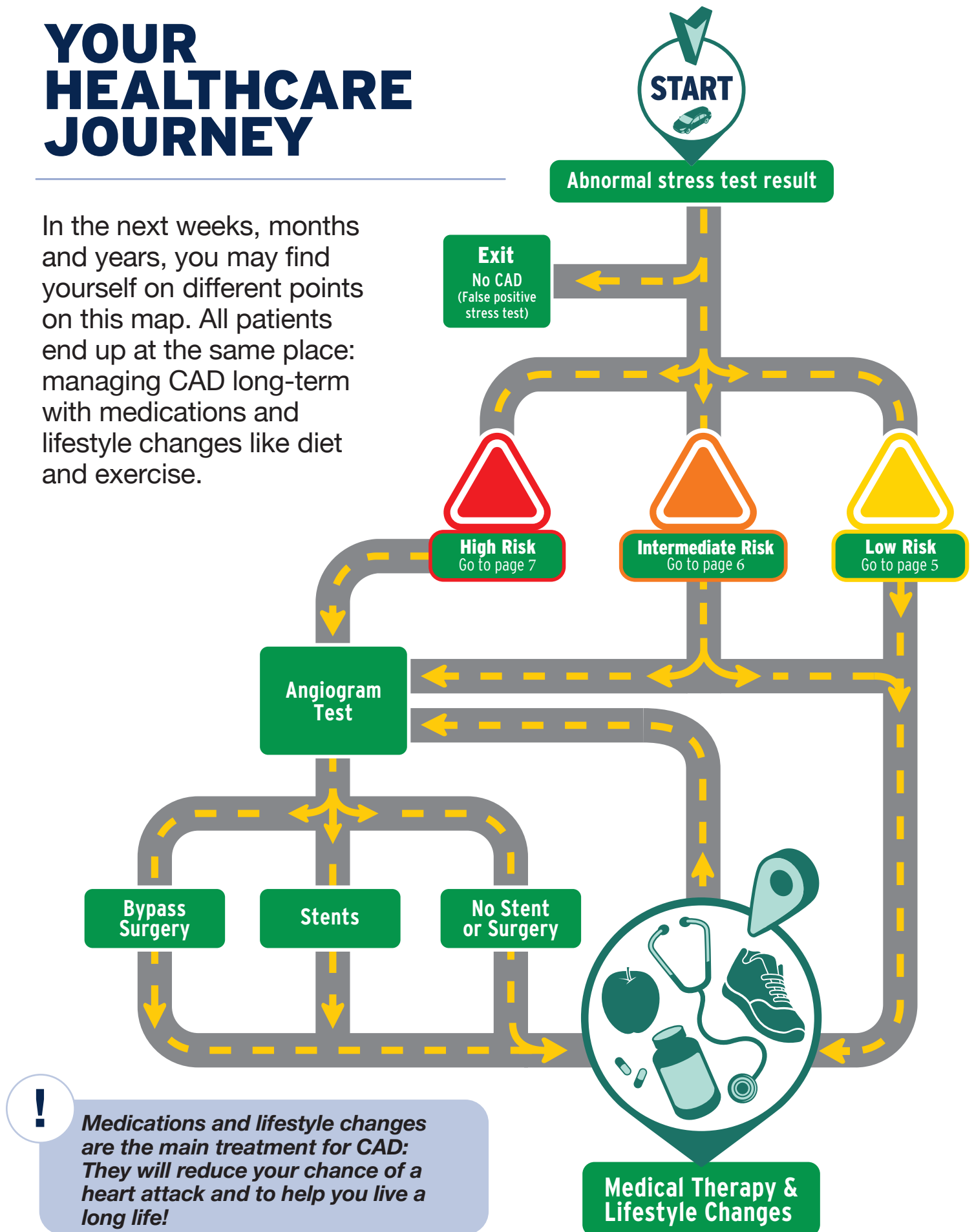


UNCLEAR RESULT

It is possible that your test result will be unclear. If this happens you may receive more tests, and potentially another type of stress test.

