



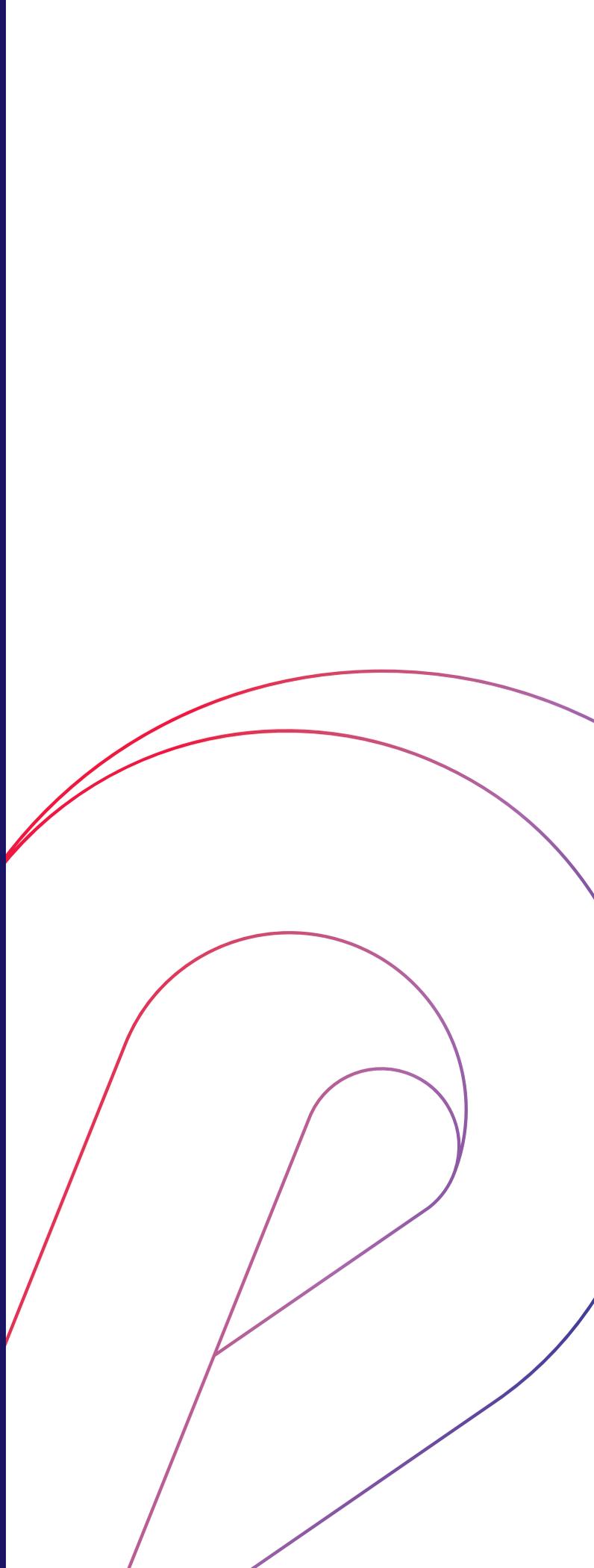
# Blood Pressure Basics

What you need to know to  
manage your blood pressure

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## It doesn't have to happen to you

“My father had high blood pressure. But since he didn't have symptoms, he didn't take his medicines regularly. He also wasn't too good at making the lifestyle changes his doctor recommended. My father ended up having a stroke — when he was only 53 — one week after his grandson was born. His doctor said his stroke could probably have been prevented if he had controlled his blood pressure.

Because high blood pressure runs in my family, I've learned that I may be at increased risk too. But there are ways I can reduce my risk. For starters, I'm following a healthy diet, being more active every day, and managing my stress. So far it's working: my blood pressure was 114/72 the last time I measured it.

I want to be around for my kids and grandkids — so I plan to continue to take care of myself, track my blood pressure, and stay in touch with my doctor. ”

— Keith,  
family history of high blood pressure

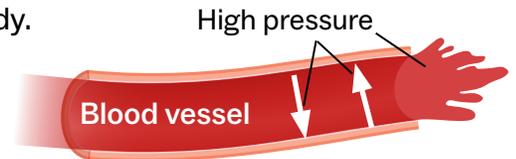


# Understanding Blood Pressure

## What is high blood pressure?

Blood pressure (BP) is the force of blood pressing against the walls of your arteries.

Blood pressure is needed to move blood to the rest of your body.



