

# MAYO CLINIC HEALTH LETTER

Reliable Information for a Healthier Life

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## Aortic valve narrowing

### Restricted blood flow may limit physical activity

You've always considered yourself relatively fit for your age. You diligently swim and take group fitness classes.

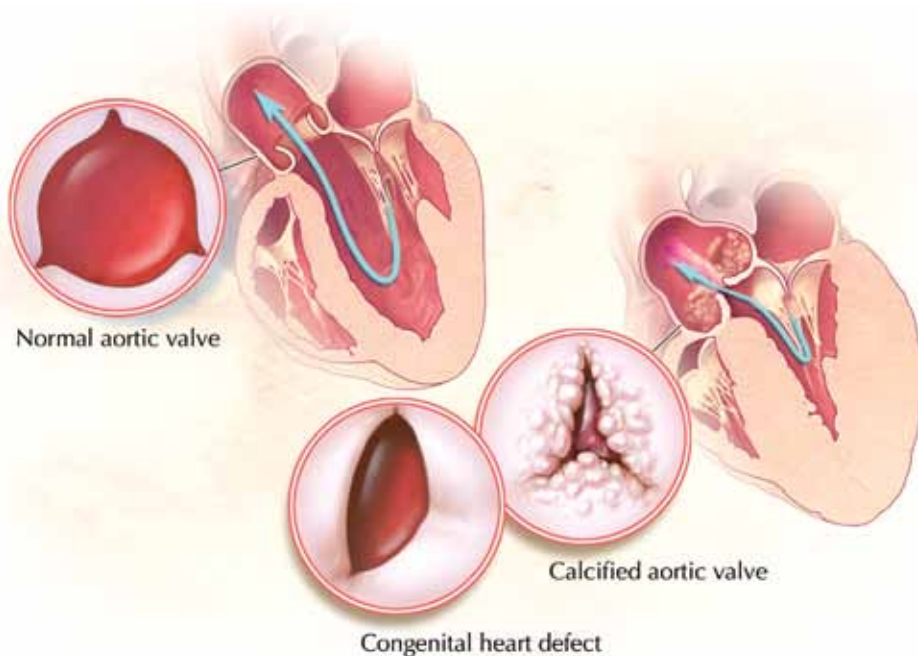
That was why it was surprising when you started feeling unusually winded during your workouts. In a recent class, you had to stop because you felt faint. This led you to get a checkup and, eventually, a follow-up with a cardiologist. The diagnosis is a heart valve condition called aortic stenosis. *Stenosis* means narrowing or obstruction.

### Normal valve function

Your heart, the center of your circulatory system, consists of four chambers. The two upper chambers (the atria) receive blood, and the two lower chambers (the ventricles) pump blood.

Blood flows through your heart's chambers, aided by four heart valves. These valves open and close to let blood flow in only one direction through your heart. One of these valves is the aortic valve — your heart's gateway to the largest artery (aorta).

The aortic valve consists of three triangular-shaped flaps of tissue (leaflets). The leaflets of the aortic valve are forced open as the left ventricle — your heart's main pump — contracts and blood flows from it into the aorta. When all of the blood has gone through the



With age, heart valves may accumulate deposits of calcium that may result in stiffening of the leaflets of the aortic valve. Another valve problem occurs when a child is born with an aortic valve that has fewer than three leaflets.

valve and the left ventricle has relaxed, the leaflets close to prevent the blood from flowing back into the ventricle.

### A narrowed valve

A defective heart valve is one that fails to either open or close fully. One such defect is when the aortic valve narrows, as occurs with aortic valve stenosis. This narrowing prevents the valve from opening fully, which obstructs blood flow into your aorta and to the rest of your body.

Aortic stenosis occurs in three ways:

- **Calcium buildup on the valve** — With age, heart valves may accumulate deposits of calcium. In some cases, the deposits don't cause problems. But in some people, calcium deposits may result in stiffening of the leaflets of the aortic valve, narrowing the valve. In this case, symptoms may not appear until age 70 or beyond.
- **Congenital heart defect** — Some children are born with an aortic valve that has fewer than three leaflets. This defect may not cause problems until adulthood, at which time the valve may begin to narrow or leak and may need to be repaired or replaced. Symptoms often appear at younger ages.
- **Rheumatic fever** — A complication of a strep throat infection called rheumatic fever may result in scar tissue forming on the aortic valve, causing it

to narrow. Scar tissue can also create a rough surface on which calcium deposits can collect, leading to eventual stenosis. Although now rare in the U.S., some older adults had rheumatic fever as children.

