

How to Manage High Blood Pressure (With the Help of a Few Giraffes)

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People have long adored giraffes for their friendly faces, their tall and somewhat strange stature and, of course, those impossibly long necks. Now, researchers believe that giraffes may also offer physiological insights into certain health conditions.

With a neck that can be longer than six feet, giraffes seemingly should struggle with the consequences of high blood pressure, also known as hypertension, because of their blood's substantial uphill climb from the heart to

the brain.

But they don't.¹

Their hearts are of typical size for mammals, relative to body mass.² Yet the cardiac output is low—whether they're stretching up to reach leaves or dipping down to drink from a river—even as the pressure at their heart can reach 200 to 300 mmHg, which, is more than twice that of humans.¹

The giraffe's physiology seems to have adapted to this high blood pressure in a number of ways, including a sophisticated system of valves that keeps the giraffe's blood from pooling in its head and protects its lower limbs from higher arterial pressure. Giraffes' kidneys and hearts also have adapted to effectively manage the pressure.²

Researchers continue to study this hypertension anomaly of the animal kingdom. They believe that revealing the secrets of giraffes' circulatory systems could provide humans with new tools to combat high blood pressure and better understand heart disease,¹ which is the leading cause of death for people in the U.S. across most racial and ethnic groups.³

What Is High Blood Pressure?

High blood pressure occurs when blood flows through the arteries with more force than normal. It's expressed by comparing two measured numbers: systolic pressure and diastolic pressure. Systolic refers to the pressure in the arteries when the heart beats; and diastolic refers to the pressure when the heart rests.⁴

For the average adult, a normal blood pressure reading is less than 120 mmHg (systolic) and 80 mmHg (diastolic), with the caveat that it can change during the day depending on activity.⁴ Health care professionals may follow varying guidelines when diagnosing high blood pressure. Some consider it high if repeated systolic readings are higher than 130 or repeated diastolic readings go above 80; others consider it high if repeated systolic readings are 140 or higher or repeated diastolic readings are 90 or higher.⁴

Blood pressure, and the risk of developing hypertension, can increase with age as the body's vessels stiffen and thicken over time. Family history and genetics can contribute, as well as lifestyle habits such as unhealthy diet, excessive alcohol or caffeine consumption, smoking, using certain illegal drugs, not getting enough physical activity, and not getting enough quality sleep.⁵

Certain health conditions, such as being overweight or obese or having particular types of tumors, chronic kidney disease, metabolic syndrome, sleep apnea, or thyroid problems can increase the risk for developing hypertension. So can pregnancy; pre-eclampsia, which can cause high-blood pressure and other health problems, is more common in African American women.⁵

Traits like race, ethnicity, and sex are also factors. African American and Hispanic adults have a greater tendency to have high blood pressure than their Asian or white counterparts. Those assigned male at birth are more likely than those assigned female to develop high blood pressure in middle age, but the trend flips in later life. Even factors such as income, education, job type, work schedule, home location, stressors, or traumatic experiences can increase the risk of high blood pressure.⁵

How to Manage Hypertension

Hypertension usually offers no warning symptoms.⁴ It's estimated that half of adults in the U.S. have high blood pressure, and many may not be aware.⁶ Not knowing about hypertension is particularly dangerous, because the high pressure can damage important organs like the heart, brain, kidneys, and eyes, and it can increase the risk

for a heart attack or for stroke—a leading cause of death in the U.S.^{4,6}

As scientists continue to prioritize the development of new therapeutic approaches to combat high blood pressure, patients can help manage their hypertension by following established guidance.

For starters, people should know their numbers. At regular medical appointments, a healthcare professional can measure blood pressure and share lifestyle advice, accordingly.⁴

One tried-and-true tip for managing heart risks, according to a study from the, is to lower sodium chloride (table salt) intake. The study found that hypertensive patients over age 60 reduced their risk of stroke, major cardiovascular events, and death just by switching to a salt substitute.⁷

More than 70% of sodium in a person's diet comes from processed and prepared foods. Some of the foods known for being high in sodium include pizza, deli meat sandwiches, soups, salty snacks (chips, crackers, and popcorn), burgers, poultry, pasta dishes, and egg dishes.⁸

Reading food labels can help track sodium intake; a food that has 5% or less of your daily value of sodium is considered low-sodium and food with 20% or more of a daily value of sodium is high. These numbers are based on a goal daily value of lower than 2,300 milligrams.⁸

Another area of focus is a sleep routine. Blood pressure decreases during normal sleep, but in people with disrupted sleep patterns, it can stay elevated for longer periods of time. The Centers for Disease Control and Prevention (CDC) recommends sticking to a regular sleep schedule (even on weekends), getting enough natural light during waking hours, avoiding artificial light (like on a smartphone or computer) especially before bedtime, and keeping the bedroom cool, quiet, and dark.⁹

It's also important to remember that people may play an important role in managing their blood pressure, just by making healthy choices. Those include exercising moderately for at least 30 minutes five days a week, maintaining a healthy body weight, making healthy food choices that include limiting sodium and alcohol, quitting smoking and managing stress.⁴

And if high blood pressure isn't controlled by healthy habits, a doctor may add prescription blood pressure medications to the treatment plan.⁴

The Future of Hypertension Research: Beyond Giraffes

As scientists continue to study giraffes and hypertension, we can all look forward to new learnings. After all, who doesn't want to know more about the world's tallest creature, and what, literally, makes it tick?

But in the meantime, it's important that we take what scientists already know to heart. High blood pressure is known as the "silent killer" because of the way it can creep up, undetected. By taking heart-healthy steps—including having your blood pressure measured regularly—you may be able to manage, or even prevent high blood pressure.⁴

, Tips for managing high blood pressure, and how researching giraffes is helping humans fight hypertension.

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