Health by Heart

Heart disease still tops the list of life-threatening health concerns. But doctors say that with better education, Americans can make a real dent in their own risk and enjoy longer, healthier lives.

BY KAREN SPRINGEN

Heart disease is the nation’s leading cause of death, killing 610,000 Americans each year. Why? After all, the fixes sound so simple: control blood pressure and cholesterol, stay active, lose weight, stop smoking, eat better.

"Sometimes it’s difficult to be motivated to practice all of the healthy living habits that have been shown to reduce the risk of cardiovascular disease or events—until you get that wake-up call," says Dr. William T. Abraham, chair of excellence in cardiovascular medicine at Ohio State University. "It’s the habits you establish in your teens and 20s that set the stage for what’s going to happen in your 40s, 50s and beyond. When you’re really young, it’s really hard to see that far into the future."

With more education about the risks and rewards of how they treat their hearts, Americans may realize it’s worth trying to envision their well-being decades
into the future. “With half of men and a third of women developing cardiovascular disease in their lifetimes, we really want to engage people long before they develop symptoms or actually have a heart attack or stroke,” says Dr. Michael McConnell, director of cardiovascular health innovation and co-director of preventive cardiology at Stanford Health Care.

THE TROUBLE WITH CHOLESTEROL
Cholesterol helps the body digest food and make hormones. But too much of the bad kind of cholesterol—LDL—contributes to plaque that slowly accumulates. Those deposits harden, narrow and eventually even block the vessels that bring blood to the heart. “Coronary artery disease takes time to build up,” says Dr. Vic Froelicher, a cardiologist who directs the Sports Cardiology Center at Stanford Health Care.

It’s like plumbing: Bad LDL cholesterol clogs the pipes, but good HDL cholesterol unclogs them. “Good cholesterol takes those fatty deposits out of the blood vessels,” says Abraham.

“Basically, HDL cholesterol particles go out into the peripheral tissue, pick up the cholesterol that’s deposited and bring it back to the liver to be used in making bile, hormones and cell membranes,” says Dr. Stephen Devine, a cardiologist who directs the cardiovascular disease prevention clinic at Gundersen Health in LaCrosse, Wisconsin.

Nearly one in three Americans has high levels of LDL cholesterol. Abraham says that people with coronary disease should keep LDL minimally under 100 milligrams per deciliter (though many specialists aim for less than 70). In those with two or more risk factors for coronary disease, LDL should be less than 130, though again, he adds that specialists aim for lower numbers, 100 in this case.

Pay attention to your good and bad cholesterol numbers more than the overall number, advises McConnell. “Two people can have the same total cholesterol—one will have lots of the good and not much of the bad and the other will have lots of the bad and not too much of the good. We look at how much is good and how much is bad.”

UNDER PRESSURE
One out of three U.S. adults has high blood pressure, which means blood is pushing with too much force against the walls of the arteries as it pumps, straining the heart and arteries.

Ideal blood pressure is 120/80—the top “systolic” number refers to the blood pressure when the heart is pumping blood into the vessels and the bottom “diastolic” number refers to the pressure when the heart rests between beats. Blood pressure greater than 140/90 indicates that the heart is working too hard. It also means the walls of the vessels are experiencing stress.

“That can create an entry point for the bad cholesterol to get into the walls,” says Abraham. Medicine can dilate the blood vessels, opening them up and reducing the pressure on them. “If you put the same volume of fluid through a small pipe versus a large pipe, the pressure is higher in the smaller pipe,” Abraham explains.

SODIUM SENSITIVITIES
The American Heart Association recommends daily consumption of no more than 2,400 milligrams of sodium, about the amount in a teaspoon of table salt, and says that reducing daily intake to 1,500 mg is desirable. Why? Because sodium retains water, increasing the volume of blood in the body—which boosts blood pressure and makes the heart work harder. That’s a problem if this vital organ isn’t strong enough to pump the extra fluid.

“There’s no question that sodium is associated with high blood pressure,” says Dr. Manesh Patel, director of interventional cardiology and cardiac catheterization at Duke University Health System. The body does need some sodium, but Dr. Carl “Chip” Lavie, medical director of cardiac rehabilitation and prevention and director of the exercise laboratories at the John Ochsner Heart and Vascular Institute, points out that there isn’t a consensus about the ideal amount. “There is some serious debate in the literature about how low we should be going with salt.”