### Detecting a problem

When the aortic valve is obstructed, your heart needs to work harder to pump blood to your body. Eventually, this extra work limits the amount of blood it can pump and may weaken your heart muscle.

Aortic stenosis may not produce warning signs right away, making it difficult to detect. The condition is often discovered during a routine physical, when your doctor hears an abnormal heart sound (murmur). Signs and symptoms of more severe stenosis include:

- Shortness of breath with exertion — the most common symptom
- Chest pain or tightness with exertion
- Feeling faint or fainting with exertion
- Fatigue, especially during times of increased activity
- Sensations of a rapid, fluttering heart-beat (heart palpitations)
- Heart murmur

Because a heart murmur is a product of a number of potential heart conditions, you'll likely be referred for further cardiac evaluation. Some of the common tests include:

■ **Electrocardiogram (ECG)** — In this test, patches with wires (electrodes) are attached to your skin to measure the electrical impulses given off by your heart. An ECG can provide clues about whether the left ventricle is thickened or enlarged — a problem that can occur with aortic stenosis.

■ **Chest X-ray** — An X-ray image of your chest allows your doctor to check the size and shape of your heart, to determine whether the left ventricle is enlarged. An X-ray can also reveal calcium deposits on the aortic valve, and it evaluates the appearance of your lungs.

■ **Echocardiogram** — This test uses sound waves to produce an image of your heart. An echocardiogram helps your doctor closely examine the aortic valve to check for obstruction. A specific type of echocardiogram (Doppler echocardiogram) is used to help determine the severity of the stenosis.

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## Aortic stenosis and dental procedures

In the past, it was recommended that people with aortic valve disease take antibiotics before dental procedures. While that's no longer the case for all people with aortic stenosis, it still applies to those who have had valve replacement. This is due to the risk of infection.

Endocarditis is an infection of the heart valves. It occurs when bacteria enter the bloodstream and travel to the heart — causing infection in your prosthetic valve. Because bacteria in the mouth are readily released during dental procedures such as teeth cleaning and extractions, it's recommended that people with prosthetic valves take antibiotics 30 to 60 minutes before these procedures.

In addition, optimal oral health can go a long way in reducing your chance of endocarditis. This means regular brushing, flossing and checkups, as recommended by your dentist.

■ *Cardiac catheterization* — This more invasive procedure may be needed if the other tests aren't able to reach a conclusive diagnosis. Your doctor threads a thin tube (catheter) through an artery in your arm or groin to your heart. This tube can measure the pressures in your heart and determine the severity of the stenosis. In addition, a dye injected through the catheter makes the heart's arteries visible on an X-ray. This helps show blockages that can coexist with aortic stenosis.

### **Surgery may be required**

Treatments recommended for aortic stenosis typically depend on the severity. If you have mild or moderate stenosis and no symptoms, your doctor may recommend regular checkups and periodic echocardiograms.

In general, surgery is necessary when the valve's narrowing becomes severe and symptoms develop. The procedures used include:

■ *Aortic valve replacement* — This is the primary surgical treatment for aortic stenosis. After carefully opening the chest, your surgeon removes the narrowed aortic valve and replaces it with a mechanical valve or a tissue valve. Mechanical valves — made from metal — are very durable, but they carry the risk of blood clots forming on or near the valve. If you receive a mechanical valve, you'll need to take an anticoagulant medication, such as warfarin (Coumadin) for the rest of your life to prevent blood clots. Tissue valves — which may come from a pig, cow, human donor or your own pulmonary valve — don't require anticoagulant medication but often need to be replaced with time. A discussion between you and your doctor will determine which valve is best for you.

■ *Transcatheter aortic valve replacement (TAVR)* — This procedure (shown at right) involves replacing the aortic valve with an artificial valve using a catheter that's passed through a blood vessel or punctured directly into the heart. TAVR is usually used only if

you're at increased risk of complications from open-chest surgery, largely because the long-term durability of these replacement valves isn't yet known.

