



AVIATION MEDICAL BULLETIN™

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FEBRUARY IS AMERICAN HEART MONTH

Heart Disease is the #1 killer in the United States

It claims approximately 1,000,000 American lives every year.

42% of women and 24% of men who have heart attacks DIE within 1 year

Source: American Heart Association

LET'S DO LUNCH THE HEALTHY WAY

From fast food restaurants and delis exploding with high-calorie sandwiches to salad bars stocked with high-fat and high-sugar add-ons, lunchtime can be a minefield of temptation for those trying to eat a healthy and balanced diet.

But a healthful and enjoyable lunch can be done. These simple tips can help.

Your meal should include lean protein, whole-grain carbohydrates, and produce. Roughly half of your plate should be vegetables or fruit; one-quarter should be lean protein such as fish, chicken, turkey, tofu, beans, or low-fat cottage cheese; and one-quarter should be whole grains, such as one slice of whole-grain bread, or half a cup of brown rice, whole-wheat pasta, or quinoa. You might include a small amount of healthy fat, such as a tablespoon of oil-and-vinegar dressing on your salad.

Salad can be a good way to go, but you need to be careful. Regular salad dressings, cheeses, and mayonnaise-based salads (such as tuna, chicken, and egg salads) can contain unhealthy fats, hidden sugar, and salt. Not to mention lots of calories.

Here's the trick to a healthy and satisfying lunch salad.

Step 1: Build a vegetable base. Load your plate with leafy greens and raw or grilled vegetables.

Step 2: Add some protein — a few scoops of garbanzo or kidney beans. Beans are an excellent source of fiber — and they're filling! Other good selections include grilled chicken, low-fat cottage cheese, or chopped eggs. Go light on the cheese. A sprinkle of a strongly flavored cheese like feta or Parmesan can deliver flavor with fewer calories.

Step 3: Add a small amount of healthy fat. Sprinkle on the nuts and seeds. They are high in heart-healthy unsaturated fat and healthy protein, give you a feeling of fullness, and help food stay in your stomach longer. You might also opt for a dash of oil and vinegar.

Step 4: Whole grains and fruit make a nice addition to a creative salad. Look for whole grains like barley or bulgur wheat to sprinkle on top. Or add a few slices of fruit.

Source: Nutrition Action Healthletter

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HOW TO WRECK YOUR HEART

No one sets out to hurt their heart. But some habits can add up over time, taking their toll.

You can't control things like your family history, or aging. But you have more power than you may think.

There's a lot of reason to believe you can trump your family history or promote a healthier, longer life if you focus as early as possible on the risk factors you can control.

Here are the top 5 habits to change, for your heart's sake:

1. Sit Too Much

You may have heard that "sitting is the new smoking." *It's true:* Spending a lot of time seated is bad for you. Inactive people are nearly twice as likely to develop heart disease as those who are more active, according to the surgeon general.

Lack of exercise can harm your heart in many ways. For example, it can lead you to develop high blood pressure and unhealthy cholesterol levels.

But it's not just about working out. It's about moving more throughout your day.

The fix: A little more movement can make a big difference. Get up from your chair more often at work. Aim for at least 30 minutes of moderate exercise on most days of the week.

2. Ignore Heart Symptoms

Trying to convince yourself that the discomfort in your chest is just heartburn? It might be, but it could also be a warning sign that you have a heart condition or are having a heart attack. Don't miss an opportunity to protect yourself.

The fix: If you have any of the following symptoms, call 911 right away. Prompt treatment could save your life.

- ✓ Chest pain or discomfort
- ✓ Unexplained shortness of breath
- ✓ Discomfort in one or both arms, or in the back, shoulders, neck, or jaw
- ✓ Unusual tiredness

3. Put Off Your Check-Up

You can delay doing a lot of things, but when you put off seeing your doctor, your heart may pay the price.

The fix: Make an appointment. A visit to the doctor will let

you know if you have high blood pressure, cholesterol, or blood sugar. Left untreated, each of these conditions can damage your heart.

