



Medicines

for my heart

Tim Morris

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This booklet describes **some** of the medicines that you may have been prescribed if you have a heart condition – such as angina, heart attack, heart failure, heart rhythm disorders and heart valve disease.

It also covers medicines used to control high blood pressure or to lower cholesterol, and those used to prevent blood clots from forming.

We explain why you may have been given each medicine, how it works and also the most common side effects. If you're taking a medicine that isn't described here, talk to your doctor, pharmacist or nurse to get more information about it.

This booklet doesn't replace the advice offered by your doctor, but it should help you to understand what they tell you.

There are many medicines to treat diseases of the heart and circulation (cardiovascular disease). But they all belong to a few main groups.

A single medicine may have several names. Each one has an official name, or the 'generic' or 'non-proprietary' name, and it may also be prescribed under a brand, or 'proprietary name'.

The medicines within each group will be similar, but may work in different ways. For example, some medicines for lowering blood pressure work on the walls of the arteries (the blood vessels that take blood from the heart to other parts of the body); some on the kidneys; and others work on the part of the brain that helps to control blood pressure.

Occasionally, two medicines may be combined into one tablet.

All this means is that there's a wide variety of medicines to choose from to best meet the needs of each person. Sometimes, the same medicine can even be used to treat a number of conditions.

Heart Condition	Symptoms of condition	Medicines for treatment
Angina	Where there is pain or discomfort in the chest, or shortness of breath, caused by narrowing of the coronary arteries (the arteries that supply blood to the heart).	Antiplatelet medicines (36), Beta-blockers (40), Nitrates (58) and Statins (46).
High blood cholesterol	Also called hypercholesterolaemia. If left untreated, this causes fatty deposits to form on the blood vessel walls, increasing the risk of having a heart condition.	Cholesterol-lowering medicines (45).
Heart attack	When there is a blockage in a coronary artery. This is usually caused by a blood clot that forms when fatty material breaks away or ruptures.	ACE inhibitors (16), Antiplatelet medicines (36), Beta-blockers (40) and Statins (46).

Heart Condition	Symptoms of condition	Medicines for treatment
Heart valve disease	When one or more of the four valves in the heart is diseased or damaged.	Anticoagulant medicines (24).
Heart failure	When the main ‘pumping’ action of the heart isn’t working as well as it should be.	ACE inhibitors (16), Beta-blockers (40) and Diuretics (52).
High blood pressure	Also called hypertension, is when the pressure of blood in your arteries is consistently higher than the recommended level.	ACE inhibitors (16), Angiotensin-II antagonists (18), Calcium channel blockers (44) and Diuretics (52).
Arrhythmia	A heart rhythm that may be too slow, too fast, or irregular.	Antiarrhythmic medicines (20), Anticoagulant medicines (24), Beta-blockers (40) and Digoxin (51).

 For more information on these conditions, see the booklets in our **Heart Information Series** (see page 71).

WHAT DO THE MEDICINES DO?

Most medicines used to treat heart conditions change how the heart or circulation works – a bit like a mechanic tuning an engine that isn't working as well as it should.

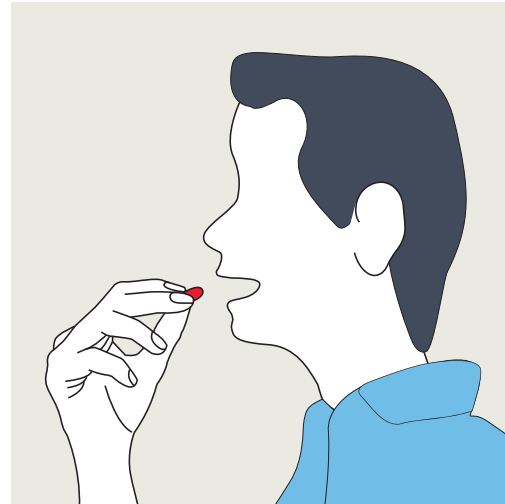
Several different medicines may be available to treat your heart condition. Every one is different and therefore it can be difficult to know exactly which medicine will suit you. Your doctor, pharmacist or nurse will choose the one most likely to be safe and effective for your condition.

**With the right medicines
taken at the right doses,
it's often possible to
reduce the symptoms of
heart-related conditions
and help the heart to
work better than before.**

Medicines can be given in a number of ways.

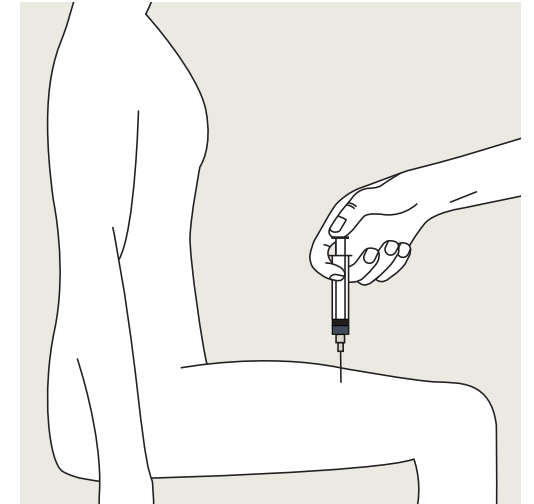
Orally

By mouth, usually as tablets or capsules, which you either swallow or take dissolved in water.



