

NIH News in Health

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Blood Pressure Matters

Keep Hypertension in Check

About 1 in 3 adults in the U.S. has high blood pressure, but many don't realize it. High blood pressure is sometimes called a "silent killer," because it usually has no warning signs, yet it can lead to life-threatening conditions like heart attack or stroke. The good news is that high blood pressure, or hypertension, can often be prevented or treated. Early diagnosis and simple, healthy changes can keep high blood pressure from seriously damaging your health.

Normal blood flow delivers nutrients and oxygen to all parts of your body, including important organs like your heart, brain, and kidneys. Your beating heart helps to push blood through your vast network of blood vessels, both large and small. Your blood vessels, in turn, constantly adjust. They become narrower or wider to maintain your blood pressure and keep blood flowing at a healthy rate.

It's normal for your blood pressure to go up and down throughout each day. Blood pressure is affected by time of day, exercise, the foods you eat, stress, and other factors. Problems can arise, though, if your blood pressure stays too high for too long.

High blood pressure can make your heart work too hard and lose strength. The high force of blood flow can damage your blood vessels, making them weak, stiff, or narrower. Over time, hypertension can harm several important organs, including your heart, kidneys, brain, and eyes.

"Hypertension is a leading risk factor for death and disability worldwide," says Dr. Paul Whelton, an expert in hypertension and kidney disease at Tulane University. "High blood pressure raises the risk of hav-

ing a heart attack, heart failure, stroke, or kidney disease."

Anyone, even children, can develop high blood pressure. But the risk for hypertension rises with age. "Once people are in their 60s, about two-thirds of the population is affected by hypertension," Whelton says.

Excess weight or having a family history of high blood pressure also raises your risk for hypertension.

African Americans are especially likely to get hypertension. Compared to Caucasian or Hispanic American adults, African Americans tend to develop hypertension at a younger age and to have a higher blood pressure on average.

Because it usually has no symptoms, the only way to know for sure that you have hypertension is to have a blood pressure test. This easy, painless test involves placing an inflated cuff with a pressure gauge around your upper arm to squeeze the blood vessels. A health care provider may then use a stethoscope to listen to your pulse as air is released from the cuff, or an automatic device may measure the pressure.

Blood pressure is given as 2 numbers. The first number represents the pressure in your blood vessels as the heart beats (called systolic pressure). The second is the pressure as your heart relaxes and fills with blood (diastolic pressure). Experts generally agree that the safest blood pressure—or "normal" blood pressure—is 120/80 or lower, meaning systolic



blood pressure is 120 or less and diastolic pressure is 80 or less.

"Hypertension is defined as having an average blood pressure of above 140/90," says NIH's Dr. Lawrence Fine, who oversees research on the treatment and prevention of hypertension. Since blood pressure can vary widely from day to day, a diagnosis of hypertension is usually based on an average of 2 or more readings taken on 2 or more occasions.

If your blood pressure falls between "normal" and "hypertension," it's sometimes called prehypertension. People with prehypertension are more likely to end up with high blood pressure if they don't take steps to prevent it.

"We know we can prevent high blood pressure through diet, weight loss, and physical activity," Whelton says. "We can also treat it, and we can treat it effectively."

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Wise Choices For Healthy Blood Pressure

- **Keep a healthy weight.** Ask your doctor if you need to lose weight.
- **Be physically active.** Get moving for at least 30 minutes most days of the week.
- **Eat a healthy diet.** Choose an eating plan rich in vegetables, fruits, whole grains, and low-fat dairy and low in saturated fat and added sugars.
- **Cut down on salt.** Many Americans eat more sodium (found in salt) than they need. Most of the salt comes from processed food (such as soup and baked goods).
- **Drink alcohol in moderation, if at all.** Men should have no more than 2 drinks a day; women no more than 1 drink a day.
- **Don't smoke.** Smoking raises your risk for heart disease, stroke, and other health problems.
- **Get a good night's sleep.** Tell your doctor if you've been told you snore or sound like you stop breathing briefly when you sleep—a possible sign of sleep apnea. Treating sleep apnea and getting a good night's sleep can help reduce blood pressure.
- **Take prescribed drugs as directed.** If you need drugs to help lower your blood pressure, you still should follow the lifestyle changes described above.

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If you're diagnosed with high blood pressure, your doctor will prescribe a treatment plan. You'll likely be advised to make healthy lifestyle changes (see the Wise Choices box). You may also need to take medications. The goal of treatment is to reduce your blood pressure enough to avoid more serious problems.