However, too much pressure over time can:

- Damage and harden the arteries.
- Weaken the artery walls, making them more likely to break or burst.
- Promote fatty plaque buildup, or atherosclerosis [ath-ehr-oh-skler-OH-sis]. This narrows the arteries and restricts blood flow.
- Increase the amount of work the heart has to do, causing further damage to the heart muscle.

These changes affect the heart and all arteries in your body. They also reduce oxygen delivery to other organs — such as the brain, kidneys, and eyes. This can cause heart disease, stroke, kidney disease, blindness, and other health problems.

## High Blood Pressure Symptoms

Most people don't have any symptoms of high blood pressure. However, very or severely high blood pressure can cause the following symptoms:



Fatigue



Vision problems



Chest pain



Severe headache



Pounding chest, neck, and ears



Blood in urine



Irregular heartbeat



Difficulty breathing

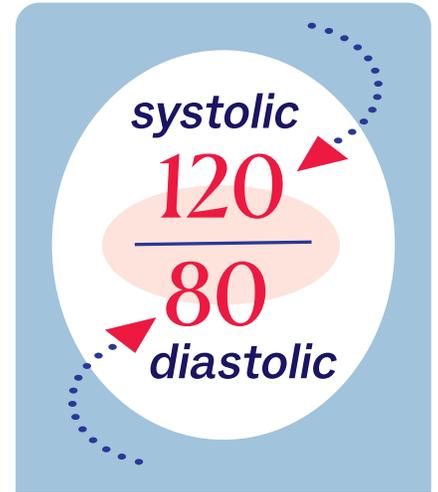
## How is BP measured?

BP is measured with an inflatable arm cuff attached to a machine or gauge. It displays the pressure in millimeters of mercury (mmHg).

A blood pressure measurement is expressed as 2 numbers:

- The top number is your **systolic** [sis-TAHL-ik] blood pressure. It measures the pressure in your arteries when the heart beats, pushing blood through the arteries.
- The bottom number is your **diastolic** [DIE-eh-stahl-ik] blood pressure. This measures the pressure that stays in your arteries when the heart relaxes between beats.

Both of these numbers show the level of the stress on your artery walls. If either number is too high you could have high blood pressure.



## How do I know if I have high blood pressure (HBP)?

Your healthcare providers will check BP many times. They'll also ask questions about your personal and family health history, check your weight, and maybe do some lab tests.

Your doctor may also ask you to take and record your own blood pressure at home (see instructions on page 16). This can help you and your doctor know your normal blood pressure pattern.



Category	Systolic		Diastolic
Normal blood pressure	less than 120	and	less than 80
Elevated blood pressure	120 to 129	and	less than 80
Stage 1 high blood pressure (hypertension)	130 to 139	or	80 to 89
Stage 2 high blood pressure (hypertension)	140 or higher	or	80 to 89
Hypertensive crisis (call your doctor right away)	higher than 180	or	90 or higher

### When to call for help

#### Call your healthcare provider if:

- You have frequent or severe headaches
- You BP reading at **140/90** for 3 days or more in a row
- You feel dizzy, lightheaded, or weak
- You are sweating a lot or have vision changes
- Your blood pressure is **100/70** or lower
- You don't "feel right" or "feel normal"

#### Seek emergency care if:

- Your blood pressure is higher than 180/120 AND
- You have chest pain, shortness of breath, severe headache, or back pain



# What causes high blood pressure?

For most, the specific cause of high blood pressure is hard to pinpoint. However, many things can increase your risk. These are called “risk factors.” Some risk factors are not under your control — but many are. Knowing your risk factors can help you reduce your risk.

## Risk factors you CAN'T change

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- **Family history.** High blood pressure tends to run in families.
- **Age.** In general, the older you get, the greater your chance of having high blood pressure. The most common age for men to develop high blood pressure is between the ages of 35 and 50, and after menopause for women.
- **Race.** African Americans have a higher risk for developing high blood pressure than any other ethnic group. Not only is high blood pressure more common in this group, but it happens at an earlier age and is often more severe.



## Risk factors you CAN change

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- **Inactivity.** People who are not active have a 20% to 50% higher risk of developing high blood pressure.
- **Being overweight.** Extra weight puts extra stress on your heart and arteries and can increase your risk of developing other diseases, like diabetes.
- **Poor diet.** Eating foods high in salt, saturated fats, and simple carbohydrates, and drinking alcohol regularly increases your risk for high blood pressure.
- **Smoking.** Every cigarette causes an immediate and significant rise in your blood pressure. Over time, smoking can severely damage your blood vessels.
- **Stress.** One of the ways your body responds to stress is by raising your blood pressure. Unmanaged and ongoing stress can keep your blood pressure high.
- **Birth control pills.** High blood pressure is 2 to 3 times more common in women who use birth control pills, especially if they are overweight. If you're taking birth control pills — or are thinking about it — talk with your doctor about the risks and benefits.