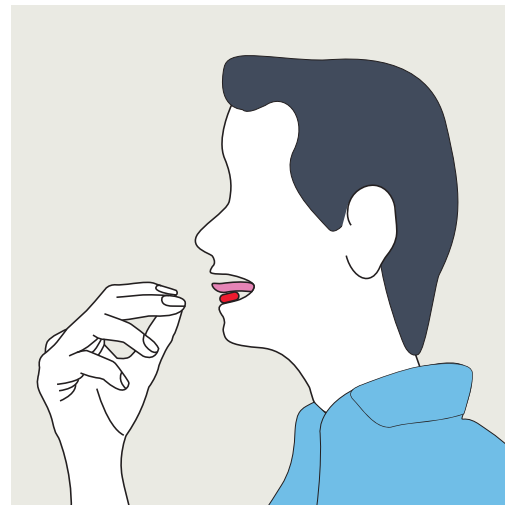
Intramuscularly

By injection into a muscle, such as the buttock or thigh.



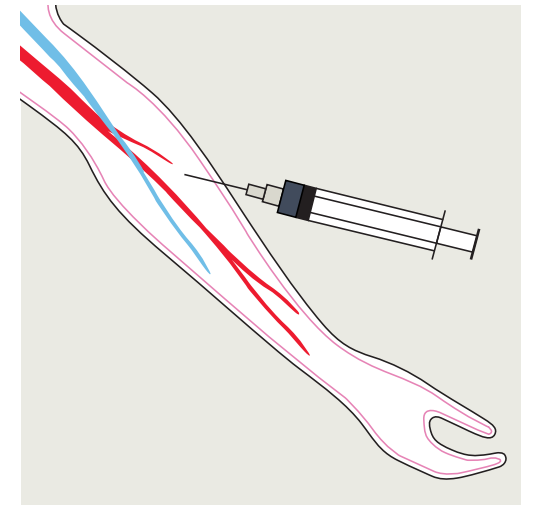
Sublingually

Placed under the tongue and allowed to dissolve, or when you spray the medicine directly under your tongue.



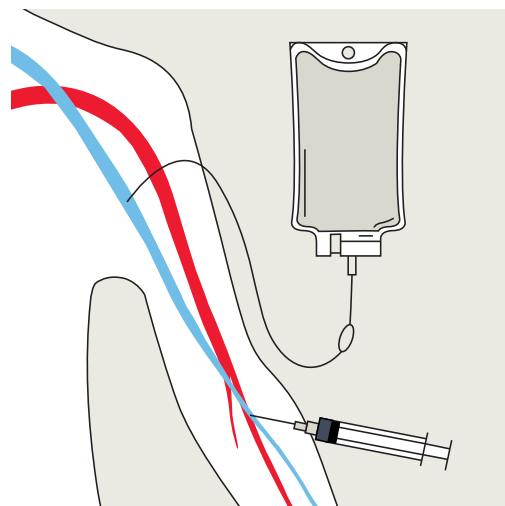
Subcutaneously

By injection, just under the skin.



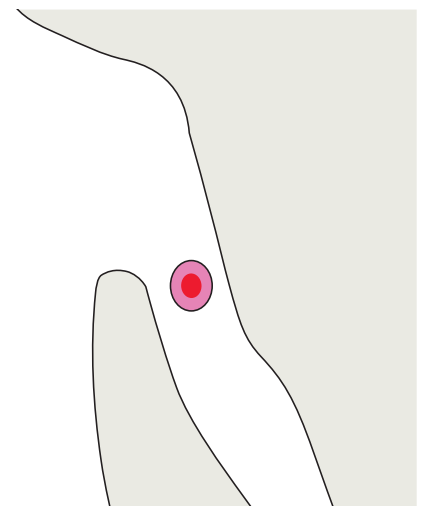
Intravenously

Injected directly into a vein, or given in diluted form through an intravenous drip.



Self-adhesive patch

Absorbed through the skin via a patch containing the medicine, over a period of time.



How often you need to take your medicine will depend on what it is and the condition it's being used to treat. Most medicines need to be taken regularly, as prescribed by your doctor, pharmacist or nurse. Some medicines need to be taken only when you get a particular symptom, such as angina.

Why should I take my medicines?

Your medicine has been prescribed for **you** because your doctor believes it will help to treat an existing heart condition, or prevent you from developing one. You should understand:

- what your medicine is for
- how to take your medicine safely
- the importance of taking your medicine as prescribed
- how long you have to take it for
- what side effects to look out for
- what to do if you develop side effects.

Ask your doctor to explain both the risks and benefits of your medicines, and why they have been prescribed for **you**. It could be dangerous to suddenly stop taking your medicines without speaking to them first. Even if you feel well, choosing not to take your medicines might make your condition worse.

Sometimes, you might forget to take your medicines. Making it a part of your daily routine – like brushing your teeth – will make it easier. If you need help with remembering to take your medicines, talk to your doctor.

Your doctor, pharmacist or nurse will prescribe medicines for **you**, to help improve your condition or your symptoms. Your medicines are prescribed for your benefit and it's unlikely that you'll experience any side effects. If you do, there's a chance that they'll disappear after a while.

For more information about the possible side effects of your medication, read the information leaflet that comes with the medicine. If you're worried about side effects, speak to your doctor.

What to do if you get side effects

Side effects may be a result of your medicines interacting with each other, due to changes in the way your body (kidneys and/or liver) processes them, or even changes to your body weight or overall health. If you do experience such side effects, your doctor may reduce the dose of your medication or, less commonly, stop it entirely. However, the majority of heart medicines are generally well tolerated. Often, any side effects present soon after starting the medication will resolve in time.

If you develop any new, persistent or troublesome symptoms after starting a medicine, tell your doctor about them immediately.

They may be able to reduce the dose or prescribe a different medicine instead. It's important not to stop taking your medicines without medical advice, since this could make your condition worse.

Grapefruit

Grapefruit and grapefruit juice can affect the way a number of medicines for heart conditions work. For example, they can increase the effect of the medicine, which may make you feel unwell. If you're concerned, speak to your doctor.