■ *Balloon valvuloplasty* — For this procedure, a doctor guides a catheter through a blood vessel in your arm or groin to your heart. Once in position within the valve, a balloon at the tip of the catheter is inflated. The balloon pushes open the aortic valve and stretches the opening, improving blood flow. The balloon is then deflated and guided back out of your body. While often successful in children, this procedure doesn't cure aortic stenosis and is usually used as a temporary treatment while waiting for a more complete treatment. An exception is for adults who are too sick to undergo replacement surgery.

### **Life with aortic stenosis**

After valve replacement, you'll need regular checkups to monitor the new valve. Your doctor may prescribe certain medications to help your heart, such as ones to control heart rhythm disturbances often associated with aortic stenosis.

With proper treatment, people with aortic stenosis can live a long, full life. However, with untreated or uncorrected severe stenosis, you may be advised to limit the intensity of your physical activity in order to not strain your heart, especially while waiting for surgery. After valve replacement, you'll be advised to take preventive antibiotics before certain dental or medical procedures. □



## **Health tips**

### **Everyday movements for better health**

Can something as simple as getting out of your chair improve your health? Surprisingly, it can.

It's based on the concept of nonexercise activity thermogenesis (NEAT). NEAT is all of the calories (energy) you burn simply by living, rather than through exercise. This includes carrying in groceries, playing charades or sitting less. NEAT activities can lead to reduced body fat, improved cholesterol levels, a healthier heart and reduced risk of common weight-related conditions.

The movements you make throughout the day may not provide the benefits of regular exercise. But if you struggle to fit exercise into your day or if you have a sedentary lifestyle, increasing your daily NEAT can provide a boost in your physical activity.

To include more NEAT in your day:

- Stand while on the phone
- Walk around the house during TV commercials
- Park in the farthest spot in a parking lot
- Dance around the house while cooking and cleaning
- Tackle yardwork — water plants, pull weeds, clear rocks and sticks
- Tend a garden
- Invest in a movement-based video game system such as a Wii
- Wash your car by hand
- Organize your closets
- Use a standing desk
- Take up a new craft
- Volunteer — set up or take down an event, greet at the door, serve a meal □

## News and our views

### Carbonation influences sweet taste perception

Carbonated soda beverages are consumed by millions of people every day. But could these bubbly beverages be fooling your brain into thinking you're not getting enough calories from what you're drinking?

In a recent study, researchers used functional magnetic resonance imaging (fMRI) of the brain to determine whether carbonation interferes with the perception of sweetness and how that perception might differ in beverages sweetened with sucrose or no-calorie (artificial) sweeteners. As it turned out, regional brain activity depicted on fMRI showed that carbonated beverages strongly reduced the brain's ability to process sweetness-related signals.

Increased consumption of sweetened carbonated beverages appears to be associated with increased weight and metabolic syndrome. The link exists whether the drink contains traditional or no-calorie sweeteners. However, because of the high-calorie content, the magnitude of the effect of regular soda on these health concerns dwarfs that of diet soda. This study may provide some explanation of why this occurs, suggesting that reduced sweetness perception could stimulate sugar and food consumption because the brain may perceive lower sugar intake.

While the study provides additional insight as to how no-calorie beverages affect the brain and body weight, further study is needed to pinpoint the full mechanism. In the meantime, Mayo Clinic experts caution that diet soda isn't a silver bullet for weight loss. Although switching from regular soda to diet soda will save you calories, it's not clear how much it can help prevent obesity and related health problems. Ideally, keep all soda intake to a minimum. □



### One-third of cat bites result in hospitalization

When it comes to animal bites, dogs are the most likely creatures to be involved. However, cat bites account for about 10 to 15 percent of animal bites, and they can be deceptively dangerous.

A Mayo Clinic study looked at 193 people who sought treatment for cat bites over three years. Of those, 30 percent developed an infection severe enough to require hospitalization. About 70 percent of the bites involved older women. Once hospitalized, treatments included intravenous antibiotic drugs. In many cases, surgery was needed to clean out and irrigate the wound. In some people, more than one round of surgery was required.

Cats have teeth that can deeply penetrate skin and other tissues. This introduces bacteria deep into the body through a narrow puncture wound that can close itself off, minimizing natural drainage and trapping the infection. Smoking and location of the bite over a joint or a tendon sheath were identified as risk factors for poor outcome and hospitalization. A high percentage of cat bites occur in the hand and wrist, where tendons and joints are near the surface. When bacteria are introduced to these areas, lack of blood flow restricts the delivery of the immune system's infection-fighting blood cells.