4. Carry a 'Spare Tire'

Being overweight puts extra strain on your ticker and increases the odds you'll develop heart disease. If you store extra weight in your midsection, that in particular raises your risk doctors say.

The fix: Talk with your doctor about losing weight, and talk with a nutritionist about maintaining a healthy diet.

Shedding a few pounds can go a long way. Even just a 5% to 10% drop in your weight can lower your heart disease risk.

5. Light Up

If you smoke a pack of cigarettes a day, you have more than twice the risk of a heart attack than a person who has never smoked.

Many of the chemicals in cigarette smoke get into the bloodstream and damage the inner lining of the arteries. Bad cholesterol collects on the artery walls, boosting the risk of heart attack.

The fix: Quit. No matter how long you've smoked, quitting can help reverse damage to the heart and blood vessels, and can dramatically cut your risk of heart disease and heart attack.

Source: Harvard Heart Letter

MYTHS ABOUT HYPERTENSION

Myth: "I don't have high blood pressure; I feel perfectly fine".

Truth: Hypertension, also known as high blood pressure, is "the silent killer" because a majority of patients with elevated blood pressure feel just fine. While it is not 100% clear why, imagine what happens to your fingertips if the blood flow to them is cut off (i.e. in cold weather); you start to lose sensation. Pain is harder to register in your hands at that point.

Now imagine the blood vessels in someone with a really high blood pressure (BP) - the arteries become hardened and stiff. Nearby nerves in the eyes, brain, heart, etc. may not be registering pain or distress the same. Hence, the absence of headaches, blurry vision, and dizziness (for example) does not mean automatically that everything is OK. In fact, those who feel the worst, and check their

blood pressures as a result, may actually be the lucky ones - and they are in the minority.

Myth: “No one in my family history had high blood pressure, so I should be fine”.

Truth: This is wrong for 2 reasons. First, hypertension may develop for a host of non-genetic reasons (age, stress, other medical illness, weight, smoking/drinking/drugs, high salt diet, medications, etc.). Second, see Myth #1. Imagine having a silent disease 20, 50, or 100 years ago.

With tougher economic times, less access to medical care, and shorter life spans in the past for many of our relatives, who exactly knows who had hypertension and who did not. If you don't have all the facts, it may be safer to assume that there may be a family history worth considering, just to be safe and proactive.

Source: Baylor Clinic Healthletter

WANT A STRONGER CORE? SKIP THE SIT-UPS

Sit-ups once ruled as the way to tighter abs and a slimmer waistline, while “planks” were merely flooring. Now planks — exercises in which you assume a position and hold it — are the gold standard for working your core, while classic sit-ups and crunches have fallen out of favor. Why the shift?

One reason is that sit-ups are hard on your back — by pushing your curved spine against the floor and by working your hip flexors, the muscles that run from the thighs to the lumbar vertebrae in the lower back. When hip flexors are too strong or too tight, they tug on the lower spine, which can be a source of lower back discomfort.

Second, planks recruit a better balance of muscles on the front, sides, and back of the body during exercise than sit-ups, which target just a few muscles. Remember, your core goes far beyond your abdominal muscles.

Finally, activities of daily living, as well as sports and recreational activities, call on your muscles to work together, not in isolation. Sit-ups or crunches strengthen just a few muscle groups. Through dynamic patterns of movement, a good core workout helps strengthen the entire set of core muscles — the muscles you rely on for daily activities as well as sports and recreational activities.

Source: Men's Health

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AMERICANS' BELLY FAT BOOMING

The obesity epidemic may be leveling off, but more Americans are carrying fat around the middle—the most dangerous kind of obesity.

A new CDC study says the rate of adult abdominal obesity has shot up from 46% in 1999-2000 to 54%. Abdominal obesity is defined as a waist size of more than 35 inches for women and 40 inches or more for men. During the 12-year span of the study, women's average waist size expanded two inches to 38 inches and men added an inch, to 40 inches.

People with excess belly fat—“apple”- shaped—are at greater risk of heart disease and diabetes than those who carry fat around the hips, thighs or buttocks (“pear”- shaped).