Salt

Some medicines contain sodium, which is found in salt. Having a large amount of salt in your diet increases the risk of high blood pressure and therefore cardiovascular disease. To find out if your medicines contain sodium, check the information leaflets that come with them. If you're concerned, speak to your doctor.

PREGNANCY AND BREASTFEEDING

If you are pregnant or breastfeeding, and need to take medicines for a heart condition, your doctor will consider the risks both to you and your baby very carefully before prescribing any medication.

Generally, medicines should only be prescribed in pregnancy if the expected benefit to the mother is thought to be greater than the risk to the baby. If you do need to take medicines, you'll be given the safest one available – one that's been extensively tested and found to be safest for use in pregnancy.

You should avoid taking any medicines during the first three months of pregnancy, if possible.

Many medicines have side effects that are potentially harmful during pregnancy. You should always talk to your doctor or midwife before taking any medicines – even ones you can buy over the counter without a prescription.

TOP TIPS...

on taking your medicines

- 1 Read the information that comes with your medicines,** to find out why you need to take them, how to take them safely, and the side effects to look out for.
- 2 Keep a list of the names of each medicine you take,** the dose, and when you need to take it. Using a dosette box – one that has compartments for storing your tablets for each day of the week, and also for different times of day – can help you organise your medicines. You can get these from pharmacies.
- 3 Don't suddenly stop taking any medicine** without talking to your doctor first. Doing so could make your condition and symptoms worse.
- 4 Check with your doctor, pharmacist or nurse before taking any over-the-counter medicine.** Note, too, that many herbal or natural remedies can affect the way your heart medicines work.

Below we describe the main categories of medicines used to treat an existing heart condition, or to help prevent you from developing one.

To see what conditions each medicine treats, see pages 4–5.

ACE (angiotensin-converting enzyme) inhibitors

Examples of ACE inhibitors include **ramipril** and **lisinopril**.

ACE inhibitors work by making the blood vessels relax and widen, which lowers blood pressure. They can be used on their own or with other types of medicines that lower blood pressure.

Those who have had a heart attack will benefit from taking an ACE inhibitor. They are also effective in treating and helping to prevent the symptoms of heart failure, and protecting your kidneys.

Once your doctor, pharmacist or nurse starts you on the ACE inhibitor, you'll have regular blood tests to check your kidney function and potassium levels. ACE inhibitors may increase the level of potassium in your blood, so you should avoid having salt substitutes since these contain potassium too. Your blood pressure will also be monitored.

Having alcohol while you're taking ACE inhibitors can cause a drop in blood pressure. For more advice on this, talk to your doctor.

Side effects

ACE inhibitors can cause a fall in blood pressure when you first start taking them, making you feel dizzy. Fewer than ten in every 100 people may also develop a troublesome cough. If this happens, speak to your doctor.

More rarely, ACE inhibitors can cause a serious allergic reaction that shows as swelling around the mouth or face. If this happens, seek medical attention straight away.

Angiotensin-II antagonists

Examples of angiotensin-II antagonists include **candesartan, losartan** and **valsartan**.

Also known as ARBs for short, angiotensin-II antagonists act in a similar way to ACE inhibitors, but are less likely to cause the persistent dry cough associated with taking ACE inhibitors.

If you take an angiotensin-II antagonist, you'll have regular blood tests to check the potassium level in your blood, and your kidney function.

Side effects

A possible side effect of angiotensin-II antagonists is low blood pressure on first taking the medicine. If you're affected, you may feel dizzy.

Angiotensin-II receptor-neprilysin inhibitor (ARNI)

An example of an angiotensin-II receptor-neprilysin inhibitor is **sacubitril valsartan**.

This new medicine combines an ARB with a new class of drug called a neprilysin inhibitor. The two medicines are contained within one tablet, which is taken twice daily.

Your doctor may prescribe this medicine for you instead of an ACE inhibitor or an ARB if:

- You still have symptoms despite already receiving medical treatment, such as taking an ACE inhibitor or an ARB, and
- Your heart is pumping a reduced amount of blood around your body.

It's important that you leave a minimum of 36 hours between stopping your ACE inhibitor and starting your ARNI.

Side effects

Like an ACE inhibitor, an ARNI may cause a fall in blood pressure when you first start taking it. A lower starting dose may be recommended if your blood pressure is already on the low side.

It is very important that your kidneys are checked with a routine blood test, around one week after starting this medicine or after increasing the dose. It is uncommon for an ARNI to cause a serious allergic reaction that shows as swelling around the mouth or face. If this does happen, you must get medical attention straight away, and dial 999.

Antiarrhythmic medicines

Examples of antiarrhythmic medicines include **amiodarone**, **dronedarone** and **flecainide**.

Antiarrhythmic medicines are used to control the rhythm of the heart. Generally, they slow the heart rate (the number of times your heart beats each minute) so it can return to a normal rhythm. In cases where this isn't possible, certain antiarrhythmic medicines may be used to help control the heart rate.

Amiodarone

Amiodarone is effective in controlling some abnormal heart rhythms.

This medicine can occasionally cause disorders of the thyroid gland, lungs and liver, so it's likely that you'll have regular blood checks while taking amiodarone.

Amiodarone can also make the skin very sensitive to sunlight, so ensure you use a high-factor sunscreen or sunblock, and wear sun-protective clothing in such conditions.

Note, too, that alcohol can affect the liver and increase the risk of liver damage, particularly if you're taking amiodarone. For more advice on this, talk to your doctor or pharmacist.

