Atrial fibrillation

Prevent stroke, stop symptoms

You expected to sail through your yearly check-up. What you didn’t expect was a diagnosis of a heart rhythm problem called atrial fibrillation.

Atrial fibrillation occurs in about 1 percent of adults in their 60s. The incidence rate rises with age after that, with about 10 to 12 percent of people in their 80s having atrial fibrillation.

Atrial fibrillation may or may not cause symptoms. Either way, it can lead to development of blood clots in the heart that can break off and travel to the brain, where they can disrupt blood supply and cause a stroke.

About 15 percent of strokes are attributed to atrial fibrillation — and that number may be higher as undetected atrial fibrillation may be responsible for some of the roughly 25 percent of strokes that have no identifiable cause.

Whether you feel symptoms or not, it’s important to follow through with recommended treatments. These may include medications or surgery designed to help control or reset your heart rhythm, in addition to anti-clotting medications to prevent stroke.

Mixed signals

A heartbeat starts with an electric signal from the heart’s natural pace-
Atrial fibrillation occurs when the atria quiver (fibrillate) as they race irregularly and fast — so fast that they don’t really beat. Instead, they pump blood to the body. Atrial fibrillation occurs when chaotic electrical signals in the heart’s atria cause the atria to beat irregularly and fast — so fast that they don’t really beat. Instead, they quiver (fibrillate) as they race at 300 to 400 beats a minute. The heart can still pump blood to the rest of the body, but less efficiently.

The chaotic electrical signals from the atria bombard the AV node. The AV node blocks many of the extra signals from reaching the ventricles, but often some get through. This causes the ventricles to beat faster than normal. The average resting heart rate is 60 to 100 beats a minute. People with atrial fibrillation may have an irregular heartbeat in the range of 100 to 175 beats a minute.

Atrial fibrillation can cause lightheadedness, decreased blood pressure, weakness, shortness of breath, heart palpitations, confusion and chest pain. Symptoms may occur in periodic episodes lasting for a few minutes to a week before stopping on their own. They can also occur more persistently or even continually. This is more likely to occur in those with some sort of underlying heart disease.

Diagnosis of atrial fibrillation involves one or more tests to measure the electrical impulses given off by your heart. Imaging tests of your heart may be done to look for structural problems — such as damage from heart disease or heart failure.

Blood tests, a physical exam and other testing may be done to look for any underlying medical conditions — such as excessive thyroid hormone production — that may be triggering the heart rhythm problem.

Treatment for atrial fibrillation often starts with medication to prevent blood clots. Additional treatment decisions involve consideration of factors such as how long you’ve had atrial fibrillation, what the underlying causes may be and how bothersome symptoms are. The worse the symptoms, the more aggressive your treatment may be.

Sometimes, treating an underlying condition can return the rhythm to normal. Otherwise, the main nonsurgical choices are:

- **Resetting your heart’s rhythm (cardioversion)** — This is the ideal treatment because it resets the heart rhythm to normal, which also means that your heart rate will normalize as well. About 30 to 40 percent of people treated with cardioversion retain heart rhythm control for at least one year. This may not seem like a great success rate, but it’s often worth a try, especially if you have symptoms or if it’s the first time you’ve had the problem. The longer you’ve had atrial fibrillation, the less likely cardioversion will work.

**Addressing stroke risk**

When the atria can’t pump blood effectively, blood can pool and form clots. If a clot breaks loose, it may be pumped into your bloodstream. The clot can travel to and block an artery leading to the brain, causing a stroke.

The following factors raise your risk of stroke with atrial fibrillation:

- **Age.** The highest risk level is older than 75.
- **High blood pressure.**
- **Heart failure, cardiovascular disease or heart valve problems.**
- **Diabetes.**
- **Previous stroke.**

Your doctor will likely prescribe some form of anti-clotting medication, such as aspirin or warfarin (Coumadin), or possibly one of the newer anti-clotting drugs dabigatran (Pradaxa) or rivaroxaban (Xarelto). Aspirin reduces stroke risk about 20 percent, while warfarin reduces stroke risk by 60 percent. Dabigatran and rivaroxaban are similar to warfarin in their ability to prevent stroke.
Cardioversion to restore normal sinoatrial rhythm can be attempted using anti-arrhythmic drugs. Electrical cardioversion can also be performed. In this brief procedure an electrical shock is delivered to your heart. The shock stops your heart’s electrical activity momentarily. When your heart begins beating again, the hope is that it resumes its normal rhythm.