Source: JAMA

WEIGHT TRAINING KEY TO BATTLING BELLY FAT

Aerobic activity alone isn't enough. If you want to battle belly fat as you age, new research suggests you need to add weight training to your exercise regimen.

Researchers from the Harvard found that combining aerobic activities with weight, or resistance, training is key to preserving muscle and avoiding weight gain, particularly age-related belly fat. Because aging is associated with sarcopenia, the loss of skeletal muscle mass, relying on body weight alone is insufficient for the study of healthy aging, say researchers at Harvard's department of nutrition.

Measuring waist circumference is a better indicator of healthy body composition among older adults. Engaging in resistance training or, ideally, combining it with aerobic exercise could help older adults lessen abdominal fat while increasing or preserving muscle mass."

The long-term study was conducted over twenty years. It included more than 10,000 healthy men aged 40 or older whose body mass indexes (BMI) varied widely. BMI measures body fat by looking at weight and height.

The researchers analyzed the men's physical activity, weight and waist circumference to determine which exercises had the most significant effect on the men's waistslines, or the amount of belly fat they had.

The men who did 20 minutes of weight training daily had a smaller increase in belly fat than the men who spent the

same amount of time engaging in moderate to vigorous aerobic activities, such as stair climbing and yard work.

Meanwhile, the men who became more sedentary over the course of the study had a larger increase in belly fat.

Source: The Journal Obesity

TIPS FOR A SAFE AND SUCCESSFUL STRENGTH TRAINING PROGRAM

Strength or resistance training challenges your muscles with a stronger-than-usual counterforce, such as pushing against a wall or lifting a dumbbell or pulling on a resistance band. Using progressively heavier weights or increasing resistance makes muscles stronger. This kind of exercise increases muscle mass, tones muscles, and strengthens bones. It also helps you maintain the strength you need for everyday activities — lifting groceries, climbing stairs, rising from a chair, or rushing for the bus.

The current national guidelines for physical activity recommend strengthening exercises for all major muscle groups (legs, hips, back, chest, abdomen, shoulders, and arms) at least twice a week. One set — usually 8 to 12 repetitions of the same movement — per session is effective, though some evidence suggests that two to three sets may be better. Your muscles need at least 48 hours to recover between strength training sessions.

These tips can keep your strength training safe and effective.

- **Warm up and cool down for five to 10 minutes.** Walking is a fine way to warm up; stretching is an excellent way to cool down.
- **Focus on form, not weight.** Align your body correctly and move smoothly through each exercise. Poor form can prompt injuries and slow gains. When learning a strength training routine, many experts suggest starting with no weight, or very light weight. Concentrate on slow, smooth lifts and equally controlled descents while isolating a muscle group.
- **Working at the right tempo** helps you stay in control rather than compromise strength gains through momentum. For example, count to three while lowering a weight, hold, then count to three while raising it to the starting position.
- **Pay attention to your breathing during your workouts.** Exhale as you work against resistance by lifting, pushing, or pulling; inhale as you release.
- **Keep challenging muscles by slowly increasing weight or resistance.** The right weight for you differs

depending on the exercise. Choose a weight that tires the targeted muscle or muscles by the last two repetitions while still allowing you to maintain good form. If you can't do the last two reps, choose a lighter weight. When it feels too easy to complete add weight (roughly 1 to 2 pounds for arms, 2 to 5 pounds for legs), or add another set of repetitions to your workout (up to three sets). If you add weight, remember that you should be able to do all the repetitions with good form and the targeted muscles should feel tired by the last two.

- **Stick with your routine** — working all the major muscles of your body two or three times a week is ideal. You can choose to do one full-body strength workout two or three times a week, or you may break your strength workout into upper- and lower-body components. In that case, be sure you perform each component two or three times a week.
- **Give muscles time off.** Strength training causes tiny tears in muscle tissue. These tears aren't harmful, but they are important: muscles grow stronger as the tears knit up. Always give your muscles at least 48 hours to recover before your next strength training session.