Mayo experts recommend paying close attention to any cat bite for signs of infection. If signs develop, seek urgent care as soon as possible, which usually means visiting an emergency department. □

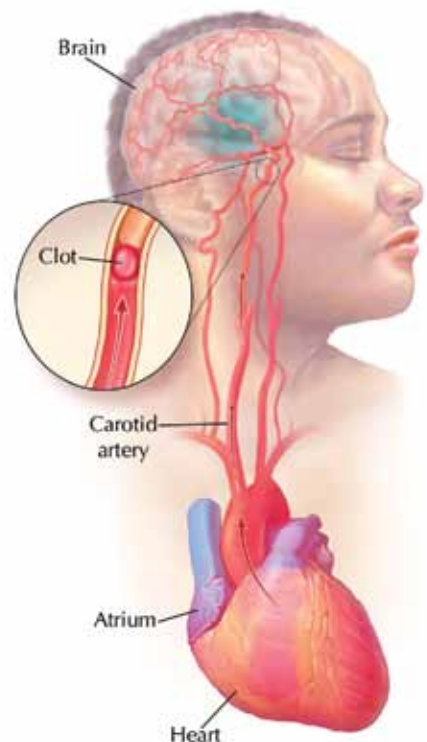
## Atrial fibrillation choices

### Picking an anti-clotting drug

Atrial fibrillation is a heart rhythm problem that can lead to the development of blood clots in the heart. These clots can break off and travel to — and potentially block — an artery that supplies blood to the brain. The result is a stroke. Atrial fibrillation is a serious stroke risk factor. About 15 percent or more of strokes are attributed to it.

That's why people with atrial fibrillation often take anti-clotting drugs.

For decades, the only anti-clotting drug option had been warfarin (Coumadin). But that's changed in the past few years. Now there are three additional options for anti-clotting drugs — and more options are in development.



**A stroke can occur if blood clots travel to — and potentially block — an artery that supplies blood to the brain.**

Although well-managed warfarin therapy remains an important and effective option, a major drawback is that weekly to monthly blood testing is required to closely monitor and adjust the medication dose so that the “thinness” of your blood stays within an acceptable range.

This is made more difficult because certain foods and drugs interact with warfarin, altering its effect on your blood’s clotting ability.

The newly available drugs don’t require monitoring because they cause a predictable anti-clotting level. Plus,

there aren’t any significant food interactions with these newer drugs. Still, achieving the appropriate effect requires reliably taking the appropriate dose of the drug.

One downside of the newer drugs is that — unlike warfarin — there isn’t a good agent to reverse the anti-clotting effect and rapidly stop a bleeding incident. They also cost more than warfarin, although the extra expense may be partially or fully offset by eliminating the need for frequent blood testing.

When it comes to preventing stroke due to a blood clot, all of the anti-clot-

ting drugs are similar in reducing risk by about 60 percent. If you’re taking warfarin and it’s well managed with minimal complications, there’s typically no advantage to switching to another drug.

However, there are many nuances to selecting the best anti-clotting drug for you. Depending on your circumstances, characteristics of one drug may be more attractive than others. In this way, deciding on an anti-clotting drug is a personalized decision between you and your doctor. Compare anti-clotting drugs in the chart below:

