

# Central Retinal Artery Occlusion



## What is central retinal artery occlusion?

When one of the vessels that carry blood to your eye's retina gets blocked, you can lose your eyesight. This problem often happens suddenly and without any pain. This is called a central retinal artery occlusion (CRAO).

Your retina is the layer of nerve tissue at the back of your inner eye that senses light. The retina turns images into electrical signals. Your optic nerve carries these signals to your brain. If a blockage of a blood vessel happens in your retina, it can be very serious. The blockage often comes from a blood clot or cholesterol deposit in your blood vessel. This is a serious condition. You should get medical care right away. If a blood clot breaks free and moves to the brain, it could cause a stroke.

The symptoms of CRAO can come on quickly and be very serious. Most often you will have severe loss of eyesight. Even after treatment, your eyesight likely won't get better.

A disease that is like CRAO is branch retinal artery occlusion. This is a blockage in one branch of the central retinal artery. With this kind of retinal artery occlusion, you are more likely to keep fair to good eyesight.

## What causes central retinal artery occlusion?

Central retinal artery occlusion is a blockage of the central retinal artery. The blockage often comes from a blood clot or cholesterol in your blood vessel.

## Who is at risk for central retinal artery occlusion?

High blood pressure and aging are the main risks for CRAO. Diabetes can also raise your risk. So can problems in which your blood is thicker than normal. In women, CRAO has been linked to using birth control pills.

## What are the symptoms of central retinal artery occlusion?

The symptoms of CRAO are:

- Sudden blindness in 1 of your eyes
- Sudden, complete blurring of eyesight in 1 eye

The symptoms are almost always lifelong (permanent). If you have only partial blurring or loss of eyesight, you may have a branch retinal artery occlusion.

The symptoms of CRAO may seem like other health problems. Always talk with your eye care provider for a diagnosis.

## How is central retinal artery occlusion diagnosed?

If your eye care provider thinks that you have CRAO, they will do a physical exam of the eye. Your eye will be dilated first. Your eye care provider may also do other eye tests. These are done to find out the type of blockage and how much damage you have. One eye test that can make a clear diagnosis is called a funduscopy. This test is often done with a slit lamp biomicroscope.

You will be tested for high blood pressure, diabetes, and possibly other diseases that can affect your blood vessels. If you are young, your eye care provider may check if your blood is thicker than normal. This can be done with a blood test called a complete blood count, as well as other tests.

Your eye care provider may make other checks of your heart and blood vessel health to see if you have problems in other areas. These health problems may be related.

## How is central retinal artery occlusion treated?

Treatment will depend on your symptoms, age, and general health. It will also depend on how severe the condition is.

Experts say that if you arrive at the hospital with at least 20/40 vision, you may have fairly good eyesight later on. If your vision in the eye is 20/200 or worse, the outlook for recovery may not be optimistic.

Some people have been treated with high-pressure (hyperbaric) oxygen. The retina takes in more oxygen than any other organ in the body. This makes the retina more likely to be harmed if a blockage keeps oxygen-rich blood from reaching it.

Hyperbaric oxygen therapy can give enough extra oxygen to keep the retina healthy until normal blood flow returns. You will breathe pure oxygen in a special room. The extra oxygen in the blood can sometimes cause the arteries in your retina to get wider. This can help your eyesight get better.

This treatment has not been proven to be reliably effective. How well this works depends on the type of blockage. It also depends on how quickly therapy begins after the blockage forms. This therapy may work best if started within 8 hours after the blockage begins.

In other cases, your eye care provider might try to relieve the blockage. They will do this by massaging the eye. They may use a clot-busting medicine, such as a t-PA (tissue-plasminogen activator). Your provider may remove a small amount of fluid from the front of the eye. This is to try to restore the blood flow. As with hyperbaric oxygen therapy, none of these treatments have been proven to be reliably effective in all cases. Unfortunately, the vision almost never improves, no matter which treatment is used.

## What are possible complications of central retinal artery occlusion?

Central retinal artery occlusion can lead to permanent loss of eyesight in the affected eye.

## Can central retinal artery occlusion be prevented?

Central retinal artery occlusion is often linked to diabetes or heart problems. But these health problems don't directly cause it. A good preventive step is to keep your heart healthy. You can do this by:

- Staying at a healthy weight
- Eating a healthy diet
- Exercising regularly
- Not smoking

Also, if you have diabetes, work to keep your blood sugar at a healthy level.

## Key points about central retinal artery occlusion

- Central retinal artery occlusion is the blockage of blood to the retina of 1 eye.
- It often causes sudden loss of eyesight in 1 eye.
- You are at higher risk if you are older or have high blood pressure or diabetes.
- You are also at higher risk if your blood is thicker than normal.
- This condition is serious and needs medical care right away.
- Treatment choices include fluid release, hyperbaric oxygen therapy, and clot-busting medicines. None of these treatments is proven to be helpful.

## Next steps

Tips to help you get the most from a visit to your healthcare provider:

- Know the reason for your visit and what you want to happen.

- Before your visit, write down questions you want answered.
- Bring someone with you to help you ask questions and remember what your provider tells you.
- At the visit, write down the name of a new diagnosis, and any new medicines, treatments, or tests. Also write down any new instructions your provider gives you.
- Know why a new medicine or treatment is prescribed, and how it will help you. Also know what the side effects are.
- Ask if your condition can be treated in other ways.
- Know why a test or procedure is recommended and what the results could mean.
- Know what to expect if you do not take the medicine or have the test or procedure.
- If you have a follow-up appointment, write down the date, time, and purpose for that visit.
- Know how you can contact your healthcare provider if you have questions.

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