



HEART & LUNG CENTER

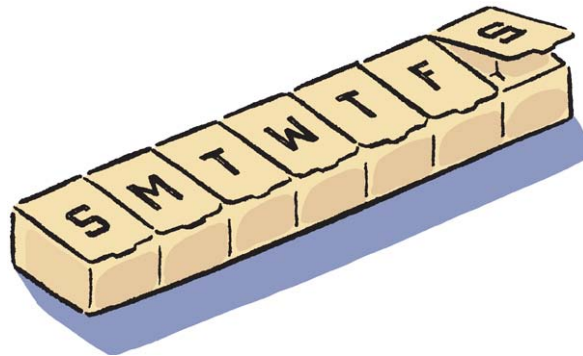
Medicines

Medicines play an important role in treatment for patients who have had a heart attack or who have heart failure. In most cases, people who have had a heart attack or who have heart failure require several types (categories) of medicines.

Research has shown that medicines may help improve your heart function, reduce hospitalizations, and help you live a longer life. Some of the medicines used may also treat other conditions, such as high blood pressure, but we will focus on the dosing that is needed for heart failure. Your doctor may adjust your medicines and the doses from time to time so that you are taking the types and amounts of medicines that work best to treat your condition.



Some of your medicines can cause side effects that may bother you or make you feel worse. If you have side effects, tell your doctor or nurse. Your doctor or nurse will work with you to minimize the side effects or change your medicine. In order to get the full benefit of these medicines, it is important that you take all of your medicines exactly as your doctor or nurse ordered – even if you think your medicines are not making you feel better. Over time, being on the right medicines should make you feel better, all the more reason to keep taking the medicines as prescribed, at the same dose and at the same time every day.



You may have other medical conditions – such as high blood pressure, diabetes, asthma, or arthritis – that need treatment with medicines. You may also be taking over-the-counter drugs (medicine you can buy without a prescription) or herbal therapies that do not require a prescription

from a doctor. Sometimes these drugs or therapies may interact with your heart failure medicines and make your heart failure worse or cause risky side effects.

Tell your doctor or nurse about **all** of your medical conditions and **all** medicines or over-the-counter drugs you are taking. Your doctor or nurse will then be able to develop the best treatment plan for you. Not everyone responds to treatments in the same way, and your results may be different from other people.

Refer to the manufacturers' prescribing information or instructions for use before taking any medications.

Medicine Names

It is helpful to understand a little about how medicines are named, so you can better understand the types of medicines your doctor has prescribed and feel more comfortable talking with your doctor or nurse about your treatment plan.

Most medicines have two names:

- **Brand name** – the name a company uses to market the medicine. This is sometimes followed by a registered symbol (®).
- **Generic name** – the name that describes the active chemical in a medicine

Here are some examples of these two types of names:

Type of medicine: pain reliever

Brand name: Tylenol®

Generic name: acetaminophen

Type of medicine: angiotensin converting enzyme (ACE) inhibitor

Brand name: Vasotec®

Generic name: enalapril

Your doctor, nurse, pharmacist, or other healthcare provider may use either the generic or the brand name, but both names refer to the same medicine. In some cases, a generic medicine is sold by more than one company, and each company assigns its own "brand" name.

If the pharmacy changes brand names, you can do two things to make sure you are getting the right medicine:

- Check the generic name and dosage to make sure it is what you are supposed to take
- Ask your pharmacist to explain any differences

The major types of medicines used to treat heart failure or to treat a weakened heart muscle after a heart attack are described below by type (or category). You will see important information for each type of medicine. You may want to write down this information for all of the medicines your doctor has prescribed for you.

Angiotensin Converting Enzyme (ACE) Inhibitor

- This category of medicine may be the first treatment your doctor prescribes
- ACE inhibitors help reduce the heart's workload by blocking certain harmful hormones your body produces that cause the heart to work harder
- ACE inhibitors are also used to treat patients with high blood pressure or after a heart attack. They are sometimes used to protect the kidneys in patients with diabetes.
- Over time (from weeks to months), ACE inhibitors may eliminate your symptoms and prevent worsening heart failure
- They have been shown to prolong life in people with heart failure
- When the heart muscle is weaker than normal, the body produces chemicals to help the heart pump more strongly. Over time, these chemicals can damage the heart muscle and cause it to get weaker. ACE inhibitors protect the heart muscle from harmful chemicals and may increase heart muscle strength over time.
- ACE inhibitors are also used to treat patients with high blood pressure, patients who have had a heart attack, and patients with diabetes