Dronedarone

Dronedarone is similar to amiodarone, and can be used to treat atrial fibrillation. Atrial fibrillation is an abnormal heart rhythm that makes the heart beat irregularly, increasing the risk of having a stroke.

Dronedarone is usually used only if other medicines have failed to control the atrial fibrillation.

Possible side effects of dronedarone are stomach upset, diarrhoea, a slow heart rate and a rash.

Flecainide

Flecainide may be used for serious heart rhythm disturbances and is prescribed by a specialist.

People who take flecainide can be affected by nausea, dizziness and double or blurred vision when they first start taking it.

TIM'S STORY

Tim was diagnosed with an inherited heart condition in 2008. As a result, he was prescribed a number of tablets including beta-blockers, ace inhibitors, aspirin and warfarin.

“It took time to get used to taking the medication, but it’s now become part of my daily routine. I make sure that I take my tablets as soon as I wake up in the morning, before I have a shower.

Knowing that I’m taking the right medicines for my condition has helped me to regain my confidence. I’m more aware of my body’s limits and can still exercise, although not to the intensity that I did before my diagnosis. I live life secure in the knowledge that my heart condition is being managed, and I’m able to carry on without worrying about it on a day to day basis.”



Anticoagulant medicines

Examples of anticoagulant medicines include **warfarin** and **apixaban**.

Blood clots are made up of platelets – tiny blood cells clumped together – and a protein called fibrin. If a clot isn't treated, it can travel to the brain and cause a stroke, or to the lung and block a main artery (pulmonary embolism).

Anticoagulants prevent harmful blood clots from forming. They're most commonly prescribed to people who have an abnormal heart rhythm, such as atrial fibrillation, or for those who have an artificial heart valve. Both conditions increase the risk of a blood clot forming inside the heart, which can then increase the risk of having a stroke.

Anticoagulants are particularly valuable for treating clots that have already formed, such as those that develop in the veins of the legs (deep vein thrombosis, or DVT).

Warfarin

Warfarin is the most common oral anticoagulant prescribed for long-term prevention of blood clotting.

Vitamin K helps the blood to clot, and warfarin works by interfering with the production of vitamin K. This makes the blood thinner so that it doesn't clot so easily.

As well as being used in the treatment of an abnormal heart rhythm, warfarin may also be given to those with heart valve disease – especially those who have had a heart valve replacement using a mechanical valve.

Regular blood tests or finger-prick tests will be required while you're taking warfarin to measure your **INR**, or **international normalised ratio**. This is a measure of the time it takes for your blood to clot. How much warfarin you're prescribed will be based on the result of your INR test. At the start, your INR will be checked quite often. As your results become more stable, it will be checked every four to eight weeks.

When you start taking warfarin, you'll receive an anticoagulation treatment booklet, in which your INR tests will be recorded. Always carry your treatment booklet with you, and remember to tell anyone treating you that you're taking anticoagulants. Some people choose to wear a medical alert bracelet that shows which anticoagulant medicine you're taking and why.

Once your INR tests are stable, you can ask the clinic staff about testing yourself at home with the use of a home testing kit.

You should be aware that certain foods can affect the amount of warfarin in your bloodstream. For example, cranberry juice and cranberries can increase the effect of warfarin, and so increase the risk of bleeding.

If eaten in large quantities, foods that are high in vitamin K – such as liver, brussels sprouts and broccoli – can prevent warfarin from working as it should. But this doesn't mean you should stop eating such foods. It's important that you eat a variety of fruit and vegetables. Just try to eat a small quantity of them regularly, rather than having large quantities of them every now and again.

This will ensure the amount of vitamin K in your bloodstream remains at a fairly constant level, and won't affect the warfarin.

Alcohol can significantly affect the level of warfarin in your bloodstream, so it's important to ensure that your alcohol intake is within the recommended guidelines. Many people choose to stop drinking alcohol when they start taking anticoagulant medicine. Talk to your doctor for advice.

Apixaban, dabigatran, edoxaban and rivaroxaban

These new anticoagulant medicines – also known as direct oral anticoagulants (DOACs) or new oral anticoagulants (NOACs) – may be used to treat those with atrial fibrillation, to reduce the risk of stroke.

DOACs may also be prescribed if you've been diagnosed with a blood-clotting disorder, and are now often given to those newly diagnosed with atrial fibrillation. They may also be given to people who can't take warfarin.

However, these medicines are not suitable for those with a heart valve problem, or if you've had heart valve surgery.

The main benefit of these medicines is that you don't need to have your blood tested regularly, as is the case if you take warfarin.

These medicines also aren't affected by the amount of vitamin K in your diet. This means that vitamin K will not reverse the effects of any bleeding that may occur. If there is any bleeding, your doctor, pharmacist or nurse will tell you to stop taking the medicine.

However, these medicines may affect the way that other medicines you're taking work. It's important that your doctor discusses with you the risks and benefits of taking any of these four medicines rather than warfarin. This will be something that you can decide following your doctor's guidance.

For information about the possible side effects of these medicines, see the pages 31 and 32.

- **Apixaban** causes your blood to become thinner by affecting the blood-clotting process. It's taken twice a day and its effect wears off quickly, so it's important to not miss a dose.
- **Dabigatran** helps to reduce the risk of blood clots forming by thinning the blood. It does this by working on an enzyme called thrombin. Dabigatran needs to be taken twice a day since its effects wear off quickly. Missing a dose could increase the risk of having a stroke.
- **Edoxaban** works in a similar way to apixaban and should be taken once a day.
- **Rivaroxaban** also works in a similar way to apixaban and has to be taken once a day.

Side effects

The main side effects of taking anticoagulant medicine are bleeding and bruising. These medicines can also cause nausea. This happens because the anticoagulant affects the blood-clotting process, preventing blood clots from forming. The anticoagulant may cause internal bleeding, or make bleeding from a minor injury worse.