# Managing High Blood Pressure



## Medications

### When starting blood pressure medication:

- Take your blood pressure 5 minutes before taking your medication, AND 1 hour after taking your medication.
- Write down the results of each measurement.
- Do this for 5 days in a row. Then, go back to taking your blood pressure as your normally would.

**M**

Take your **MEDICINE**

**A**

Get enough **ACTIVITY**  
each day

**W**

Maintain a healthy  
**WEIGHT**

**D**

Follow a healthy  
**DIET**

**S**

Stop **SMOKING** and  
manage **STRESS**

## Common categories of BP medications

It's important to know the names of all your medications and how they work. The table on the next page lists the most common categories of blood pressure medication. Your doctor will prescribe the best medicines for your unique health situation. You may be on more than one medication, or a combination drug that combines medications from 2 different categories.

These are some of the most **common medication side effects**. They will vary, depending on the medication:



Cough



Feeling weak, tired, drowsy, or a lack of energy



Diarrhea or constipation



Headache



Dizziness or lightheadedness



Nausea or vomiting



Changes in sexual desire (libido)



Skin rash



Feeling nervous



Weight gain or loss (without trying)

Category	How these medicines lower blood pressure	Examples
<b>Angiotensin converting enzyme (ACE) inhibitors</b>	ACE inhibitors prevent formation of a protein (called angiotensin II) that causes blood vessels to become narrow. This helps the blood vessels open wider, which in turn lowers blood pressure. ACE inhibitors may cause a cough. If they do, contact your healthcare provider.	captopril (Capoten), enalapril (Vasotec), fosinopril (Monopril), lisinopril (Prinivil, Zestril), quinapril (Accupril), ramipril (Altace)
<b>Angiotensin receptor blockers (ARBs)</b>	Like ACE inhibitors, ARBs also act on angiotensin II. Instead of preventing its formation, though, they block its effects. Therefore, blood vessels can open wider, helping to lower the blood pressure.	candesartan (Atacand), irbesartan (Avapro), losartan (Cozaar), valsartan (Diovan)
<b>Calcium channel blockers</b>	Calcium channel blockers keep calcium from entering the muscle cells of your heart and blood vessels. Therefore, the blood vessels open wider, and pressure goes down.	amlodipine (Norvasc) verapamil (Diltiazem)
<b>Diuretics ("water pills")</b>	Most diuretics lower blood pressure by helping the kidneys reduce the amount of sodium and water in the body. Some diuretics may cause your body to lose potassium and you may need to take potassium supplements. Some also help the blood vessels dilate (open wider) to lower blood pressure. Your doctor may prescribe more than one diuretic at a time.	hydrochlorothiazide (HCTZ), chlorthalidone, (Hygroton, Thalitone) bumetanide (Bumex), furosemide (Lasix), metolazone (Zaroxolyn), torsemide (Demadex)
<b>Beta blockers</b>	Beta blockers reduce nerve impulses to your heart and blood vessels. This lowers the heart rate and decreases the force of the heartbeat.	carvedilol (Coreg), metoprolol (Toprol)
<b>Aldosterone receptor antagonists</b>	Aldosterone receptor antagonists trigger the kidneys to get rid of unneeded water and sodium through urine. This lowers the volume of blood that the heart must pump, which lowers blood pressure.	spironolactone (Aldactone), eplerenone (Inspra)
<b>Alpha blockers</b>	Alpha blockers reduce nerve impulses to blood vessels, allowing blood to flow more easily.	doxazosin (Cardura), prazosin (Minipress), terazosin (Hytrin)
<b>Direct renin inhibitors</b>	Direct renin inhibitors work by decreasing certain natural chemicals that tighten the blood vessels. This relaxes the blood vessels and helps to lower the blood pressure.	aliskiren (Tekturna)
<b>Combination drugs</b>	Combination drugs can bring the benefits of 2 or more of the above medicines — sometimes in one pill. For example, you may be prescribed a drug that contains a diuretic and an ACE inhibitor.	
<b>Other</b>		





## Be Active every day

Everyone needs regular physical activity to stay healthy. Being physically active is one of the most important things you can do to prevent or control high blood pressure and many other health conditions. It's also a great way to help maintain a healthy weight and reduce your risk of heart disease.