How to Take ACE Inhibitors

- The ACE inhibitor dose will vary depending on which ACE inhibitor is chosen for you and what condition is being treated
- You should always take this medicine exactly as it is prescribed by your doctor
- Your doctor or healthcare team may increase the dose of your ACE inhibitor even if you are feeling fine or have only mild symptoms. This can be confusing to some patients. Research has shown that higher doses may protect your heart better than lower doses. Your doctor and healthcare team will choose the right dose for you.
- You should not take this medicine if you are pregnant. This medicine is known to cause birth defects. If you plan to become pregnant, let your doctor or nurse know right away. If you become pregnant or are concerned you may be pregnant, let your doctor or nurse know immediately.

Possible Side Effects

- Common side effects include dizziness, an unusual taste in your mouth or loss of taste, low blood pressure, and dry cough
- You should report any side effects to your doctor immediately
- Severe dizziness, fainting, rash, and swelling of the face are rare side effects
- If you have ever had an allergic reaction to an ACE inhibitor, be sure to tell your doctor
- Blood will be drawn periodically to check on your kidney functioning and potassium levels

Safety Measures

- ACE inhibitors may cause you to feel dizzy when you stand up after sitting or when you get up after lying down. Remember to always stand up slowly. This will make you feel less dizzy and will help you avoid falling. If this dizziness is mild, your doctor may not change the dose or stop this medication.
- Do not use salt substitutes without approval from your doctor or nurse
- Avoid using medicines such as ibuprofen (Advil[®]) or other NSAIDs (non-steroidal anti-inflammatory drugs, such as Anaprox[®] or Naprosyn[®]) while you are taking an ACE inhibitor
- Before you take an over-the-counter drug, you should always ask your doctor or pharmacist if it is OK to take it with your ACE inhibitor

- If you are pregnant or plan to become pregnant, you should not take an ACE inhibitor. Be sure to talk to your doctor or nurse.
- Talk to your doctor, nurse, or pharmacist for more information about this medication

Angiotensin Receptor Blocker (ARB)

- ARBs block the same chemicals that ACE inhibitors do, but they work in a different way to reduce the heart's workload
- ARBs can also be used to treat high blood pressure
- An ARB is often prescribed when a heart failure patient cannot tolerate an ACE inhibitor due to side effects that cannot be minimized. In some cases, your doctor may want you to take both an ACE inhibitor and an ARB.
- Side effects include dizziness and low blood pressure

How to Take ARBs

- The ARB dose will vary depending on which ARB is chosen for you and what condition is being treated
- You should always take this medicine exactly as it is prescribed by your doctor
- You should take your medicine at the same time each day. This will help you to remember to take it. If you are taking the ARB more than once each day, you should space out the doses as evenly as possible.
- You should not take this medicine if you are pregnant. This medicine is known to cause birth defects. If you plan to become pregnant, let your doctor or nurse know right away. If you become pregnant or are concerned you may be pregnant, let your doctor or nurse know immediately.

Possible Side Effects

- Dizziness and lightheadedness are some of the common side effects of ARBs
- If you have ever had an allergic reaction to an ACE inhibitor, be sure to tell your doctor. It is unlikely that you would also be allergic to an ARB, but your doctor should be aware of your medication history.

Safety Measures

- ARBs may cause you to feel dizzy when you stand up after sitting or when you get up after lying down. Remember to always stand up slowly. This will make you feel less dizzy and will help you avoid falling. If this dizziness is mild, your doctor may not change the dose or stop this medication.
- Do not use salt substitutes without approval from your doctor or nurse
- Before you take an over-the-counter drug, you should always ask your doctor or pharmacist if it is OK to take it with your ARB
- If you are pregnant or plan to become pregnant, you should not take an ARB. Be sure to talk to your doctor or nurse.
- Please talk to your doctor, nurse, or pharmacist for more information about this medication

Beta Blocker

- A beta blocker is used to treat heart failure and for people who have had a heart attack to prevent them from having another one
- When the heart muscle is weaker than normal, the body produces chemicals to help the heart pump more strongly. Over time, these chemicals can damage the heart muscle and cause it to get weaker. A beta blocker protects the heart muscle from harmful chemicals and may increase heart muscle strength over time.
- Beta blockers can also be used to treat other conditions, such as high blood pressure and angina (chest pain), or be given to patients who have abnormal heart rhythms.