YOUR HEALTHCARE JOURNEY

In the next weeks, months and years, you may find yourself on different points on this map. All patients end up at the same place: managing CAD long-term with medications and lifestyle changes like diet and exercise.





LOW-RISK

A low-risk stress test result means that you take the path to medical therapy.

The main way to treat low risk Coronary Artery Disease (CAD) is with lifelong medications. These medications will help you in two ways:

- 1. Reduce your chance of a heart attack**
- 2. Reduce your symptoms such as chest pain**

Another important way to treat CAD is with diet and exercise. Diet and exercise will also help reduce your chance of a heart attack and reduce your symptoms.



Your healthcare plan down the road:

You will meet with your doctor regularly to discuss your symptoms and medications. **These conversations can be driven by you and how you feel.**

If your symptoms are negatively affecting your daily life, then you and your doctor can consider more intensive treatment paths, like getting an angiogram and possibly a stent.



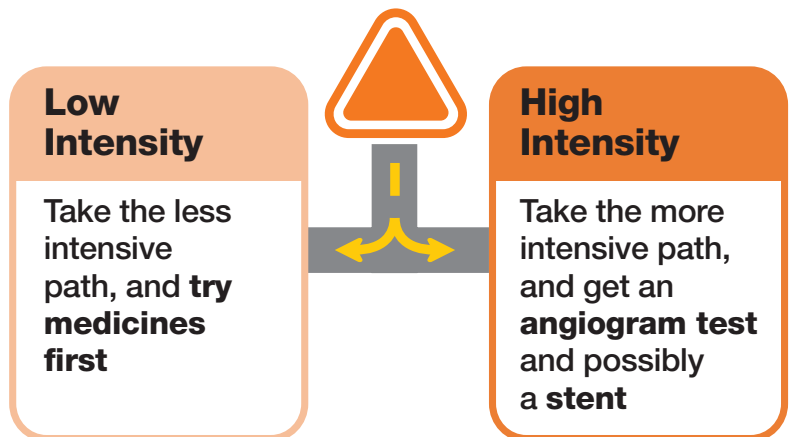


INTERMEDIATE-RISK

An intermediate risk stress test result means that you have a choice.

Which path will you take?

Do you want to take the less intensive path and try just medicines and lifestyle changes first? Or do you want to take the more intensive treatment path and get a test to look for blockages?



How will you know what path to choose?

You and your doctor will discuss what is the best path for you, based on your preferences and your doctor's recommendations.

Low Intensity Path

- You want to avoid tests and treatments that are invasive or burdensome.
- Since medications are proven to help with symptoms and reduce your chance of a heart attack, you're okay with taking medications and not doing more.

High Intensity Path

- You don't mind getting more intensive testing or treatment, like an angiogram or stents, even if these treatments might not help more than medications.



HIGH-RISK

A high-risk stress test result means that you will probably take the path to an angiogram.

How will you know what path to choose?

Your doctor will probably want to look for blockages inside your heart (coronary) arteries using an **angiogram**.

What is an angiogram?

An angiogram is a test where doctors can see exactly where blockages are in the heart arteries.

A long flexible tube is inserted through the blood stream to deliver dye into the arteries making them visible on the x-ray.



Angiogram
Test

Bypass
Surgery

Stents

No Stent
or Surgery

What happens if the angiogram shows I have blockages?

Depending on the extent of the blockages, your doctor may recommend trying **medications** only, give you a **stent** or recommend **bypass surgery**.

To learn more about stents and bypass surgery, turn to the Glossary.

What happens if the angiogram shows I don't have any blockages?

If this happens it is good news! This means that you will be treated with medications, which will reduce your chance of a heart attack and help with your symptoms.

ALL ROADS LEAD TO THE SAME PLACE: MEDICATIONS AND LIFESTYLE CHANGES



These 4 things are the **BEST** way to reduce your risk of a future heart attack:

1 TAKE MEDICATIONS

Medications to lower cholesterol are very good at preventing heart attacks. Statins and PCSK9 inhibitors are common medications that lower cholesterol.

Blood thinners, like aspirin, help prevent clots in the arteries in your heart.

If you have diabetes or high blood pressure, getting these under control with medications is very important too.