How low should you aim when reducing your blood pressure? The answer depends on many factors, which is why it's important to work with your doctor on blood pressure goals. Most current guidelines recommend aiming for a systolic pressure below 140. These medical guidelines are sometimes adjusted as new research is reported.

A large NIH-funded study recently found there may be benefits to aiming for a much lower systolic pressure—120 or less, instead of 140—at least for some people. The study looked at adults ages 50 and up who had increased risk for cardiovascular disease but didn't have diabetes. Half aimed for a systolic pressure of 120. The rest aimed for a pressure of 140.

The study was stopped early, after about 3 years, when clear benefits were seen in the lower blood pressure group. "When treating to the lower goal of 120, the risk of having a cardiovascular complication such as a heart attack or stroke was reduced by 25%, and the risk of death from all causes was reduced by 27%," Fine says. This lower-goal group, though, tended to need 1 additional blood pressure medication; they also had more hospitalizations for side effects,



Web Links

For more about blood pressure control, click the "Links" tab at: <http://newsinhealth.nih.gov/issue/Jan2016/Feature1>

including low blood pressure, fainting, and possible kidney damage.

"Results to date suggest that for older people with hypertension and an increased risk for cardiovascular disease, it may make sense to aim for a lower blood pressure. But there may be drawbacks as well, and each patient is different," Whelton says. "Researchers generate the evidence, so health care providers can have informed discussions with their patients about blood pressure targets."

NIH-funded studies have clearly shown that healthy lifestyle changes can improve your blood pressure. "Making even small changes over time can really add up," says Kathryn McMurry, a nutrition science expert at NIH. "In terms of diet, our best advice is to follow the DASH eating plan."

DASH stands for Dietary Approaches to Stop Hypertension. "It's not a diet to go on for a short period of time, but one that's meant to be part of a healthy lifestyle and enjoyed for life," McMurry says.

The DASH eating plan requires no special foods. Instead, it provides daily and weekly nutritional goals. It's high in vegetables, fruit, whole grains, and low-fat dairy foods but low in saturated fat and added sugar.

"DASH is beneficial even for people who have normal blood pressure or who have prehypertension. It can help keep blood pressure from progressing to higher levels," McMurry says. Learn more about DASH at www.nhlbi.nih.gov/health/health-topics/topics/dash.

For more heart-healthy food ideas, visit healthyeating.nhlbi.nih.gov, which has nearly 200 recipes developed with input from professional chefs. "The recipes are tasty, heart healthy, and easy to make. They're meals the whole family will enjoy," McMurry says. ■

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Online Weight Management Gets Personal

NIH Body Weight Planner

With a new year just beginning, many of us will resolve to eat better, be more active, and lose weight. For the more than 2 out of 3 Americans who are either overweight or obese, there's now a free, research-based tool to help you reach your goals: the NIH Body Weight Planner.

"A lot of people want to change their lifestyle to lose weight and improve their overall health but really don't know what it takes," says Dr. Kevin Hall, a senior NIH researcher who created the Planner. "The Body Weight Planner is the first tool of

its kind. It uses specific information about the diet and physical activity changes that are needed to help people reach and stay at their goal weight over time."

Keeping your body at a healthy weight may help you lower your risk of heart disease, type 2 diabetes, and certain types of cancer that can result from being overweight or obese.

To use the NIH Body Weight Planner, just enter your weight, sex, age, height, and physical activities during work and leisure. Then enter a target date for reaching your goal weight. You can also add details like percent body fat and metabolic rate. The Planner will then calculate your personal calorie and physical activity targets to achieve your goal and maintain it over time.

"In the past, people have relied on simple rules of thumb, such as cutting 500 calories per day to lose 1 pound of body weight per week," Hall says. "It turns out that this rule overestimates how much weight people actually lose." The NIH Body Weight Planner uses technology based on years of scientific research to accurately calculate how your body adjusts to changes in your eating habits and physical activity.

NIH recently partnered with the U.S. Department of Agriculture (USDA) to add the NIH Planner to the USDA SuperTracker (www.supertracker.usda.gov) food and activity tool. When used in combination, the planning and tracking tools can make it easier for you to customize your plans.

The NIH Body Weight Planner "has changed my life," says one user.



"At 280 pounds, I decided to make a change. I used the Body Weight Planner and set a goal to reach 220 pounds in 180 days. I tracked my calories, dropped weight, and hit the 220 goal. My doctor was really happy."

Hall says the Body Weight Planner is compatible with most Web and mobile browsers. NIH is also working to develop mobile apps for tracking your body weight and physical activity, and for assessing how well you stick to your plan over time. This will help you change your plan or goals as needed.