How to Take a Beta Blocker

- The beta blocker dose will vary depending on which beta blocker is chosen for you and what condition is being treated
- You will be started on a low dose of medicine at first. The dose will be increased slowly over time.
- You should take your medicine at the same time each day. This will help you to remember to take it.
- Your doctor or healthcare team may increase the dose of your beta blocker even if you are feeling fine or have only mild symptoms. This can be confusing to some patients. Research has shown that higher doses may protect your heart better than lower doses. Your doctor and healthcare team will choose the right dose for you.
- Do not stop this medication without discussing it with your doctor. Doing so can be dangerous.
- Do not let your medication run out

Possible Side Effects

- Common side effects include initial fatigue (for 1-4 weeks) and mild dizziness
- Severe dizziness, fainting, slow heartbeat, and wheezing are also possible side effects, but they are less common
- Some people will have a lack of energy and feel tired for the first several weeks after starting a beta blocker. However, after about 1-2 months, patients generally start to feel much better and have more energy because of the beta blocker.
- Erectile dysfunction can occur when taking a beta blocker. If this happens to you, discuss it with your doctor or nurse. There are medicines that can help with this problem that are safe for people with mild to moderate heart failure.

Safety Measures

- Beta blockers may cause you to feel dizzy when you stand up after sitting or when you get up after lying down, so remember to always stand up slowly. This will make you feel less dizzy and will help you avoid falling.
- You should never suddenly stop taking your daily dose of beta blocker. If your doctor wants you to stop taking a beta blocker, the dose will be decreased slowly (over a few days or weeks).
- Do not stop this medication without discussing it with your doctor. Doing so can be dangerous.
- Do not let your medication run out
- Please talk to your doctor, nurse, or pharmacist for more information about this medication

Diuretic

- Sometimes called water pills, diuretics help your body get rid of excess fluid and, in doing so, may improve problems of swelling and fatigue
- You should weigh yourself first thing every morning, and keep a record, to watch for fluid gain or loss
- Find out your baseline weight, also called your “dry weight.” If your weight increases by 3 pounds overnight or 5 pounds over 2 days, call your doctor or nurse.
- Your diuretic dose may be changed based on your changes in weight or specific parameters set by your doctor or nurse
- Diuretics can also be used to treat high blood pressure

How to Take Diuretics

- The diuretic dose will vary depending on which diuretic is chosen for you and your symptoms
- Take your diuretic at the same time each day, usually first thing in the morning. Plan on staying close to home for the first several hours after taking it, as it will cause you to urinate frequently.
- Many times, diuretics are taken twice a day in order to better control symptoms. Take the second dose in the middle of the afternoon to avoid being up all night going to the bathroom.
- Some patients are prescribed two diuretics. If you are prescribed metolazone or hydrochlorothiazide in combination with another diuretic (usually furosemide, bumetanide, or torsemide), the metolazone or hydrochlorothiazide should be taken 30 to 60 minutes before the other diuretic to help the other diuretic work better.
- Do not drink excessive fluids when you have heart failure and take diuretics. Take sips of water only when you are thirsty or with your pills. Drink small amounts of fluids with meals. Diuretics remove excess fluid and, by drinking more, you can make them ineffective in improving your symptoms.

Possible Side Effects

- Leg cramps, dry mouth, and frequent urination are the most common side effects of diuretics
- Diuretics may cause increased thirst

Safety Measures

- Diuretics may cause you to feel dizzy when you stand up after sitting or when you get up after lying down. Remember to always stand up slowly. This will make you feel less dizzy and will help you avoid falling.
- Most diuretics can cause you to lose potassium. You will likely be prescribed a potassium supplement.
- Before taking an over-the-counter medicine, always ask your doctor, nurse, or pharmacist if it is OK to take with your diuretic
- Please talk to your doctor, nurse, or pharmacist for more information about this medication

Aldosterone Antagonist

- This type of medicine blocks the effects of the hormone aldosterone
- Aldosterone can cause the heart muscle to get bigger and stiffer. This may decrease how well your heart pumps. Aldosterone also causes your body to retain sodium (salt) and water, and that may make you bloated and congested.
- Aldosterone antagonists help improve heart function and also relieve congestion
- This category of medicine is also used to treat high blood pressure, but at a different dose
- Side effects include breast enlargement or tenderness, especially in men, and increased potassium levels

How to Take Aldosterone Antagonists

- You should always take this medicine exactly as it is prescribed by your doctor
- The dose may vary depending on what other medications you are taking
- You should take your medicine at the same time each day. This will help you to remember to take it.