2 GET MOVING

Any activity is beneficial.

You can get the most benefit from activities that make you breathe faster and your heart beat faster than normal.

For example, brisk walking, jogging, dancing, tennis, and biking. Moderate exercise 30 minutes per day, 5 days per week is optimal. Discuss with your doctor what level of activity is safe for you.

3 QUIT SMOKING

Smoking greatly increases your risk of having a heart attack.

The good news is if you quit smoking your risk quickly becomes the same as people who have NEVER smoked! Medications and counseling both help you to stop smoking. Talk to your doctor to figure out the best way for you to stop smoking.

4 EAT A HEART-HEALTHY DIET

A healthy diet, along with exercise and medications, can help.

A heart healthy diet includes eating more fruits and vegetables and selecting whole grain foods.

For information on a heart healthy diet and recipes, see <https://www.heart.org/en/healthy-living/healthy-eating/eatsmart/nutrition-basics>

TREATMENT MYTHS VS. FACTS

1. Can CAD be cured?

Unfortunately, there is no “cure” for CAD.

CAD is a life-long condition. Build up of plaque will continue to narrow the arteries around the heart and no treatment will make this go away completely. Medications and lifestyle changes are the main way to treat CAD symptoms and lower the chance of a heart attack. Some people with CAD may also need more treatment like a stent or bypass surgery at some points in the journey.

With these treatments, people with CAD can live long lives.

2. Do stents reduce the chance of a heart attack?

It depends.

Stents are mainly done to help people feel better. Stenting smaller arteries will **NOT** reduce the chance of a future heart attack and may be used as a last resort for trying to help with symptoms if medications are not working. If a person's chest pain symptoms are well controlled with medications, they may not benefit from a stent.

Sometimes, when there are blockages in bigger arteries, stents might reduce the chance of a heart attack. This is different from stenting smaller arteries.

3. If I have a stent or bypass surgery, can I stop taking medicines?

You will need to continue taking life-long medications.

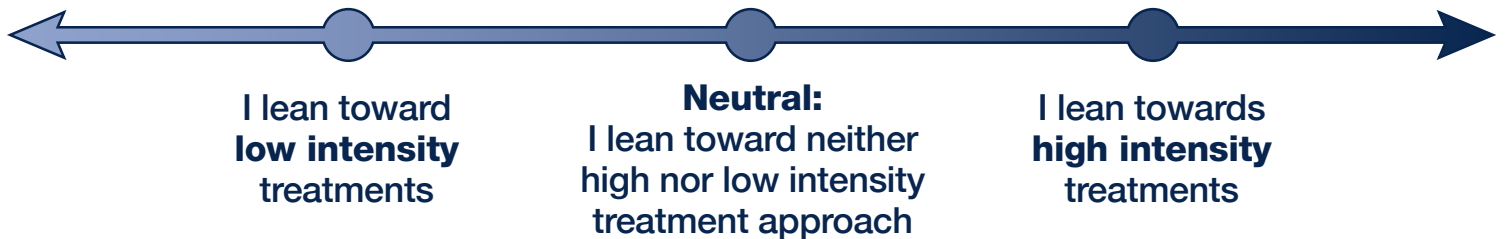
Some people who have CAD think they can stop taking medications if they have a stent or surgery. However, medications are still the best way to reduce the chance of having a future heart attack. Some people can stop taking medicines that treat chest pain symptoms if those symptoms get better. However, it is important to keep taking medicines that reduce the chance of a heart attack.

YOUR VALUES: WHAT IS YOUR APPROACH?

Do you prefer high or low intensity health care?

On your care journey, you may have a choice to get more invasive, high-intensity treatments, like stents. Some people want to get high-intensity treatments, and other people want to avoid them when possible.

What do you prefer?



Low Intensity

- You want to avoid treatments that are aggressive, invasive, or burdensome.
- You tend to minimize tests and procedures, especially if benefits are uncertain.
- Your focus is “less is more” and “I don’t need to know”.

High Intensity

- You don’t mind treatments that are aggressive, invasive, or burdensome.
- You tend to maximize tests and procedures, especially if benefits are uncertain.
- Your focus is “get that taken care of” and “I want to know”.