Try the NIH Body Weight Planner at <http://BWPlanner.niddk.nih.gov> to take charge of your weight and your health in this new year. Be sure to talk with your health care provider about setting realistic and healthy weight goals. ■



Wise Choices Reaching Weight Loss Goals

Eat Healthy

- Eat smaller portions.
- Select a mix of colorful vegetables each day.
- Choose whole grains.
- Go easy on fats and oils.

Be Active

- Stick with activities you enjoy.
- Go for a brisk walk, ride a bike, or do some gardening.
- Do strengthening activities. Lift canned food or books if you don't have weights.
- If you're short on time, get active for just 10 minutes, several times a day. Every little bit counts!

Build Healthy Habits

- Make a healthy shopping list and stick to it.
- Keep a food and physical activity diary to track your progress.
- Be realistic and aim for slow, modest weight loss.



Web Links

For more about weight loss goals, click the "Links" tab at: <http://newsinhealth.nih.gov/issue/Jan2016/Feature2>



Health Capsules

For links to more information, see these stories online:
<http://newsinhealth.nih.gov/issue/Jan2016/Capsule1>

Breastfeeding May Help Health After Gestational Diabetes

A study suggests that breastfeeding may help women with a history of gestational diabetes from later developing type 2 diabetes.

About 5-9% of pregnant women nationwide develop high blood sugar levels even though they didn't have diabetes before pregnancy. This condition, called gestational diabetes, raises a woman's risk for type 2 diabetes later in life. Left untreated, type 2 diabetes can cause health problems such as heart disease, stroke, kidney disease, blindness, and amputation.

Past studies found that breastfeeding causes certain changes in the mother's body that may help protect against type 2 diabetes. However, the connection hadn't been proven, especially among women who'd had gestational diabetes. An NIH-funded research team at the Kaiser Perman-

ente Division of Research set out to address the question.

The team enrolled more than 1,000 ethnically diverse women who were diagnosed with gestational diabetes. Their lactation intensity and duration were assessed by feeding diaries, in-person exams, phone calls, and questionnaires. Researchers tested blood sugar 6 to 9 weeks after delivery and then annually for 2 years.

During the 2-year follow-up, nearly 12% of the women developed type 2 diabetes. After accounting for differences in age and other risk factors, the researchers estimated that women who exclusively breastfed or mostly breastfed were about half as likely to develop type 2 diabetes as those who didn't breastfeed.

How long women breastfed also affected their chance of developing

type 2 diabetes. Breastfeeding for longer than 2 months lowered the risk of type 2 diabetes by almost half. Breastfeeding beyond 5 months lowered the risk by more than half.

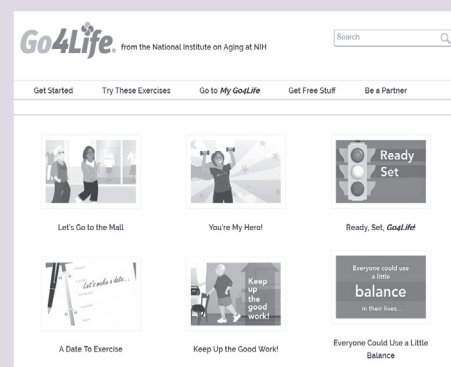
"These findings highlight the importance of prioritizing breastfeeding education and support for women with gestational diabetes as part of early diabetes prevention efforts," says study lead Dr. Erica P. Gunderson. ■



Featured Website Health E-cards

<https://go4life.nia.nih.gov/ecards>

Make someone's day with a motivational e-card from NIH's *Go4Life*, an educational and physical activity campaign for older adults. Does your friend need encouragement to keep exercising? Think your neighbor would make a great workout buddy? Want to inspire your mom to get ready, get set, and get going? Try sending these free animated e-cards to your friends and family.



Substance Abuse in Women

It can be hard for anyone with a substance use disorder to quit. But women can face unique concerns.

Scientists who study substance use have found special issues related to hormones, pregnancy, breastfeeding, and menopause that can affect women's struggles with drug use. Women themselves report using drugs for reasons such as controlling weight, fighting exhaustion, coping with pain, and self-treating mental health problems.

Culturally defined roles for men and women can also have an effect. Women may be afraid to get help

during or after pregnancy due to possible legal or social fears. Women in treatment often need additional support for handling the burdens of work, home care, child care, and other family responsibilities.

Women may also respond differently than men to certain treatments. For instance, nicotine replacement (patch or gum) does not work as well for women as for men.

Learn more about the unique substance use issues that women face at www.drugabuse.gov/publications/drugfacts/substance-use-in-women. ■

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