Source: Harvard Health Letter

NOT EXERCISING? THAT'S AS BAD AS SMOKING

When you see someone smoking, you might question “Why would you do that to yourself when you know it could kill you?” Do you react the same way when you know someone doesn't exercise? You should.

When I was at a recent medical conference, one of the presenters reminded the *audience that research has shown physical inactivity to be as deadly as smoking*. I was shocked at this when I first heard it a couple of years ago, but I think I was just as shocked hearing it the second time. My guess is you are too. It's hard to imagine being inactive could be comparable to smoking, but it is.

You wouldn't dream of smoking (and if you do smoke, you're likely trying to quit), so why poison yourself with inactivity? But many of us do. Nearly *80% of us don't get the recommended amount of exercise*. Many experts agree the inactivity epidemic is more concerning than the obesity epidemic.

The benefits of exercise are numerous and irrefutable. It helps prevent heart disease, diabetes, breast and colon cancer, dementia, depression, and more. If you exercise, chances are you'll live a longer, healthier life. Period. What's so powerful about exercise? Take heart disease,

for example. Heart disease is associated with inflammation in the body. Exercise is a natural inflammation fighter. When you move, your muscles send out anti-inflammatory chemicals.

Also, every time you get up and move, your blood sugar, cholesterol, and triglycerides improve. When you sit down, they get worse. It's just about moving more.

If you're not active now, I'm sure it sounds overwhelming to start an exercise program. The good news is you can see health benefits with even a small amount of activity. Even taking a daily 5 minute walk around the office will improve your health. Slowly build up from there.

Ultimately, you want your goal to be 30 minutes at least 5 days a week of moderate exercise. We're talking about a brisk walk—hard enough that you can talk comfortably but not able to sing. But take your time getting there. Throw in resistance exercises a couple of days a week, and you're on track.

If you've tried exercise before and didn't lose weight, don't be discouraged. You are still getting health benefits even if you're not shedding weight. If you're overweight but active and fit, you can expect to live as long and healthy as someone who is normal weight and fit. Even if you're obese, being active helps you live a longer, healthier life than a normal weight person who isn't active.

Think you're too old for it to matter? Hardly. Regardless of your age, getting active has enormous benefits even in your 80s and beyond. We're not just talking about living longer, but living better with a higher quality of life.

As British-American anthropologist Ashley Montagu once said, ***"The idea is to die young as late as possible."***

Source: Reuters Health

STEERING WHEEL TOO CLOSE?

Sitting too close to your car's steering wheel can be dangerous. A deploying air bag could injure or even kill you. Susan Ferguson, PhD, with the Insurance Institute of Highway Safety, Arlington, VA, says, "Adjust your seat so that your chest is at least 10" from the center of the wheel.

Also, drive with your hands at 9 and 3 o'clock to keep them clear of the bag, should it deploy.

Source: Bottom Line Health

STEP TO FITNESS

Haven't got time to exercise? Then climb the steps in your office building.

Researchers had healthy but sedentary college-age women climb six flights of steps a day. (A flight consisted of 200 steps.) They began with one flight the first day, and gradually worked up to 6 flights. Each flight took about 2 minutes and 15 seconds.

After seven weeks, the climbers were compared to a similar sedentary group.

- ✓ Their resting heart rates were lower.
- ✓ Their bodies used oxygen more efficiently.
- ✓ Their exercise heart rates were lower.
- ✓ Their ratio of good cholesterol to total cholesterol improved by 20%.

That kind of change can cut a middle-aged adult's risk of a heart attack by a third. All of this for a mere 13½ minutes a day.

Source: Health

BAD AIR DAYS

Bad air days have been called a "runner's worst enemy." Running and FitNews says air pollution reports should be important to runners.

Carbon monoxide, often present at high levels in urban settings, plays havoc with blood hemoglobin. Like oxygen, CO binds to hemoglobin, but for some odd reason, blood hemoglobin prefers CO. (The affinity of hemoglobin for a molecule of carbon monoxide is 210 times greater than for a molecule of oxygen.) And every molecule of CO that attaches itself to hemoglobin decreases the amount of oxygen that is carried to muscles and vital organs. "And it takes more than 8 hours for hemoglobin to return to normal after just 60 minutes exposure to rush hour levels of carbon monoxide."