3

QUESTIONS TO ASK YOUR DOCTOR AT EACH VISIT

- What are the possible benefits and harms of this treatment?
- How likely are those benefits and harms to happen to me?
- What will happen if I do not do this treatment?

We hope this booklet will help to answer some of your questions if you have an abnormal stress test result. If you do have CAD, you can use this information to help you talk to your doctor and ask questions about your care options.

Remember:

Medications and lifestyle changes are the main treatment for CAD. They will reduce your chance of a heart attack and help you to live a long life!

VA



U.S. Department of Veterans Affairs
Veterans Health Administration
Eastern Colorado Health Care System

MEDICAL THERAPY

What is medical therapy for Coronary Artery Disease?

The goals of medical therapy for CAD are to reduce your risk of dying from CAD and from having a heart attack, and to manage your symptoms.

What kind of medication will I take?

There are two types of medications:

- Medications such as blood thinners (such as aspirin), and cholesterol lowering medications (such as statins) can help reduce your risk of having a heart attack.
- Other medications such as beta blockers and nitroglycerin are prescribed to help manage symptoms. The medication your doctor prescribes will depend on your specific situation.



How long will I need to take medications?

Patients with CAD will usually need lifelong medical therapy.

ANGIOGRAM

What is an angiogram?

An angiogram is a procedure where doctors can see exactly where blockages are in the heart arteries. A long flexible tube (a catheter) is inserted through the blood stream and to the heart, to deliver dye into the arteries making them visible on the x-ray. The catheter might be started in an artery in the groin or wrist.

What happens if my doctor finds blockages?

If there are extensive blockages your doctor will probably recommend bypass surgery. If there are less extensive blockages then your doctor may put in one or more stents during the angiogram procedure.

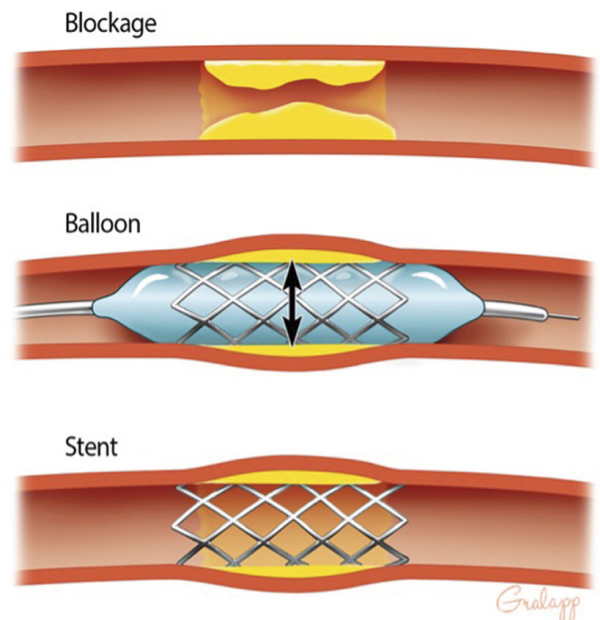
STENT

What is a stent?

With the help of a thin tube, a small balloon is inserted into the clogged artery and inflated to open the blockage. Then a small wire mesh tube (the stent) is left inside that part of the artery to help keep it open, allowing blood to flow better.

Why would I get a stent?

Stents can be used when patients have one or two blockages in certain heart arteries. With more extensive CAD (that is, more blockages in bigger arteries), bypass surgery is often recommended instead of a stent.



BYPASS SURGERY

What is bypass surgery?

Bypass surgery is open heart surgery. A healthy artery or vein from a different part of your body will be used to bypass the blocked artery, allowing blood to flow better. If your doctor is recommending bypass surgery, he or she will explain what you can expect for preparation and recovery.

Why would my doctor recommend bypass surgery?

Bypass surgery may be recommended because it has been shown to reduce the chance of heart attack and death when you have:

- Blockage in the left main artery, which is the largest artery
- Worrisome blockages in 2 or more heart arteries
- Certain other conditions such as diabetes or heart failure