Possible Side Effects

- Common side effects include dizziness, breast tenderness, development of breast tissue in men (gynecomastia), and high potassium level
- Your doctor will check your blood on a regular basis when you begin this medicine to monitor the level of potassium in your blood. It is important to get lab work as prescribed by your doctor or nurse.

Safety Measures

- These medicines may cause you to feel dizzy when you stand up after sitting or when you get up after lying down. Remember to always stand up slowly. This will make you feel less dizzy and will help you avoid falling.
- Be sure to tell your doctor about each of your medications, and whether you are taking a potassium supplement or use a salt substitute
- Do not use salt substitutes. You may be asked to stop using them.
- Before you take an over-the-counter medicine, you should always ask your doctor or pharmacist if it is OK to take it with your aldosterone antagonist
- Please talk to your doctor, nurse, or pharmacist for more information about this medication

Digoxin

- This type of medicine can help your heart pump more forcefully and efficiently
- In patients with abnormal heart rhythms, it can also be used to help the heart beat more slowly and more regularly
- Digoxin helps patients with heart failure breathe more easily, decreases their fatigue, and increases their ability to exercise
- Side effects include nausea or vomiting, blurry vision, and abnormal heart rhythms

How to Take Digoxin

- You should always take this medicine exactly as it is prescribed by your doctor
- You should take your medicine once a day, at the same time each day or as prescribed by your doctor or nurse

Possible Side Effects

- Nausea is a possible side effect when taking digoxin
- Tell your doctor if you notice a change in your vision, especially in your ability to see colors such as blue, yellow, or green, or if your vision seems more blurry than usual
- If you have lost your normal appetite or lost a surprising amount of weight, you should contact your doctor

Safety Measures

- There are many drugs, including over-the-counter medicines, that affect digoxin
- Some medicines may cause too much digoxin to stay in your system, and others may reduce the amount that gets into your system
- Before you take an over-the-counter medicine, you should always ask your doctor or pharmacist if it is OK to take it with digoxin
- Please talk to your doctor, nurse, or pharmacist for more information about this medication

Hydralazine

- Hydralazine is used to treat heart failure and can also be used to treat high blood pressure
- It causes the arteries in your body to dilate (get bigger). This lowers your blood pressure and decreases the heart's workload.

How to Take Hydralazine

- You should always take this medicine exactly as it is prescribed by your doctor
- You should take your medicine at the same time each day. It is important to wait the same amount of time between each dose of your hydralazine throughout the day. This will help keep the levels of hydralazine constant in your blood.

Possible Side Effects

- Common side effects include headache, abdominal pain, dizziness, and lightheadedness
- Contact your doctor or nurse if you notice any new or unusual symptoms of arthritis, joint pain or swelling, or rashes

Safety Measures

- Hydralazine may cause you to feel dizzy when you stand up after sitting or when you get up after lying down. Remember to always stand up slowly. This will make you feel less dizzy and will help you avoid falling.
- Before you take an over-the-counter medicine, you should always ask your doctor or pharmacist if it is OK to take it with hydralazine
- Please talk to your doctor, nurse, or pharmacist for more information about this medication

Nitrate

- Nitrates can be used to treat angina (chest pain) or high blood pressure, and are also used to help relieve congestion in patients with heart failure
- Nitrates allow the blood vessels to get bigger to allow more blood to carry oxygen to the heart. They also take pressure off of the top part of the heart, so the heart does not have to work as hard.

How to Take Nitrates

- You should always take this medicine exactly as it is prescribed by your doctor
- You should take your medicine once a day, at the same time each day. This will help you remember to take it.
- If you take this medicine more than once a day, it is important to take it at specific times so that you have a 10 to 14 hour period when the medicine is out of your system. This will help the nitrate work better and will prevent your body from becoming tolerant to it.
- If you have been prescribed isosorbide mononitrate, you should take your dose at 7 am
- If you have been prescribed isosorbide dinitrate, you should take your last dose by 5 pm
- If you have been prescribed a nitroglycerin patch, the patch should be **off** for 10 to 14 hours of every day (that means you wear it for 10 to 14 hours over a 24-hour period)
- Your doctor may have other individual instructions regarding the way you take your nitrates. You should follow your doctor's instructions.