Ozone. A little ozone from a thunderstorm can have a purifying effect, but in high concentrations it is a noxious air pollutant. In fact, it is so significant that air pollution reports single it out for reporting separately. When inhaled, ozone tends to stay in your lungs, decreasing lung function and causing lung inflammation.

Air pollution is particularly insidious to persons with asthma, allergy suffers, and anyone with already impaired lung function.

The effects of air pollution can be more harmful on runners because of increased ventilation rates, deeper inhalation and higher oxygen demands. In addition, during running, air is inhaled mostly through the mouth, bypassing the nasal mucosa—one of the body's primary lines of defense against pollutants. And because runners process more air, the effects of bad air are further enhanced.

When air pollution reports are issued, it's time to think about exercising indoors, or at least follow the guidelines listed below:

- Run early, before rush-hour traffic and heat combine to raise air pollutants to their highest levels.
- Run in parks or roadways away from heavy traffic.
- Remember, running outside at "dangerous" levels is not a sign of toughness.

IF YOU TAKE SUPPLEMENTS

If you take supplemental vitamin C and E, take them together. C appears to improve the absorption of E.

Source: University of California Berkeley Wellness Letter

LABELING ADDED SUGARS WOULDN'T CONFUSE CONSUMERS

Would labeling "added sugars" on the Nutrition Facts panel confuse consumers, as industry opponents of the change have suggested?

A new study published rebuts those concerns: 63% of those surveyed said that including added sugar as a subset of total sugar on product labels would help them track and reduce their sugar intake. Only 18% responded that the change would be more confusing than helpful, giving reasons "that suggest they were indifferent to the information" rather than truly confused, and were likely among those who seldom look at nutrition labels anyway.

Source: The Journal Obesity

EGG CONSUMPTION PROJECTED AT EIGHT-YEAR HIGH

The "incredible, edible egg" is back ruling the roost, with US consumption expected to hit an eight-year high—almost back to the level of 2006, before concerns over cholesterol caused a slump.

The American Egg Board reports that consumers have added 10 eggs per capita since 2011, cracking an estimated 257.9 eggs per person per year in 2014. Overall egg production was up 3% over 2013.

HOW TO SPOT A HEART ATTACK

What Is a Heart Attack?

A heart attack happens when the blood flow to your heart is suddenly reduced or cut off. Your blood carries oxygen to the heart. During a heart attack, your heart muscle doesn't get the oxygen it needs. Without oxygen, the heart muscle can be damaged or destroyed.

Getting your blood flow restored quickly is the key to recovery. Get medical help right away if you think you're having symptoms of a heart attack.

Causes of a Heart Attack

A buildup of cholesterol and a fatty material called plaque in your artery walls usually causes a heart attack. The buildup of plaque takes years.

Most heart attacks happen when plaque breaks off your artery wall. A blood clot then forms around the broken-off plaque, blocking the artery.

Heart Attack Symptoms

Men and women have different symptoms, but both may have pain, pressure, or discomfort in the chest. Other symptoms include shortness of breath, sweating, fainting, and nausea. You may also have pain in the neck, jaw, or shoulders.

Men are more likely to break out in a cold sweat and feel pain move down the left arm during a heart attack.

Symptoms in Women

About 435,000 women have heart attacks in the U.S. each year. The symptoms can be so mild they are often dismissed as something minor.

Women are more likely than men to have back or neck pain, heartburn, shortness of breath, nausea, vomiting, and indigestion. They may also feel extremely tired, light-headed, or dizzy. Flu-like symptoms and sleep problems may also occur 2 weeks before a heart attack.

What to Do

If you or someone you're with has symptoms that might be a heart attack, call 911 right away. You're more likely to survive if you get treated within 90 minutes.

While you're calling 911, the person with heart attack symptoms should chew and swallow an aspirin to lower the risk of a blood clot (unless they're allergic). If the person is unconscious, hands-only CPR can double his chances of survival.