Any of the following symptoms could mean that your dose of anticoagulant requires checking:

- Cuts that bleed for longer than usual
- Bleeding that doesn't stop by itself
- Nose bleeds that last for more than a few minutes
(If a nose bleed lasts for more than 20 minutes, you must go to your GP surgery or to the accident and emergency department of a hospital)
- Bleeding gums
- Severe bruising
- Red or dark-brown urine
- Red or black bowel movements
- For women: heavier bleeding during periods, or other vaginal bleeding that isn't caused by periods.

If you receive a hard blow to the head or another part of the body, you should seek medical help **immediately** to ensure you don't have internal bleeding; this may not be noticeable straight away. If you're worried, contact your doctor or anticoagulant clinic, or go to the A&E department at your local hospital. Take your anticoagulation treatment booklet and any other medicines you're currently taking with you.

GLYNIS' STORY

In 2013, Glynis experienced a coronary artery spasm, which was likely triggered by extreme stress.

"2013 was a difficult year. My sister died from a brain tumour and my mum was diagnosed with bowel cancer. I was under huge emotional stress.

One day, I felt faint; I thought I was going to be sick and collapse. I rang 999 and went to hospital. After a series of tests, I was told I had a coronary artery spasm, which causes angina-like symptoms.

My doctor put me on beta-blockers and advised that I attend cardiac rehabilitation. I was frightened, but the classes helped me gain back my confidence. Three months later, I suffered another coronary artery spasm. The doctor told me my beta-blockers were too strong, so he lowered my dose. I've felt much better since and haven't had another spasm.

Taking the right amount of medicine – as well as eating healthy, stopping smoking and reducing my stress – has helped me feel better, both emotionally and physically."



Antiplatelet medicines

Examples of antiplatelet medicine include **aspirin**, **clopidogrel**, **prasugrel** and **ticagrelor**.

Antiplatelet medicines reduce the risk of clots forming.

Aspirin

Aspirin helps to prevent the blood from clotting. It achieves this by reducing the 'stickiness' of platelets – the small blood cells that can clump together to form a clot. You'll need to take a smaller dose for this effect than you'd need to relieve a headache.

Aspirin is also useful for people with angina, and helps to prevent blood clotting in the grafts used in coronary artery bypass surgery. While aspirin can be used to treat most people with known coronary heart disease, it's been shown to be ineffective at preventing strokes in people who have been diagnosed with atrial fibrillation.

Clopidogrel

Clopidogrel is another antiplatelet medicine. It's sometimes given alongside aspirin, but usually only for a set period of time.

It's useful for people with unstable angina, or for those who have recently had a coronary angioplasty with stenting (a procedure that helps to keep a narrowed coronary artery open). Sometimes, clopidogrel is prescribed to people who can't tolerate aspirin. There are other medicines in the same group as clopidogrel – prasugrel and ticagrelor – that offer similar benefits. These need to be prescribed by a specialist.

Prasugrel

Prasugrel is a platelet inhibitor. This means it stops platelets clumping together and forming a blood clot. You may be given prasugrel along with aspirin, and instead of clopidogrel.

Ticagrelor

Ticagrelor is also a platelet inhibitor. You may be given this alongside aspirin, instead of clopidogrel or prasugrel.

Side effects

Antiplatelet medicines can cause stomach aches, nausea and vomiting. To help prevent these side effects, always take the medicine after a meal.

More seriously, antiplatelet medicines can lead to, or worsen, bleeding from the stomach. To help prevent this, your doctor may also prescribe a medicine to reduce the acid your stomach produces. This makes it less likely that the antiplatelet medicine will cause irritation.

On rare occasions, aspirin can bring on an asthma attack.

People taking antiplatelet medicines are more likely to show bruising if they injure themselves, but this bruising will resolve in time. Ticagrelor can be associated with the increased shortness of breath.

It's important that anyone who experiences such symptoms seeks medical attention.

Treatment with antiplatelet medicines isn't recommended for people who don't have diseases of the heart and circulation, or who aren't at high risk of developing them. We now know that, for healthy people, the side effects from taking antiplatelet medicines outweigh the potential benefits.



For more information on antiplatelet medicines, visit bhf.org.uk/medicinecabinet

Beta-blockers

Examples of beta-blockers are **bisoprolol** and **sotalol**.

Beta-blockers act by slowing the heart rate and lowering the blood pressure, reducing the work the heart has to do. This means that beta-blockers are very effective in preventing episodes of angina.

Taking beta-blockers can also help improve the amount of exercise you can do, allowing you to carry on activity for longer without getting angina symptoms. However, beta-blockers work too slowly to relieve an episode of angina once it's started.

Beta-blockers are often used to reduce the risk of heart attacks in people who have already had one. Beta-blockers can also help control abnormal heart rhythms and the symptoms of heart failure.

Beta-blockers aren't usually suitable for people with asthma, but they can be used for people with some lung conditions and diseases, under close supervision.

If you have diabetes, your doctor, pharmacist or nurse may prefer not to prescribe beta-blockers, since they may mask (hide) the symptoms of low blood glucose levels. However, there are some 'selective' beta-blockers with fewer such effects that may be suitable for people with lung disease or diabetes (but not for people with asthma).

Drinking alcohol while you're taking beta-blockers may cause your blood pressure to drop too low, which may make you feel dizzy, light-headed or faint. For more advice on this, talk to your doctor.

Side effects

Minor side effects include tiredness or even exhaustion, cold hands and feet, erectile dysfunction (impotence), dizziness, disturbed sleep and nightmares. But these will lessen with time.