Drug	Pros	Cons	Not recommended for those who have ...
<b>Warfarin (Coumadin)</b>	<ul style="list-style-type: none"> <li>■ Long track record with predictable benefits and risks</li> <li>■ Once-daily dosing</li> <li>■ Clotting effect rapidly reversible if required</li> </ul>	<ul style="list-style-type: none"> <li>■ Requires weekly or monthly blood tests to monitor dosing</li> </ul>	<ul style="list-style-type: none"> <li>■ Difficulty complying with frequent blood tests and monitoring</li> <li>■ Difficulty achieving stable results with warfarin</li> </ul>
<b>Dabigatran (Pradaxa)</b>	<ul style="list-style-type: none"> <li>■ Slightly lower risk of stroke caused by blood clots or bleeding in the brain compared with warfarin</li> <li>■ No blood monitoring required</li> </ul>	<ul style="list-style-type: none"> <li>■ Much more likely than warfarin to cause stomach upset</li> <li>■ Slight increase in heart attack risk compared with warfarin</li> <li>■ Twice-daily dosing, making missed doses more likely</li> <li>■ Higher incidence of major bleeding events in those age 75 or older compared with warfarin</li> </ul>	<ul style="list-style-type: none"> <li>■ Heart valve issues</li> <li>■ Impaired kidneys or severe liver disease</li> <li>■ Stomach problems such as ulcers</li> <li>■ A history of heart attack</li> </ul>
<b>Rivaroxaban (Xarelto)</b>	<ul style="list-style-type: none"> <li>■ Once-daily dosing</li> <li>■ Rates of bleeding events or stroke caused by bleeding in the brain lower than with warfarin</li> </ul>	<ul style="list-style-type: none"> <li>■ Slightly higher risk of gastrointestinal bleeding than with apixaban or warfarin</li> </ul>	<ul style="list-style-type: none"> <li>■ Heart valve issues</li> <li>■ Severe liver or kidney disease</li> <li>■ A history of gastrointestinal bleeding</li> </ul>
<b>Apixaban (Eliquis)</b>	<ul style="list-style-type: none"> <li>■ Rates of stroke caused by bleeding in the brain lower than with warfarin</li> <li>■ Lower rate of major bleeding events compared with warfarin</li> <li>■ Lower rate of stomach upset than dabigatran</li> </ul>	<ul style="list-style-type: none"> <li>■ Twice-daily dosing, making missed doses more likely</li> </ul>	<ul style="list-style-type: none"> <li>■ Heart valve issues</li> <li>■ Moderate to severe liver disease</li> </ul>

# Cancer-related symptoms

## Finding relief

When it comes to cancer, dealing with the tumor is just part of the battle. Numerous signs and symptoms that may accompany cancer and the treatments you receive for it can impact your quality of life. Fortunately, there are strategies to help you manage the symptoms.

### Fatigue

Fatigue is probably the most common side effect of cancer. If you're experiencing cancer-related fatigue, bring it up at your next appointment. Your doctor can evaluate you for the many different causes of fatigue and may recommend certain blood tests in order to offer the most appropriate treatment.

If there are no specific treatments for the cause of your fatigue, you can help minimize it by:

- Planning activities for times when you usually have the most energy.
- Pacing yourself. Take short naps or rest breaks when you need them.
- Incorporating moderate exercise into your daily routine.
- Trying relaxation techniques.
- Reducing stress whenever you can.
- Asking your doctor if a medication could be contributing to your fatigue.
- Eating a good breakfast. Then re-fuel every three or four hours.
- Limiting high-fat and high-sugar foods.
- Being careful with alcohol and sedation producing medications.

In addition, two Mayo Clinic studies have found American ginseng to be helpful for cancer survivors and fatigue.

### Weight loss

Weight loss is common in people with cancer. Work with your doctor to determine the cause in your specific case. Weight loss itself may not be a significant problem, but if it bothers you, or if it leads to other symptoms

— such as weakness or fatigue — there are ways to help.

Increasing the amount of calories you eat may be helpful. This can be done by consuming more high-calorie beverages and foods — focusing on protein and complex carbohydrates such as whole grains — and by eating smaller, more-frequent meals throughout the day. If loss of appetite is the main reason for your weight loss, your doctor may recommend a medication to help stimulate your appetite.

In some cases, cancer-related weight loss may be difficult to reverse. In this case, focus on the pleasures of eating and focus less on your weight.

### Symptoms of infection

Cancer — and certain cancer treatments — can increase your risk of developing infections. Ask your doctor if you're at a higher risk of infection and ask what signs and symptoms you should report promptly. Fever or chills may be one example.

Based on your situation, you may receive treatment to prevent infection, such as being given an antibiotic or antifungal medication. There also are important steps you can take to help prevent infections from occurring:

- Get plenty of rest and eat a balanced diet.
- Avoid contact with people who are sick.
- Wash your hands or use a hand sanitizer thoroughly and frequently.
- Stay current on the vaccines recommended by your doctor.
- Use gloves while cleaning or gardening.
- Avoid raw meats, shellfish and eggs.
- Wash raw fruits and vegetables — in some cases you may need to avoid these altogether.

