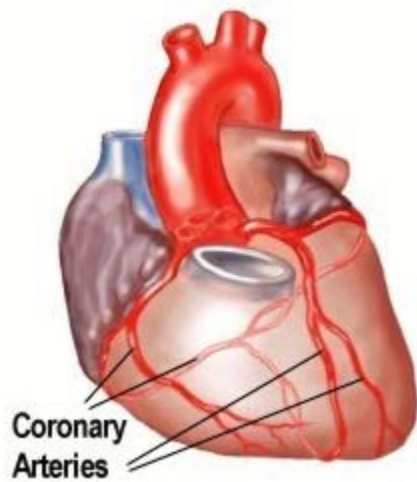


## **ALDERFER & TRAVIS CARDIOLOGY, PC**

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**Your doctor has diagnosed the pain or discomfort in your chest as angina. This information sheet will answer many of your questions about angina. Understanding your condition and working with your doctor can help you lead a full, active life.**



### **What is angina pectoris?**

Angina, or angina pectoris, is a recurring discomfort. It's usually located near the center of the chest. The pain or discomfort occurs when the blood supply to part of the heart muscle doesn't meet the heart's needs. As a result, the heart doesn't get enough oxygen and nutrients. The discomfort occurs most often during exercise or emotional stress. That's when the heart rate and blood pressure increase, and the heart muscle needs more oxygen. Anginal pain or discomfort is usually brief, lasting just a few minutes. People describe it as a heaviness, tightness, oppressive pain, burning, pressure or squeezing. Usually it's located behind the breastbone. Sometimes it spreads to the arms, neck or jaws. It may also cause a numbness in the shoulders, arms or wrists.

### **What is the relationship between angina and a heart attack?**

Angina is different from a heart attack. Both relate to the blood flow through the coronary arteries (which bring blood to the heart muscle), but there is a key difference. With angina, the blood flow is reduced, especially when the heart must do more work. This imbalance between oxygen supply and demand is temporary leading to discomfort in the chest.

With a heart attack, the blood flow to part of the heart muscle is suddenly cut off when a coronary artery is blocked. The chest pain that results is usually more severe and lasts longer. As a general rule, attacks of angina don't permanently damage the heart muscle;

a heart attack does. Many people who have angina have never had a heart attack, although angina can develop after one.

### **What Causes Angina?**

Angina and heart attack have the same root cause: atherosclerosis. This is the narrowing of the coronary arteries caused by deposits of fatty substances such as cholesterol. It usually starts early in life. Everyone has it to some degree by middle age.

### **How is angina diagnosed?**

Usually your doctor can accurately diagnose angina from your description of symptoms. If you're suffering from it, it's possible for your physical examination and resting electrocardiogram to be entirely normal. That's why your doctor may recommend an exercise test to increase your heart's demand for blood and oxygen. An electrocardiogram recorded during an exercise test can show if your heart isn't getting enough oxygen. Sometimes it's hard to diagnose angina even after a medical history, a physical examination and an exercise test. If that's the case, your doctor may order a thallium stress test. This is a special exercise test in which a radioisotope (thallium) is injected into a vein during exercise. It uses radioactivity detectors and computers to measure the blood flow to the heart muscle during exercise.

Your doctor may decide that a coronary arteriogram is necessary. This is an x-ray movie of your coronary arteries. It shows blood flow patterns as a radiopaque substance (a liquid that blocks x-rays) is injected into your arteries. If you have angina, an arteriogram will show if your coronary arteries are blocked or constricted, where the blockage is and how severe it is.

### **How is angina treated?**

Nitroglycerin usually works well to relieve chest discomfort from angina. It can be used to prevent discomfort, too. It's usually taken in tiny tablets, which are put under the tongue to dissolve. It may also be prescribed as an oral spray. Nitroglycerin tablets are inexpensive and act quickly. Keep a fresh, sealed supply of them on hand at all times. As a general rule, avoid moving your tablets from their original, dark glass bottle, because they're sensitive to heat, light and air. And always use the medicine as directed by your doctor. Be sure to carry your nitroglycerin with you at all times. Take a tablet just before starting an activity you know is likely to cause anginal discomfort. Also, take a tablet if your discomfort doesn't begin to go away within a minute or two after you've stopped the activity, or if discomfort occurs when you aren't active. Tell your doctor what usually causes your angina so he or she can advise you about preventing attacks.

It may take several tablets a day to control your symptoms. Nitroglycerin is safe and not habit forming, so don't be afraid to take it. Ask your doctor what to do if nitroglycerin doesn't completely relieve your angina or if the pain starts to come more often or gets worse. Some people who take nitroglycerin get a short headache or a feeling of fullness

in the head. Often these symptoms disappear after they've taken nitroglycerin several times. If you have this problem and it doesn't get better, your doctor may want to reduce the dosage in each tablet. Long acting forms of nitroglycerine are also available. They come in the form of long acting tablets, patches, and nitroglycerin paste.

### **Some Tips on Nitroglycerin:**

1. If you have angina that does not go away after 15 minutes of taking 1 nitroglycerin tablet every 5 minutes, you should call the emergency medical service or have someone drive you to the nearest hospital emergency room.
2. Ask your doctor about refilling your prescription at six-month intervals. Old nitroglycerin tablets can lose their strength. Effective tablets will cause the area under your tongue to sting or burn.
3. Your doctor may also prescribe longer acting nitroglycerin compounds. These are taken by mouth or applied to the skin as an ointment or skin patch.