### Pump it up!

Do a heart-pumping exercise like one of these for at least 30 minutes daily:

- Brisk walking
- Basketball
- Jogging
- Cycling
- Swimming
- Dancing
- Yard work

Don't be alarmed if your blood pressure goes up while you are exercising. This is normal.

### Build it up!

Weight training can help lower blood pressure. It also helps you stay strong and improves your balance and bone strength. **Important:** Don't hold your breath when lifting! Remember to breathe OUT when lifting the weight.

### Keep it up!

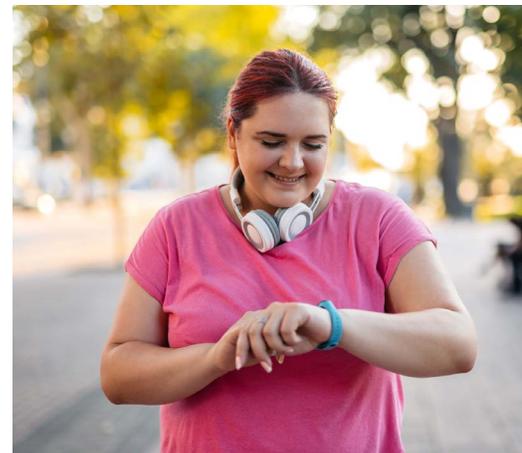
Don't be a weekend warrior. If you don't have a 30-minute block each day, break it into 2 or more shorter blocks. Short, frequent workouts are better than one extra long workout on the weekend. Those weekend workouts are also more likely to put you at risk for injury.

### Listen up!

Your body will tell you if you're doing too much. Talk with your doctor before trying something new.

**STOP** and call your doctor if you have any of these symptoms while exercising:

- Chest pain or tightness
- Dizziness
- Extreme tiredness (fatigue)
- Severe shortness of breath





## Maintain a Healthy Weight

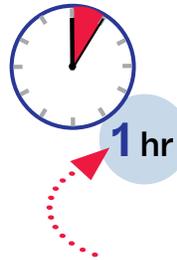
Research tells us that being overweight increases your risk of developing high blood pressure and heart disease. It also increases your risk of premature death and disability. The good news is that losing even a small amount of weight can significantly reduce these risks.

### Achieving safe and permanent weight loss

Reaching and maintaining a healthy weight comes from making permanent changes to your everyday habits. The habits listed below have been proven to help the weight come off and stay off.



- **Plan to lose weight slowly** — about **1 to 2 pounds** per week.



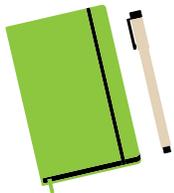
- **Increase your exercise to about 60 minutes on most days** — or about 250 to 300 minutes per week. Following a regular exercise schedule is a proven strategy for losing weight and keeping it off.



- **Make changes to your diet and your activity level.** The only way to keep the weight off is to do both. If you're not sure where to start, ask your healthcare provider for a referral to a dietician or exercise specialist.



- **Don't give up if you get "off track."** A single day of fun or a week's vacation is not "off track." But, **you can get off track if you don't stay focused on why you want to lose weight.** Get back to your new lifestyle habits as soon as possible. **If you aim to follow your plan at least 85% of the time** (for example, 310 days of the year), **you will find success!**



- **Use a food and activity journal or app.** Tracking what and how much you eat will help you understand what's working. Other key strategies include:
  - **Choosing** single ingredient, healthy foods most often.
  - **Limiting** portions and weighing what you eat.
  - **Living** a consistently active lifestyle.





# The DASH Diet

DASH stands for “Dietary Approaches to Stop Hypertension.” It’s an eating plan promoted by the National Institutes of Health. Research shows that the DASH plan is an effective way to lower high blood pressure, especially when reducing your salt intake. Information on the DASH eating plan is available on the NIH website at this link or code at right.

## Why we like it

The **DASH** diet:

- Does not require any memberships or special foods.
- Gives you daily nutrition and calorie goals.
- Focuses on the 3 key strategies for optimal health:

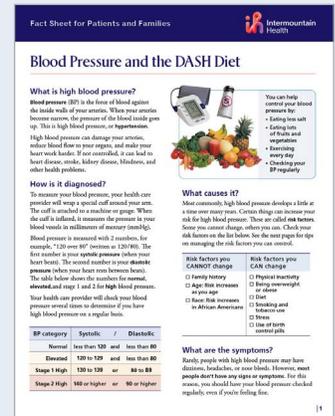
**1** Eating plenty of vegetables, fruits, and whole grains, as well as fat-free or low-fat dairy products, poultry, and fish.