### Pain

Cancer and cancer treatments may be associated with pain. This may occur when a tumor presses on bones, nerves or organs — typically with more advanced cancer. Cancer-directed

treatment often can ease or relieve these types of pain. If there are no more treatments for the cancer, then pain medications can ease the pain.

Another means of pain control involves nerve blocks — injecting a medication around the nerve or into the spine to block pain.

### Many symptoms, many options

Other symptoms associated with cancer include nausea with chemotherapy and constipation from certain pain medications. Your doctor can recommend treatments. □

## Alternative treatments

A number of complementary and alternative therapies can provide relief of cancer-associated symptoms. These include:

- *Mind-body techniques* — These include meditation, hypnosis, bio-feedback, guided imagery, music therapy, yoga and tai chi. They can help with fatigue and ease tension and anxiety by encouraging relaxation. Some may also help reduce pain, nausea and vomiting.
- *Massage therapy* — The benefits of this include relaxation and decreased muscle tension. It also can help improve anxiety, pain, fatigue and distress.
- *Acupuncture, reiki and therapeutic touch* — Acupuncture is known for its pain-relieving abilities. It also has the potential to relieve nausea and vomiting. Other touch therapies promote relaxation and may reduce pain and anxiety.
- *Dietary supplements* — Some vitamins and herbal preparations may help with symptoms. Ginseng for fatigue is one example. But because of the risk of potential interactions with medications — including chemotherapy — first talk to your doctor.

# Shared decisions

## A partnership with your doctor

You've been working to control your type 2 diabetes, but your cholesterol levels have remained stubbornly in the undesirable range. You expected your doctor to dash off a prescription for a cholesterol drug, no questions asked.

Instead, your doctor sat down with you and showed you some specialized charts illustrating the risks and benefits of taking a cholesterol drug for someone like you. Your doctor asked what you knew about cholesterol drugs and how you felt about the possibility of taking one. Your doctor even went on to discuss the risks and benefits of alternatives, including taking no action. The result was a decision that you and your doctor both agreed was the best course of action for your situation.

This may not sound like a typical interaction with your doctor, but for certain medical decisions, that may be changing. The concept of shared decision-making is gaining traction as a structured method by which you and your health care provider work together to identify the best course of action.

### Sharing information

At its heart, shared decision-making involves your doctor helping you understand and evaluate all options regarding a medical decision, with an unbiased look at scientific evidence and insights based on expertise and experience. In addition, you and perhaps a spouse or loved one share with your doctor your knowledge, values and thinking regarding the choices. Afterward, you may engage in a process of deliberation and consideration, arriving at a course of action by consensus and agreement with your doctor.

Shared decision-making typically involves preparation and planning on

the part of your health care providers. As part of this, Mayo Clinic and other organizations have developed — and continue to develop — decision aids for various common medical choices. These aids, designed for use during the visit with your doctor, use simple graphics or charts to convey the range of options and the risks and benefits of each.

You may also need to prepare to be involved in shared decision-making. For example, if you don't know much about your choices, you may need to educate yourself using materials your doctor provides, with information you find on your own, or by talking to friends and loved ones. In shared decision-making, physicians seek to support you through the process and to involve you in making your health care decisions to whatever extent that you desire.

### When it's used

Shared decision-making isn't right for every situation. For example, some emergency situations require quick decision-making by experienced medical professionals. There also are situations with a clear best medical choice for nearly everyone, such as a bacterial infection requiring antibiotics or a fracture that requires repair. Such technical decisions require expert knowledge, and your doctor will likely make those decisions.

However, there are many medical decisions with more than one option and no clear best choice. These situations give your doctor an opportunity to bring you into the process to the extent that you want to participate. When medical evidence offers multiple credible choices, the best choice often depends on your preferences and values.

A few of the situations where shared decision-making seems most suitable include use of cancer-screening tests, treatment of early prostate or breast cancer, preventive care for heart disease, low back pain testing and treatment, genetic testing, depression treatment, diabetes management, orthopedic procedures, and end-of-life care.