### **Other antianginal medications:**

Your doctor may prescribe other medications besides nitroglycerin to reduce your attacks even more or for other reasons. One such medication might be a beta blocking drug. This class of drugs reduces the ability of adrenalin to stimulate your heart. As a result, it will reduce your heart's work during exercise by slowing the heart rate and lowering blood pressure. The so-called calcium blocking drugs are also often used. They work by reducing the blood pressure, and sometimes the heart rate, during exercise. They also relax and widen the arteries to the heart muscle like nitroglycerin does.

### **How can coronary blood flow be improved?**

If medication doesn't control your angina, your doctor may suggest percutaneous transluminal coronary angioplasty (PTCA) or one of its variations. This procedure can increase blood flow in a narrowed blood vessel.



In this treatment the doctor inserts a balloon-tipped catheter into an artery. When the tip is guided to where the blood vessel is narrowed, the balloon is inflated, compressing the plaque. Then the balloon is deflated and the catheter withdrawn. Variations include the

use of devices to remove plaque (grinding or shaving devices) and the use of stents (metallic sleeves which help open the artery).

### **What is the role of heart surgery?**

If you keep having frequent or disabling angina despite using medications, or if your coronary arteries are badly blocked, you may need surgery. Your doctor may advise coronary artery bypass surgery on one or more of your arteries. In this operation, a vein taken from the leg or an artery taken from the chest wall is grafted onto the blocked artery, bypassing the blocked area. If more than one artery is blocked, each one may receive a bypass.

### **What can you do to treat this disease?**

You can improve your condition by altering your way of life to reduce the chance of attacks of angina. The suggestions that follow can help you live more comfortably with angina.

#### **1. Control your physical activity.**

Learn what kinds of physical activities bring on your angina, and avoid doing them. Remember, it's how strenuously you exert yourself, not how long you do so, that causes angina. Some people can walk a mile or more without discomfort if they pace themselves. These same people may have an anginal attack if they walk rapidly for half a block. Others can perform certain kinds of manual labor all day, but brief, intense physical effort will quickly bring chest discomfort. If sexual intercourse causes angina, discuss this with your doctor. Sometimes taking nitroglycerin can prevent angina during sex. Many people find they're more prone to attacks of angina when they exert themselves in extremes of temperature (hot or cold) or after a heavy meal. You may find that what you can do easily in mild weather will cause chest discomfort if done in the cold and wind. If this happens, cut back on your activities in winter weather and dress warmly whenever you're outdoors. Consult your doctor before you try to shovel snow or do other hard work in cold weather.

#### **2. Exercise regularly.**

Moderate exercise may be good for you. Many times symptoms of angina decrease when a person starts a program of progressive exercise. Ask your doctor about the best types and amounts of exercise for you. If your discomfort occurs during daily exercise, reduce your exercise and consult your doctor.

#### **3. Avoid emotional upsets.**

Any kind of emotional upset, including outbursts of temper, can trigger angina. Excitement can also cause chest discomfort. Learning to control your emotions will help you control your angina. Many people are surprised at how well they can control their emotions when they try. Even so, it's impossible to avoid all emotional or anxiety producing situations. Try to anticipate these situations and use your nitroglycerin in

advance to help prevent chest discomfort. Some kinds of recurring emotional problems can be very hard to handle. If you're having difficulty, seek professional help. If long-standing tensions seem to aggravate your angina, discuss them with your doctor, a clergyman or a family counselor. Identify everyday situations in which you feel pressured and try to control them. Avoid time pressures like deadlines and overcrowded schedules. Also, don't insist on doing everything yourself.

Meditation and relaxation exercises are good ways to calm your emotions. Some doctors suggest that you totally relax all your muscles twice a day for 20 minutes. Others advise doing deep breathing exercises or concentrating on a pleasant thought or experience whenever you feel under stress. If these practices don't seem to help, your doctor may recommend a mild tranquilizer. You may feel that taking tranquilizers is a sign of weakness or worry about becoming dependent upon them. If so, don't worry. Tranquilizers are safe and effective for controlling angina if you follow your doctor's advice.

#### **4. Adopt good eating habits.**

Like exercise, digestion causes the heart to work harder. That means it needs more blood. Heavy meals can put a strain on your heart. You may find that you're especially prone to anginal discomfort after eating. Try to avoid large meals and rich foods that leave you feeling stuffed. Relax for a while after eating. If you often get angina after meals, your doctor may advise you to use nitroglycerin before eating. Extra weight can also aggravate angina. Many times a person's angina decreases or disappears after weight loss. Even if you aren't overweight, your doctor may recommend that you control the amount of fat in your daily diet. He or she may prescribe a diet. Ask about what books are available that discuss heart healthy diets.

#### **5. Moderate alcohol intake.**

Drinking a moderate amount of alcohol helps some people relax and may not be harmful for you. The good form of cholesterol in your blood may be increased by alcohol. But drinking too much alcohol can be potentially harmful, because it affects the heart. Some people with angina have other medical conditions that keep them from drinking alcohol. Ask your doctor's advice about drinking alcohol. And remember, if you're trying to lose weight, you shouldn't drink too much. Alcoholic drinks are usually high in calories.

#### **5. Don't use any tobacco products.**

Cigarette smoking is bad for your general health. It's critical to avoid smoking if you have angina or any form of heart disease. Cigarette smoking often makes angina worse, and it increases the risk of heart attack and other circulatory disorders. If you smoke, QUIT!

#### **6. Control high blood pressure.**

High blood pressure increases the risk of developing heart disease and other circulatory

disorders. It also increases the heart's work and can aggravate angina. Controlling high blood pressure is essential, so follow your doctor's advice about treatment.