If your heart rhythm returns to normal with either method, doctors often prescribe oral anti-arrhythmic drugs to help maintain a normal rhythm. Commonly used drugs include amiodarone (Cordarone, Pacerone), dofetilide (Tikosyn), dronedarone (Multaq), flecainide (Tambocor), propafenone (Rythmol) and sotalol (Betapace).

These drugs can cause side effects, such as nausea, dizziness and fatigue. Side effects are sometimes serious enough to prompt taking a different direction with therapy.

- **Controlling your heart rate** — When your atrial fibrillation can’t be converted to a normal rhythm, the goal may switch to improving symptoms by slowing the rate at which your ventricles are beating. This can be done with medications, such as digoxin (Lanoxin), calcium channel blockers or beta blockers. Heart rate control is done in conjunction with taking anti-clotting medications.

### Surgical options

Sometimes, using a drug to maintain a normal heart rhythm or heart rate doesn’t work well — or side effects of a drug aren’t tolerable. An alternative option may be a surgical procedure called radiofrequency ablation.

In this, one or more tubes (catheters) are inserted in a vessel near your groin, threaded up to your heart and used to burn areas of tissue within the atria. This causes scarring of the tissue that disrupts and stops erratic electrical signals. In some cases, other types of catheters that can freeze areas of heart tissue are used.

Radiofrequency ablation stops atrial fibrillation for at least one year in about 75 to 85 percent of people who have occasional episodes. It decreases it in about 10 to 20 percent of people whose atrial fibrillation is continual.

A surgical maze procedure is another way to achieve a similar result, but it requires open-heart surgery. Several precise incisions — or areas of burned or frozen tissue — are made in the atria. This results in scar tissue that disrupts and blocks extra electrical signals. It’s usually reserved for people who don’t respond to other treatments — or it may be done during another open-heart surgery such as a coronary artery bypass procedure or heart valve repair.

When it comes to controlling heart rate — but not atrial rhythm — the main surgical option involves destroying the AV node. This procedure is done using catheters inserted through a leg vein. With the AV node destroyed, electrical signals don’t pass to the ventricles. The atria continue to fibrillate, which makes it necessary to take anti-clotting drugs to prevent stroke. A pacemaker is implanted to establish a normal ventricle rhythm.

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**In radiofrequency ablation, catheters are threaded into the heart to cause scarring that disrupts erratic electrical signals.**

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### Health tips

**Changes in stool color**

Rarely is a change in stool color an indicator of a potentially serious condition. More typically it’s related to what you ate, a medication you took or the amount of bile in your stool. Stool colors and possible causes include:

- **Green** — If food moves too quickly through your large intestine, such as due to diarrhea, bile doesn’t break down completely. Other causes may be eating green leafy vegetables or foods with green food coloring.

- **Light-colored, white or clay-colored** — This may indicate a lack of bile in stool, possibly due to bile duct obstruction. Antacids containing aluminum hydroxide may produce these changes.

- **Orange** — Taking vitamin A supplements or eating foods high in beta carotene, such as carrots, sweet potatoes and winter squash, may produce this change.

- **Bright red** — This is a serious concern if it’s due to bleeding in the rectum. Eating too many beets or foods with red food coloring also may cause red stool.

- **Black** — This is a serious concern if due to bleeding in the stomach or esophagus. Bismuth subsalicylate (Kaopectate, Pepto-Bismol) and iron supplements can cause this, as can black licorice.

Because stool that’s bright red or black may indicate the presence of blood, seek prompt medical attention.
News and our views

A high-fiber diet may help you live longer
When you think of the benefits of a high-fiber diet, improved bowel action probably tops the list. But the benefits don’t stop there. Recent research found that people who ate a high-fiber diet had a 22 percent lower risk of death than those who ate lower amounts.

In a study published in Archives of Internal Medicine, researchers gathered detailed health and diet information from nearly 390,000 adults ages 50 to 71. Participants were grouped into five tiers of fiber intake, ranging from about 12 grams a day to about 29 grams a day.

A 22 percent reduction in overall risk of death was attributed to:
- Reduced deaths from cardiovascular diseases such as heart attack and stroke, likely because a high-fiber diet can help improve cholesterol levels, lower blood sugar and reduce blood pressure.
- A reduction in cancer deaths for men, but not women. It wasn’t clear why this disparity occurred.
- Large reductions in deaths caused by infectious and respiratory diseases, possibly due to anti-inflammatory effects of fiber.