**2** Including healthy fats found in nuts and vegetable oils for optimal health and satisfaction.

**3** Limiting foods that are high in saturated fat — such as fatty meats, full-fat dairy, and tropical oils — as well as limiting sugary drinks and treats.



[nhlbi.nih.gov/education/dash-eating-plan](https://nhlbi.nih.gov/education/dash-eating-plan)



Ask your healthcare provider for a copy of Intermountain’s patient fact sheet: *Blood Pressure and the DASH Diet*.



## Quit Smoking and Manage Stress

Quitting smoking and learning to manage stress are two more ways you can lower your blood pressure. You'll also improve your overall health — and feel better too!

### Quit for Life program

[quitnow.net](http://quitnow.net)



#### In English:

866-QUIT-4-LIFE  
(866-784-8454)

#### En Español:

866-784-8454  
(y oprima 2)

- 1:1 telephone support
- Includes a quit guide, workbook, online support community, and stress management tools
- No charge for SelectHealth members
- Available in American Sign Language, and multiple other languages. Translation services available.

### Quit smoking

Smoking damages the tissues of the artery walls and narrows blood vessels, speeding the buildup of fatty plaque in your arteries and increasing your blood pressure. Smokers have at least twice the risk of heart attack and stroke as non-smokers. The good news is that if you quit smoking now, you'll see immediate and significant health benefits — even if you've smoked for many years.

Talk with your healthcare providers. They can suggest programs and methods to help you cope with the stress of quitting. They may also help you find medications that help reduce your craving for cigarettes and ease your withdrawal symptoms.

### Resources to help you quit

#### National organizations

##### American Lung Association (ALA)

800-548-8252  
Lung HelpLine  
[lung.org/quit-smoking](http://lung.org/quit-smoking)



##### American Heart Association (AHA)

800-242-8721  
[heart.org](http://heart.org)



##### American Cancer Society (ACS)

800-227-2345  
[cancer.org](http://cancer.org)



##### smokefreetxt

[smokefree.gov/smokefreetxt](http://smokefree.gov/smokefreetxt)

SmokefreeTXT is a mobile text-messaging service to help you quit smoking. For adults and young adults in the U.S. Provides **24/7 support** and tips to help you stay quit.



## Manage stress

Everybody has stress in their life. Some stress can even be good for you. However, when stress becomes long-lasting (chronic), it can have negative effects on your health—including high blood pressure.

Your body responds to stress by shifting energy from your immune system and digestive system to your heart—increasing your heart rate and blood pressure. This is fine for short periods of time, but they can take a toll on your body if these changes are frequent or long lasting.

You can learn to manage stress by taking charge of your thoughts, your daily habits, and the way you manage problems. The ideas below can help you build a stress management “tool kit.”

### Stress Management Tool Kit

#### Build healthy everyday habits

- Move more.** Physical activity makes chemical changes in your body that help you feel better.
- Eat well.** Regular, healthy meals will give your body the fuel it needs to manage stress.
- Sleep well.** Go to bed at a regular time each night and aim for 7 to 8 hours of sleep.
- Take time for yourself.** Make time for activities that are important to you.

#### Get to know your stress

- Learn what causes your stress.** It may be certain situations, commitments, or even certain people. It may be long-lasting issues such as money problems or traumatic past events.
- Learn to recognize your personal signs of stress.** Do you isolate? Or do you want to yell at others?
- How do you currently cope with stress.** What do you do well? What new skills could you learn?

#### Learn skills to manage stress

- Learn to limit your commitments.** Focus on doing what’s most important to you. It is okay to say “no.”
- Work to resolve conflicts at home or work.** Talk through conflicts instead of letting them build up. If you’re in a heated situation, pause before you react.
- Learn and use relaxation techniques.** Some examples are deep breathing or meditation.
- Learn to focus on the positive.** Spend some time every day thinking about what’s going right in your life.
- Move from worry to action.** Taking action relieve anxiety and give you a sense of control.

#### Tap into your support system

- Spend more time around people who comfort and support you.** Try to avoid people who don’t handle stress well or who cause you stress.
- Learn from others.** Observe people in your life who handle stress well. Think about whether their good habits would work for you.
- Know when to ask for help.** You don’t have to handle everything on your own. Ask your friends and family to support you.
- Ask for a referral.** A mental health professional can assess and help define strategies when stress is high, has lasted a long time, is interfering with your life, or you don’t know where to start.