Beta-blockers reduce the rate at which your heart beats: the higher the dose, the more they reduce your heart rate. If the dose is too high for you, your heart may beat too slowly, which may make you feel dizzy or faint. If this happens, your doctor may lower the dose. This should then increase your heart rate and the symptoms will disappear.

Information

You should not stop taking beta-blockers suddenly without getting medical advice, as coming off them too quickly could make your condition worse. If you do need to stop taking the medicines, your doctor, pharmacist or nurse may want to reduce the dose gradually.

**Don't stop taking
beta-blockers
suddenly without
getting medical advice.**



For more information on beta-blockers,
visit [bhf.org.uk/medicinecabinet](https://www.bhf.org.uk/medicinecabinet)

Calcium channel blockers

Examples of calcium channel blockers include **amlodipine** and **diltiazem**.

You need a regular flow of calcium into the cells of your heart muscle for the heart to contract normally. Calcium channel blockers reduce the amount of calcium entering the muscle cells of the arteries (including the coronary arteries), causing them to relax and widen. As a result, the heart receives a better supply of blood and has to do less work to pump enough blood around the body.

Every calcium channel blocker acts differently, and the one you're prescribed will depend on the condition it's being used to treat.

Side effects

You may experience flushing, headache, dizziness and swollen ankles. These side effects may settle down after a few weeks of taking the medicine.

Cholesterol-lowering medicines (lipid-lowering medicines)

Examples of cholesterol-lowering medicines include **atorvastatin**, **ezetimibe** and **simvastatin**.

'Blood lipids' is the name for the fatty substances found in the blood, this includes non-HDL cholesterol (the 'bad' type), HDL cholesterol (the 'good' type) and triglycerides.

Cholesterol-lowering medicines lower the amount of cholesterol in your blood, particularly the 'bad' type. They're given to those who are at risk of developing heart and circulatory disease.

Those at high risk of heart and circulatory disease are prescribed cholesterol-lowering medicine even if their cholesterol level is normal. For example, your doctor may prescribe cholesterol-lowering medicine if you have diabetes, since diabetes greatly increases your risk of developing cardiovascular disease.

Statins

Statins lower the amount of cholesterol in your blood.

Before you start taking statins, you may need to have a blood test to check your liver function. In rare cases, the liver can't tolerate statins. If you're affected, your doctor, pharmacist or nurse may swap you to a different medicine.

Check with your doctor about the best time to take your statin. Some work better in the evening; others can be taken at any time of the day.

**Ask your doctor,
about the best time
to take your statin.
Some work better in
the evening, while
others can be taken at
any time of the day.**

Other cholesterol-lowering medicines

There are other types of medicine available to lower cholesterol. Fibrates and ezetimibe act by preventing the intestine (gut) from absorbing cholesterol.

- **Fibrates** are useful for people with a high level of both blood cholesterol and triglycerides. It's possible to take a fibrate and a statin together, but this must be carried out under strict medical supervision.
- **Nicotinic acid medicines** help to lower non-HDL cholesterol, and increase HDL cholesterol. They may not be suitable if you have diabetes, unstable angina, stomach ulcers, or liver or kidney issues.
- **Ezetimibe** helps to lower blood cholesterol by preventing it from being absorbed into the small intestine. It can help reduce non-HDL cholesterol and, with a low-dose statin, can be even more effective.

Side effects

The side effects of all cholesterol-lowering medicines, including statins, are:

- tiredness
- disturbed sleep
- feeling sick
- vomiting
- diarrhoea
- headache
- and muscle weakness.

A rare side effect is inflammation of the muscles (myositis). If you have any unexpected muscle pain, tenderness or weakness, you should tell your doctor immediately.



For more information on cholesterol, see our booklet **Reducing your blood Cholesterol.**

Medicines that reduce triglyceride levels (fish oils)

If you regularly eat oily fish, control your weight and limit how much alcohol you have, and yet still have a high triglyceride level, your doctor may prescribe fish oil supplements for you.

If you're taking over-the-counter fish oil supplements, make sure you tell your doctor about them – they can interfere with other medicines you may be taking, such as warfarin.

Digoxin

Digoxin is most commonly used to treat an abnormal heart rhythm (**atrial fibrillation**). It slows the heart rate and increases the force of contraction of the heart. This medicine may help to relieve the symptoms of an abnormal heart rhythm, such as breathlessness and palpitations, but other treatment may be needed to return your heart rhythm to normal.

Side effects

Digoxin may occasionally cause loss of appetite, palpitations, fainting, nausea and vomiting. It can also cause painful or enlarged breasts – for both women and men – but this happens rarely. Too much digoxin can make everything you see look yellowish.

If you experience these symptoms, tell your doctor, pharmacist or nurse immediately. You may need some blood tests to make sure you have the correct level of digoxin in your blood.

Diuretics

Diuretics are commonly called 'water tablets'. They help your kidneys get rid of excess fluid by making you pass more urine.

Diuretics are valuable in treating the symptoms of heart failure, a condition where the body holds too much water and salt. As a result, the heart doesn't have to work as hard to pump the blood around the body. Certain diuretics given at a lower dose can also help to lower blood pressure.

If you're taking a diuretic, it's important to limit the amount of salt in your food, as it will counteract the effect of the diuretic. Don't add salt to food – either during cooking or at the table – and try to avoid processed foods and ready meals, which contain a lot of salt. Also avoid salt substitutes.

The three main types of diuretic are loop diuretics, potassium-sparing diuretics and thiazide diuretics.

If you're taking a diuretic, it's important not to have too much salt in your food.

Loop diuretics

Examples of loop diuretics include **bumetanide** and **furosemide**.

