# Understanding Electrical Cardioversion

Cardioversion is a procedure used to return your heartbeat to a normal rhythm. It’s done when the heartbeat is very fast or irregular (arrhythmia). During the procedure, a small machine sends an energy shock to your chest to reset the heart to a normal rhythm.

Cardioversion is not the same as defibrillation. Both use shocks to reset the heart. But defibrillation involves a shock that is not synced with your heartbeat. It's done in emergency situations to treat dangerous ventricular rhythms such as ventricular fibrillation. This is a heart rhythm that can cause cardiac arrest.

Cardioversion is most often a scheduled procedure. But in some cases, it may be done as an emergency treatment, if symptoms are severe. For this procedure, you will be given medicine to make you sleepy.

## Why electrical cardioversion is done

An arrhythmia can cause problems such as fainting, stroke, heart attack, and even sudden cardiac death. Electrical cardioversion can help treat several kinds of arrhythmias.

It's most often used to treat atrial fibrillation (AFib). AFib causes the top chambers of the heart (atria) to quiver instead of beating normally. When this happens, blood can sit in these chambers without moving. Clots can form and travel to the brain and other parts of the body.

Symptoms of AFib may include shortness of breath, fatigue, chest pain, and a very fast heartbeat. It can also increase your risk for stroke.

Electrical cardioversion is also used for treating other arrhythmias such as atrial flutter and tachycardias.

These arrhythmias can cause heart rates that are too fast. This can prevent the heart from pumping enough blood.

You may **not** be eligible for cardioversion if you:

- Have no symptoms or minor symptoms from AFib
- Are an older adult who has limited activity
- Have had AFib a long time and/or they feel that your heart rhythm is unlikely to be restored to normal rhythm
- Have other major health problems and can’t take medicines such as blood thinners

Other treatments may be better for you, such as heart rate control with medicine. A procedure called an ablation may also be tried if AFib returns at some point after electrical cardioversion.

## How electrical cardioversion is done

The procedure takes only a few minutes. You will get medicine (sedation) to make you sleepy before the procedure. You should not feel any pain.

The healthcare provider will place sticky pads (electrodes) or paddles on your chest and back. The provider may shave these areas of skin first to help the electrode pads stick. Wires are attached to the electrodes or paddles and connected to a cardioversion machine. The machine sends a programmed energy shock to your heart. This should convert your heart back to a normal rhythm. Sometimes more than one shock is needed to get the heart back into normal rhythm.

## Risks of electrical cardioversion

Every procedure has risks. The risks of electrical cardioversion include:

- New arrhythmias that may be more dangerous than the original problem. These may need more shocks.
- Temporary low blood pressure or slow heart rate
- Heat damage to the skin or skin irritation from pads
- Muscle soreness
- Heart failure
- Dislodged blood clot that can cause stroke or other problems
- Reaction to the medicine used to make you sleepy

In some cases, healthcare providers lower the risk for blood clots by giving a blood thinner. You may be given this medicine for 3 to 4 weeks before the procedure. And you may take it for at least 4 weeks after the procedure. Your healthcare provider may also recommend a procedure called transesophageal echocardiography (TEE). This is done just before the cardioversion to check for any existing blood clots in your heart. If a clot is seen on TEE, the cardioversion procedure will be cancelled.

Your own risks may vary based on your age, the type of arrhythmia you have, and your overall health. Talk with your healthcare provider about which risks apply to you.

After a cardioversion, you will need someone to drive you home and around for the next 24 hours. Don't operate heavy machinery for at least 1 day after receiving sedation for a cardioversion.

It's important to follow up with your healthcare provider to make sure the cardioversion has successfully converted your rhythm. Some people can go back into AFib without being aware that their heart rhythm has changed. Your healthcare provider may do a 12-lead ECG at your follow-up office appointment to confirm your heart rhythm is still normal.