Possible Side Effects

- Common side effects include dizziness, abdominal pain, and headache

Safety Measures

- You should not take any form of nitrates with the medication sildenafil (Viagra[®]), tadalafil (Cialis[®]), vardenafil (Levitra[®]), or other erectile dysfunction medications similar to these. This combination can cause a fatally low blood pressure.
- Nitrates may cause you to feel dizzy when you stand up after sitting or when you get up after lying down. Remember to always stand up slowly. This will make you feel less dizzy and will help you avoid falling.
- Before you take an over-the-counter medicine, you should always ask your doctor or pharmacist if it is OK to take it with your nitrate
- Please talk to your doctor, nurse, or pharmacist for more information about this medication

Note: There is a fixed-dose combination of hydralazine and nitrate called BiDiI[®]

Statin

- Statins are used to treat high cholesterol
- Your doctor has prescribed this medicine for you because some, or all of your cholesterol levels are higher than the range that your doctor has set as your goal

How to Take Statins

- You should always take this medicine exactly as it is prescribed by your doctor
- You should take your medicine at the same time each day, day or night, as recommended by your doctor or nurse

Possible Side Effects

- The most common side effect of statins is an upset stomach. You can prevent this by taking your statin with food.
- This medicine can also affect your liver. Your doctor will check your liver enzymes with a blood test before you start taking your statin and every 6 months while you are on the medicine.
- In some cases, statins can cause muscle aches and weakness, like the flu. This is a rare side effect, but if you feel flu-like symptoms you should call your doctor or nurse.

Safety Measures

- Some statins can interact with other medications
- Before you take an over-the-counter medicine, you should always ask your doctor or pharmacist if it is OK to take it with your statin
- Please talk to your doctor, nurse, or pharmacist for more information about this medication

Warfarin

- Warfarin is an anticoagulant, which means that it prevents blood clots from forming or stops a blood clot from getting bigger
- Warfarin is used to “thin the blood” in patients with abnormal heart rhythms, patients who have a history of stroke or clots in the lungs or legs, or patients who have had certain types of heart valves replaced

How to Take Warfarin

- You should always take this medicine exactly as it is prescribed by your doctor
- You should take your medicine once a day, at the same time each day. This will help you to remember to take it.
- The dose of warfarin will be different for every patient. It depends on your individual response to the medicine, and also on your body’s absorption and metabolism.
- Your doctor will determine the correct dose for you by checking a blood test called the INR (international normalized ratio). The INR test measures how hard it is for your blood to clot.
- You should know your INR. Discuss this with your doctor.

Possible Side Effects

- Most of the serious side effects of warfarin occur when the medicine level is too much or too little for a patient (when the INR is too low or too high)
- Bleeding is the most common side effect. Serious bleeding rarely occurs when the INR is in the correct range. Some people find that they bruise more easily than usual, or have nosebleeds or bleeding gums. It is not unusual to make an adjustment in your warfarin dosing after every INR lab test.
- Other side effects of warfarin include loss of appetite, nausea or diarrhea, irritated or itchy skin, and hair loss

Safety Measures

- Many medicines can change the way warfarin works. Some medicines increase warfarin’s effects and can cause bleeding. Other medicines decrease the actions of warfarin and may prevent your blood from thinning at the right level.
- Vitamin K interferes with warfarin and can make it ineffective. Vitamin K is found in certain multivitamins and many foods, especially dark green leafy vegetables, including foods in the list below:

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| – Asparagus | – Lettuce |
| – Avocado | – Liver |
| – Broccoli | – Mustard greens |
| – Brussels sprouts | – Parsley |
| – Cabbage | – Peas (including black-eyed peas, split peas, and chickpeas) |
| – Cauliflower | – Soybeans and soybean oil |
| – Collard greens | – Spinach |
| – Kale | – Turnip greens |

- The best thing to do is keep your intake of foods with vitamin K constant while you are on warfarin. This means that you shouldn't eat a lot more or a lot less of foods with vitamin K than you normally do.
- You should not drink alcohol when taking warfarin
- You should not take this medicine if you are pregnant. This medicine is known to cause birth defects. If you plan to become pregnant, let your doctor know right away. If you become pregnant or are concerned you may be pregnant, please let your doctor or nurse know immediately.
- **Many medications interact with warfarin.** Before you take any new medication, including over-the-counter medicines, you should always ask your doctor, nurse, or pharmacist if it is OK to take it with warfarin. Taking warfarin with amiodarone, coumadin, and antibiotics are common mistakes.
- Please talk to your doctor, nurse, or pharmacist for more information about this medication

Developed by the SCA Prevention Medical Advisory Team.

This material is intended to be educational. It is not intended to replace the information provided to you by your healthcare providers and may not be directly applicable for your individual clinical circumstance.

Please refer to the manufacturers' prescribing information and/or instructions for use for the indications, contraindications, warnings, and precautions associated with the medications and devices referenced in these materials.

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