Loop diuretics remove the build-up of fluid in the body, which can be caused by heart failure. They act within one hour of taking them, and the excess fluid is usually removed within six to eight hours.

Potassium-sparing diuretics

Examples of potassium-sparing diuretics include **eplerenone** and **spironolactone**.

Potassium-sparing diuretics are used to treat the build-up of water in the body associated with heart failure. They should increase the output of water, but prevent too much potassium from being lost at the same time. This helps to maintain the balance of salts within the blood.

Thiazide diuretics

Examples of thiazide diuretics include **bendroflumethiazide** and **indapamide**.

Thiazide diuretics act within one to two hours of taking them, and the effects can last for up to 24 hours. Your doctor, pharmacist or nurse may have prescribed a low dose of thiazide diuretic to help lower your blood pressure. In higher doses, they're used to treat the effects of heart failure.

Side effects

Diuretics may put a strain on your kidneys and cause you to lose too much potassium or sodium. Your doctor will arrange a blood test soon after starting your tablets to check this and will adjust your dose if necessary.

If you have diabetes, taking diuretics can increase your blood glucose level. They can also be a cause of gout, or worsen its symptoms.

If you have an illness that results in vomiting or diarrhoea, or where you can't drink enough fluid (such as a viral illness), speak to your doctor. You may need to temporarily stop taking your diuretic tablet to avoid becoming dehydrated.

A possible side effect of taking spironolactone is swelling and pain in the breast tissue of both women and men. It may also cause diarrhoea. It is important to tell your GP if this happens.

LEADING THE FIGHT...

with medicines

The BHF is the largest independent funder of cardiovascular research in the UK. Some highlights of our research into medicines include:

- 1** Exploring new ways to use regenerative medicine to repair damaged blood vessels after a heart attack. The team conducting the research is also developing new imaging techniques to monitor the effectiveness of potential new treatments for the heart.
- 2** Understanding when the best time of day is to take medicines for high blood pressure. The pros and cons of taking blood pressure tablets in the evening compared with the morning are still unknown.

Our life saving research is powered by your support. If you'd like to make a donation, please see the inside front cover for more details.



For more information on the BHF's research into medicines, see bhf.org.uk/research

Nitrates

Nitrates relax the muscles in the walls of the blood vessels, including the coronary arteries. This causes them to widen (dilate), which improves the amount of oxygen-rich blood that's supplied to the heart. Nitrates also make it easier for the heart to pump blood around the body, helping to reduce the workload of the heart.

Nitrates are valuable in preventing angina, but they may become less effective if they're used continuously over a long period. If you find you're having to take your nitrate medicines more often than usual, speak to your doctor, pharmacist or nurse.

If you have very low blood pressure, an inherited cardiomyopathy (disease of the heart muscle), and aortic or mitral stenosis (a type of heart valve disease), you should avoid taking nitrates.

If you're taking a long-acting nitrate such as **isosorbide mononitrate** or **isosorbide dinitrate**, you shouldn't take medication such as Viagra – a medicine commonly used to treat erectile dysfunction (impotence). Speak to your doctor if you're unsure about this.

Glyceryl trinitrate (GTN)

Glyceryl trinitrate medicines are taken sublingually (under the tongue), either as a spray or tablet, and are used to provide quick relief of your angina symptoms. The effects usually last for about 20 to 30 minutes.

GTN is also useful for preventing 'predictable' angina episodes. This means that you can take it just before doing something that usually brings on an angina episode. This is known as using GTN as a preventer. You should only use it in this way if your doctor has told you to do this, and if you know which activities bring on your angina – such as walking up a flight of stairs.

- **GTN spray:** Glyceryl trinitrate can be given in an aerosol spray (GTN spray). Take one or two doses under your tongue and close your mouth after each dose. You don't need to shake the canister before spraying.

The spray has a longer shelf life than GTN tablets. You can keep it for up to two and a half years, but check the use-by date on the base of the bottle or canister. If you use a GTN spray after this date, it's unlikely to have any effect.

- **GTN tablets** are particularly effective in preventing a predictable angina episode, but you should take them as a preventer only if your doctor has advised you do this and you know which activities bring on your angina.

Keep your tablets in the container in which they're given to you. The tablets lose their strength quite quickly and you should replace them with a fresh supply eight weeks after the container has been opened.

Let the tablets dissolve under your tongue. They're not effective if you swallow them.

Oral nitrates

Examples of oral nitrates include **isosorbide mononitrate** and **isosorbide dinitrate**.

Isosorbide mononitrate and isosorbide dinitrate are effective in preventing angina. They can be taken either once a day (as a slow-release preparation) or twice a day. If you take nitrates twice a day, the medicine will be more effective if the two doses are taken about six hours apart – usually at breakfast and after lunch.

If you find that the tablets become less effective, or that your episodes of angina become more frequent, tell your doctor as soon as possible.

Side effects

All nitrates can sometimes cause side effects such as headache, flushing, dizziness and feeling faint. Some people may get a throbbing headache when they first start taking a nitrate, but this usually lessens or disappears after taking the medicine for a short while. It's advisable to sit down when using a GTN spray or tablet, to avoid feeling dizzy or faint.

Other medicines for angina

Potassium channel activators

An example of a potassium channel activator is **nicorandil**.

Potassium channel activators are given to prevent and treat angina. They have a similar effect to nitrates: they relax the walls of the coronary arteries, improving the flow of blood to the heart. Unlike nitrates, they don't appear to become less effective with continued use.

If you're taking a potassium channel activator, you shouldn't take certain medications such as Viagra – commonly used to treat erectile dysfunction (impotence). Speak to your doctor if you're not sure about this.