# Checking Your Blood Pressure at Home

## Why do I need to check my BP?

Checking your BP at home on a regular basis is an important part of your treatment plan. Here's why:

- It helps your healthcare providers — and you — see how well your lifestyle changes or medications are controlling your blood pressure. This can help fine-tune your treatment plan.
- It helps your healthcare providers evaluate whether you might have “white-coat” high blood pressure, which means your blood pressure tends to be high only when at their office.
- It helps keep you focused on staying healthy — and encourages you to continue taking care of yourself.

## How often to check

How often you measure and record your blood pressure is up to you and your doctor. For example, you might want to check more often:

- When you're first diagnosed with high blood pressure, and
- After changes to your medications

Once your blood pressure becomes more stable, try to check it at least once a week.



## Using your BP Tracker

The **Intermountain BP Tracker** is a tool designed to help you manage your blood pressure at home. Inside, you can learn:

- How to track your medications and any changes to your prescriptions
- How to choose a blood pressure monitor and cuff and calibrate it with your healthcare provider's machine
- How to accurately track any concerns and your wins



If you don't already have one, ask your healthcare provider for a copy of the **Intermountain BP Tracker** today!

## How to check accurately

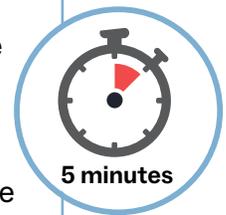
- **Check your blood pressure in the early morning and in the evening.**
  - In the morning, check before you eat, drink, or take any medicines.
- **Put the cuff on your arm.**
  - Remove clothes that get in the way of the cuff. Don't roll up your sleeve in a way that's tight around your arm.
  - The cord should go toward your hand. Line it up with the inside of your elbow.
  - The Velcro should attach easily on the cuff. If it doesn't reach, you may need a bigger cuff.
- **Follow the steps below.**

**1 Wait 30 minutes** if you have just eaten a lot, had a drink with caffeine or alcohol, used tobacco products, or exercised.

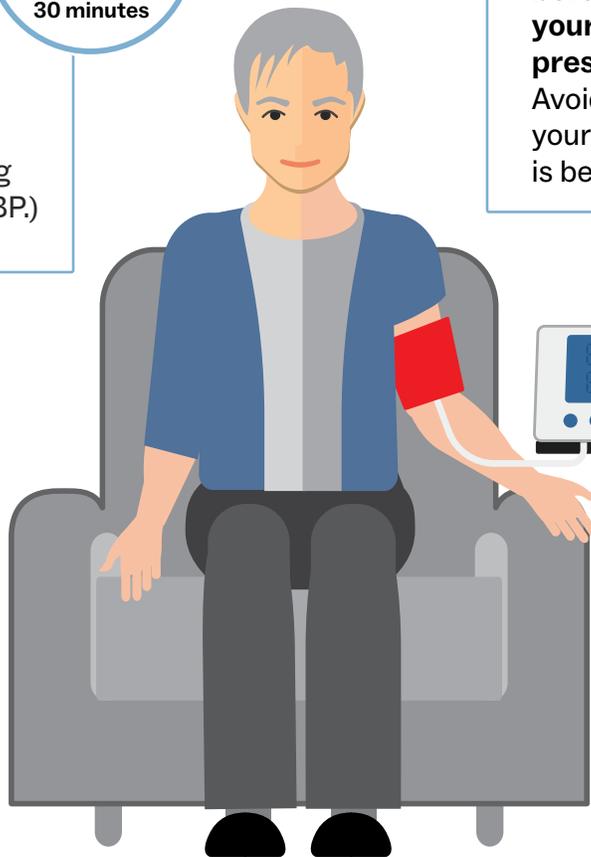
Use the restroom if you need to. (Needing to go can raise your BP.)



**2 Sit quietly for 5 minutes or more before taking your blood pressure.** Avoid talking while your blood pressure is being measured.



**3 Rest both feet flat on the floor with your back supported.** Rest your arm at heart level on a table or the arm of a chair.



**4 Start the monitor.** Press the button or squeeze the ball to measure your blood pressure.

Write down the time, the measurement, and your pulse.

Wait 2 minutes.

Repeat 2 or 3 times.

Your target blood pressure: \_\_\_\_\_ / \_\_\_\_\_