Diagnosis of a Heart Attack

An EKG, which checks your heart's electrical activity, can help doctors see if you're having a heart attack. It can also show which artery is clogged.

Doctors can also diagnose a heart attack with blood tests that measure the proteins that are released when heart muscle cells die.

Heart Attack Treatment

Doctors will move quickly to restore the flow of blood to your heart. You may get drugs that dissolve blood clots in your arteries.

You'll likely get a procedure called a coronary angiogram. Doctors put a thin tube with a balloon on the end through your artery. It opens up the blockage by flattening the plaque in your arteries. Most times doctors place a small, mesh tube called a stent in your artery to make sure it stays open.

Risks for Heart Attack

Your odds of having a heart attack go up with age, and men have a greater risk than women. A family history of heart disease also increases your risk.

Smoking can raise your risk of a heart attack. So can having high blood pressure, high cholesterol levels, diabetes, and being obese. Other things that can raise your risk of a heart attack are a lack of exercise, depression, and stress.

Prevent a Heart Attack

If you smoke, stop. It will immediately cut your chances of a heart attack by a third.

Get exercise and eat right. The American Heart Association recommends 150 minutes of moderate-intensity exercise per week. Eat plenty of fruits, veggies, and whole grains to keep your arteries healthy. Taking a daily aspirin helps some people prevent a heart attack. Talk to your doctor to see if it's right for you. Find positive ways to manage stress.

Life After a Heart Attack

If you're in the hospital for a heart attack, you may come home in just a few days. You can resume your normal activities after a few weeks.

Source: Harvard Men's Health Watch

SUPPLEMENTS FOR HEART HEALTH

Could supplements really boost your heart health? They might. Research shows that some supplements -- in addition to lifestyle changes and medical treatment if you

need it -- may help lower cholesterol, improve blood pressure, and reduce other risk factors for heart disease. It's unclear if supplements actually help prevent heart disease.

Fiber and Sterols for Your Heart Fiber. Found naturally in fruits, grains, vegetables, and legumes, fiber cuts down the amount of cholesterol your body soaks up from food. It's best to get your fiber from foods, but fiber supplements are another option. Strive to get at least 25 to 30 grams of fiber daily. There's good evidence that blond psyllium husk -- common in fiber supplements -- can lower "bad" LDL cholesterol. It can also raise "good" HDL cholesterol.

Sterols and Stanols. These natural compounds are in foods like nuts and grains. They reduce the amount of cholesterol that your body absorbs from food. Sterols and stanols are sold as supplements. They're also added to many foods, such as some margarines, orange juice, and yogurts. Experts recommend 2 grams a day.

Other Supplements That May Offer Benefits CoQ10.

Your body naturally makes small amounts of CoQ10, also known as ubiquinone and ubiquinol. It's key for normal cell function. As a supplement, CoQ10 may help lower blood pressure, either on its own or along with drugs. Other studies have found that adding CoQ10 to heart failure drugs may improve symptoms and quality of life.

CoQ10 supplements are also popular as a treatment for statin side effects. Why? Statins can sometimes lower natural CoQ10 levels. Some doctors suggest adding a CoQ10 supplement to counteract the effect, hoping it will relieve statin side effects like muscle pain and weakness. However, study results have been mixed.

Fish Oil. Fish oil with omega-3 fatty acids can slash levels of triglycerides -- an unhealthy fat that can cause clots in the arteries -- by up to 50%. Fish oil may also improve blood pressure. But it's not clear if non-prescription fish oil supplements lower your risk of heart attack and stroke. Some research suggests they may. However, a study found that fish oil supplements didn't seem to help prevent heart-related deaths. Eating fish with omega-3 fatty acids is a better bet. The American Heart Association recommends that adults eat two 3.5-ounce servings of fish a week.

Ask your doctor which supplement is most likely to help. If you have a heart condition or other risk factors for heart attack, for your safety, you must follow your doctor's advice. Trying to treat a serious health condition on your own with over-the-counter supplements is way too risky.

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