Side effects

When you first start taking potassium channel activators, they may cause a headache. They may also cause flushing, indigestion and dizziness. These effects lessen over time.

Ranolazine

This medication is used as a supplement to treat stable angina in patients inadequately controlled or intolerant of first-line antianginal therapies. It's used to treat chronic, rather than acute angina.

Side effects

Possible side effects include dizziness, dry mouth, nausea, vomiting, stomach pain, constipation, weakness, or ringing in your ears. If you experience any of these symptoms, speak to your doctor.

Ivabradine

Ivabradine is another type of medicine that can be used to treat angina. It can be used to help with the symptoms of heart failure too. Ivabradine slows your heartbeat so that your heart doesn't have to work as hard. You can't take it if you have an abnormal heart rhythm, or if your heart rate is less than 75 beats a minute. If you're taking other medicines to treat either your angina or heart failure, but you still get symptoms, your cardiologist may prescribe Ivabradine for you.

Side effects

Possible side effects of Ivabradine include a slow heart rate that makes you feel tired and unwell, and problems with your eyesight. If you get either of these side effects, let your doctor know.



For more information on angina, see our booklet **Angina**.

‘Herbal medicines’ refer to those containing herbal preparations, which haven’t been prescribed or recommended by your doctor, pharmacist or nurse. They may also be sold as ‘herbal supplements’ or ‘herbal remedies’.

Before taking any form of herbal medicine, you should talk to your doctor about whether it’s safe to take it alongside any prescribed medications. In particular, you shouldn’t take St. John’s wort, as it can interact with a number of medicines prescribed for heart conditions.

Some herbal medicines may be taken in small amounts, but many are powerful substances that could affect how your prescribed treatment works.

Unlike prescribed medicines, not all herbal medicines have been rigorously tested, so therefore aren’t licensed. Also, the strength of herbal medicines can vary from one manufacturer or brand to another.

The Medicines and Healthcare Products Regulatory Agency (the organisation that regulates medicines for human use in the UK) provides the following safety advice for using herbal medicines:

- Never buy herbal medicines abroad or by mail order, especially if they come from Asia, Africa or South America. You have no guarantee of the quality or safety
- Only buy a herbal medicine if it states clearly which herbs it contains
- Stop using herbal medicines if you experience any side effects
- Don’t take more than the stated dose
- Remember that different brands have different concentrations of ingredients, so always check this first
- In general we recommend that people with heart conditions don’t take herbal medicines, because these haven’t been tested in the same way conventional medicines are. However, you may want to discuss this further with your GP or pharmacist.



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Website: www.britishhomeopathic.org

British Heart Foundation website

bhf.org.uk

For up-to-date
information on
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disease, the BHF
and its services.

Genetic Information Service

0808 802 1234

(Freephone.) For
information and
support on inherited
heart conditions.

Online community [healthunlocked.com/ bhf](http://healthunlocked.com/bhf)

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You can also download many of our publications from our website.

Our resources and services are free of charge, but we rely on donations to continue our vital work. If you'd like to make a donation, please call our donation hotline on **0300 330 3322** or visit our website at **bhf.org.uk/donate**

Heart Information Series

This booklet is part of the *Heart Information Series*. The booklets in this series are:

- Angina
- Atrial fibrillation (AF)
- Blood pressure
- Cardiac rehabilitation
- Caring for someone with a heart condition
- Coronary angioplasty
- Diabetes and your heart
- Having heart surgery
- Heart attack
- Heart rhythms
- Heart transplant
- Heart valve disease
- Implantable cardioverter defibrillators (ICDs)
- Keep your heart healthy
- Living with heart failure
- Medicines for my heart
- Pacemakers
- Reducing my blood cholesterol
- Returning to work
- Tests

Our services

For more information about any of our services, contact the BHF on **0300 330 3322** or visit **bhf.org.uk**

Nation of life savers

The BHF has a vision to create a nation of life savers. As part of that vision, we're doing everything we can to make sure the UK public know CPR and can use public access defibrillators. Join the fight for every heartbeat and help us save the lives of thousands of people across the UK every year. Find out more at **bhf.org.uk/cpr**

- **Heartstart** is a free, two-hour course where you can learn CPR and other emergency life saving skills.
- Our **Call Push Rescue** training kit is available free to secondary schools and eligible community groups, and for a small fee to workplaces. It has everything you need to learn CPR, including a training DVD.

Heart Matters

Heart Matters is the BHF's free, personalised service offering information to help you lead a heart-healthy lifestyle. Join today and enjoy the benefits, including *Heart Matters* magazine and access to online tools.

Call the **Heart Matters Helpline** on **0300 330 3300**, or join online at **bhf.org.uk/heartmatters**

Heart Support Groups

Local Heart Support Groups give you the chance to talk about your own experience with other heart patients and their carers. They may also include exercise classes, talks by guest speakers, and social get-togethers. To find out if there is a Heart Support Group in your area, contact the **Heart Helpline** on **0808 802 1234**.

Help Shape the BHF – Heart Voices

Heart Voices is a growing network of heart patients who use their experiences to make sure our work meets the needs of patients. By signing up, you'll get the chance to shape the BHF by getting involved with anything from helping us to make new resources to informing our research. Visit **bhf.org.uk/heartvoices** for more information and to sign up.

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HAVE YOUR SAY

We would welcome your comments to help us produce the best information for you. Why not let us know what you think? Contact us through our website **bhf.org.uk/contact**. Or, write to us at:

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THANK YOU

This booklet is part of the *Heart Information Series*. We distribute 2 million booklets from this series each year. Without your hard work and support the British Heart Foundation wouldn't be able to provide this vital information for people with heart conditions.

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FOR EVERY
HEARTBEAT**

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