Salt sensitivity varies from person to person. “There are some lucky individuals who have normal to low blood pressure who seem to be able to consume lots of salt and tolerate it very well,” says Abraham. Devine’s advice to patients with high blood pressure is simple: “When [food] hits the table, don’t add salt.”

ALCOHOL’S TRIPLE TROUBLE
People who consume one drink a day may get some heart benefit. “[But] we never suggest that people who don’t drink should start drinking,” says Lavie.

Too much liquor can weaken the heart muscle, making it large and floppy, and raise blood pressure.

“I’ve seen patients in their 20s have congestive heart failure because of their alcohol intake,” says Abraham. It’s a diuretic that causes water loss, but also causes the heart to dilate so it can’t squeeze as well.
Heart Tech

Wearable devices not only track activities and alert you when you should be doing more—they also show the promise of what’s possible in monitoring your own health. BY KAREN SPRINGEN

In his State of the Union address this year, President Barack Obama launched a Precision Medicine Initiative “to bring us closer to curing diseases such as cancer and diabetes and to give all of us access to the personalized information we need to keep ourselves and our families healthy.”

One of the most significant factors in making this idea possible? Wearable electronics. The devices make it easier to record and share information, making it tricky to fib about exercise.

“Physical inactivity is the greatest threat to health in the 21st century,” says Dr. Chip Lavie, medical director of cardiac rehabilitation and prevention and director of the exercise laboratories at the John Ochsner Heart and Vascular Institute, and author of The Obesity Paradox. “Maybe some of these devices will get people to recognize how low their physical activity is.”

Today these devices help users track and maintain healthy behavior. Wearers see that small changes can boost their numbers. “Instead of taking the closest parking space I can find, I now park farther away,” says Dr. Ricky Bloomfield, director of mobile technology strategy for Duke University’s Health Technology Solutions.

With some devices, people may choose to integrate their information into electronic medical record-sharing systems. Apple’s HealthKit, for example, lets health and fitness services share their data. Some day, just as credit card companies get alerted to a purchase in an unusual country, abnormal vital statistics might sound an alarm if the system registers something such as an irregular heart rhythm, says Dr. Euan Ashley, co-director of Stanford’s Clinical Genomics Service.

The devices already function as mini personal trainers. The Apple Watch, for example, senses when someone is sitting in a chair for more than 50 minutes—and sends a message that it’s time to stand up. “It’s giving you friendly nudges,” says Dr. Richard Milani, chief clinical transformation officer for Ochsner Health System.

For now, the devices are far better at accurately measuring movement than caloric expenditure. A recent study found that activity monitors such as the Fitbit perform comparably to research-grade ones when it comes to step count and sleep time but not as well for caloric expenditure.

Prices for more advanced wearables might make some consumers balk, but the investment can pay off. Stanford (with help from the American Heart Association) launched an iPhone app called MyHeart Counts that gives Apple Watch wearers feedback, including their “heart age.”

Of course, these devices can’t do everything. Today, they can’t sense what users eat—but stay tuned. “Things tend to move faster than we usually imagine,” Ashley says.

FIT TO WEAR

JAWBONE
The Jawbone UP3 tracks activity and sleep, helps you log your food intake and also tracks your resting heart rate. $179.99

FITBIT
Among a host of other functions, Fitbit’s Charge HR boasts continuous and automatic heart rate monitoring. $149.95

APPLE WATCH
With activity prompts, tracking, heart monitoring and more, the Apple Watch is a multitasker extraordinaire. From $349

“Alcohol hurts three ways,” says Dr. Timothy Church, an American Heart Association spokesman, director of the Laboratory of Preventive Medicine at the Pennington Biomedi cal Research Center in Baton Rouge, Louisiana, and chief medical officer at ACAP Health in Dallas, Texas. “It’s a very calorically dense molecule; it changes how we metabolize fat—hence the beer belly; and when we drink, we tend to eat.”

GET A MOVE ON
Thirty-one percent of U.S. adults say they participate in no leisure physical activity, even though it improves quality and length of life and decreases the risk of heart disease.

Exercise makes vessels less stiff, relaxes the heart and improves the way the body metabolizes sugar, decreasing the risk of diabetes, says Abraham. It also makes the heart fitter and the blood less likely to coagulate. It even decreases stress-related mortality risk, says Lavie.

Kids’ activity levels are the No. 1 determinant of their weight, says Church, and they’ve been cut drastically. “We’ve removed recess, we’ve removed PE, we drive our kids everywhere.”

And Americans become more sedentary with age. “As we accumulate life responsibilities . . . we spend more time sitting,” says