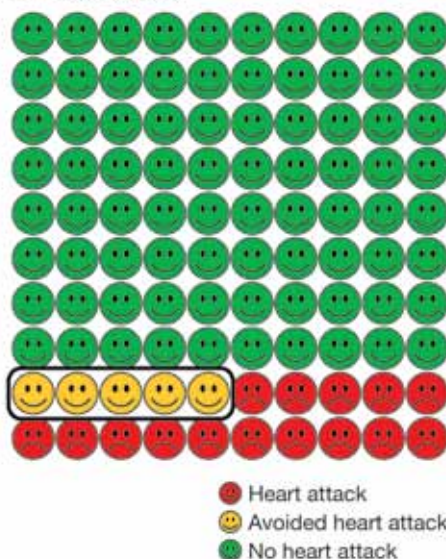
### The impact

Evidence thus far doesn't indicate that shared decision-making necessarily improves adherence to a treatment plan or health outcomes, nor that it will reduce use of health care resources. However, it does appear to reduce the amount of unwanted care, meaning that when certain options are fully explained and people engage in decision-making, they may select options that are different from those their doctors would select on their own.

It's thought that education and involving people in decision-making at a certain point in care may prove fruitful as people continue on the journey of care thereafter. You may learn more about yourself, your treatments and how the treatments affect you. Then you may be able to better calibrate treatment decisions over time, refining them and making them better for you.

One goal of shared decision-making is having you walk away from interactions with your doctor with knowledge about your options, the feeling that your thoughts were taken into consideration, and a sense that the choice that was made was probably the best. □

The risk for 100 people like you who DO take statins



This sample decision aid shows the potential benefit of taking a cholesterol-lowering statin drug for certain individuals at risk of heart disease.

# Second opinion

**Q My friend cooks with avocado oil. Does avocado oil provide the same health benefits as olive oil?**

**A** Like olives, avocados are naturally high in fat. Avocado oil can be used for frying or sautéing foods, as well as a unique dressing for salads.

Nutritionally, avocado oil and olive oil are near equals. They're high in monounsaturated fats, low in saturated fats, and free of trans fat and cholesterol, making them both heart-healthy choices. Each contain about 40 calories a teaspoon and 4.5 grams of fat. Over 3 of those fat grams are monounsaturated fats — a type of fat that may help lower your blood cholesterol level when used in place of saturated and trans fats. Olive oil contains some vitamin E and vitamin K, while avocado oil doesn't.

Refined (nonvirgin) avocado oil is touted as the plant oil with the highest smoke point — greater than 480 degrees Fahrenheit. It's at this point that the oil begins to break down causing an unpleasant change in the odor and flavor. Thus, the higher the smoke point, the better the oil may be for high-heat cooking. Olive oil has a lower smoke point, of 400 to 450 F. Aside from deep-frying, which isn't an ideal cooking method, both are suitable for many recipes.



Some describe olive oil as having a fruity taste. Avocado oil is described as grassy or mushroom-like. Olive oil also tends to be significantly less expensive than is avocado oil and is more readily available.

Either option is fine, and you might enjoy the contrast of flavors. The most important thing to remember is to use these liquid plant oils in place of solid fats whenever possible. The Department of Agriculture suggests that women older than 30 consume no more than 5 teaspoons of oil a day, while men in the same age range may consume up to 6 teaspoons a day. □

**Q I've been feeling really tired since my surgery a month ago. Should I check with my doctor?**

**A** Yes, you should. There can be many causes of fatigue or lethargy in the weeks or months after surgery. But some causes are treatable.

In recent years, standard surgical procedures have undergone a significant shift in how blood transfusions are used during and after surgery. In the past, transfusions were used much more liberally because it was thought that keeping your blood count at a certain level was better than letting it drop.

But now there's overwhelming evidence that holding off on transfusions until blood counts are lower or other signs of distress occur leads to similar recovery results as did more liberal use of transfusions. In fact, using a limited number of transfusions may be safer. Blood transfusions increase risk of infections, heart attack, stroke and death.

Although limiting the use of blood transfusions is better overall, one downside is that you may end up with fewer red blood cells (anemia). And anemia can cause fatigue and lethargy.

Doctors typically check for anemia before and after surgery. If you're low on iron, your red blood cells can be bolstered with oral or intravenously given iron supplementation. Checking with your doctor may be especially important if you're an older adult, since it takes a lot longer for older adults to naturally replenish red blood cells.

The recovery process moves at different speeds for different people, even though they may have had the same surgery. Recovery can be aided by good nutrition and a graded aerobic exercise program — as permitted by directions from your surgical team. □

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## Have a question or comment?

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