Mayo Clinic doctors note that the benefits in the study were obtained from eating high-fiber foods rather than through fiber supplementation. High-fiber foods also contain an array of disease-fighting compounds, which may account for much of the benefit.

More on red wine and breast cancer risk
The discussion about alcohol and breast cancer risk continues with a recent study giving theoretical hope that red wine may offer some protection. The findings were published online in the Journal of Women’s Health in December 2011.

Those conducting this very small but well-controlled study wanted to know if red wine acted as a nutritional aromatase inhibitor. Aromatase inhibitors are compounds that are effective in preventing recurrence of hormone-sensitive breast cancer in postmenopausal women. They occur naturally in red wine, but not white wine. Blood tests showed that when the participants drank red wine there were consistent shifts in hormonal patterns in the same direction as what might be seen from compounds with aromatase-inhibiting properties. Those shifts didn’t occur when they drank white wine. If larger studies confirm this effect, there may be a reason to choose red wine.

Although this study isn’t enough to base decisions on, it’s an example of how science advances. When a small study such as this shows a theoretical reason that something may have a health benefit, larger studies can be done to confirm the result and determine the possible benefits for different people. Other studies might examine large groups of women over time to see if those who drank red wine had lower risks of breast cancer compared with white wine drinkers, people who used other types of alcohol or who didn’t drink alcohol.

The recommendation, based on other studies that have found an association between alcohol use and breast cancer risk, is that women who drink should do so only in moderation.

Palliative care

More than hospice
Your kidney function has been a concern for several years, so when your doctor told you it was time to begin regular kidney dialysis it wasn’t a surprise. However, the suggestion that palliative care might help you better manage your condition came as a shock. You had no inkling death was imminent — after all, isn’t palliative care for people who are dying?

It’s not uncommon for people to associate palliative care with end-of-life (hospice) care — but they’re not the same.

Coming to terms
Palliative medicine is a relatively new medical specialty that’s grounded in quality-of-life. Palliative care focuses on relief of symptoms and stress associated with serious illness. It doesn’t matter whether the illness can be cured with treatment, requires ongoing management or is life-limiting. The care approach is multidisciplinary, providing relief for physical discomforts and addressing spiritual, psychological and social needs.

Palliative medicine focuses on your individual goals or care. Meeting the goals involves creating a partnership between you, your family or caregiver, and the professionals on your care team.

Hospice care — which is often administered through Medicare — is generally limited to use by those whose life expectancy is six months or less should their disease run its normal course. In that limited time, hospice is about providing palliative care. Hospice provides physical comfort, as well as psychosocial and spiritual support to help all involved make the most of the last weeks to months of life.
An example of how palliative care can help

Your sister’s history of heart failure made it hard for her to get around the house due to worsening shortness of breath. Her husband had his health problems, too. Between the two of them, it’s become more difficult to get the care they need.

Clearly, the stress was taking a physical, psychological, spiritual and financial toll on both of them. Having read about it, you suggested she talk with her doctor about adding more palliative care.

Once she made the request, a palliative care specialist and other team members joined with her doctor to help with her care. They explored with her what her goals were for treatment of her heart disease. They also discussed how she would prefer to be treated as her disease progressed over time.

They learned what was important to your sister to ensure she could remain in control of her medical treatments even if it got to the point where she could not speak for herself. They worked out which treatments, supportive services and advanced care planning were needed to provide your sister the best care and symptom relief. The palliative care team also helped organize visits by a chaplain, a psychologist and home health care as needed.

In the weeks that followed, your sister became visibly more confident and relaxed. She still had chronic heart failure, but she and her husband also had the supportive care necessary to manage and live more comfortably with her illness.

The complexities of living with and managing a serious condition — such as chronic heart failure — provide a snapshot example of how palliative care can be of help. To learn more about palliative care and its place in helping to manage serious illness, visit the website set up by the Center to Advance Palliative Care, www.getpalliativecare.org.

While it’s true that all hospice is palliative care, not all palliative care is hospice. Palliative care outside of hospice can be an important piece of disease management. Its use isn’t restricted to the last six months of life. In fact, it can help people live better at any stage during serious or chronic illness even while life-extending or curative treatments are under way.

Team effort

Over the last decade, the use of palliative care in U.S. hospitals has increased steadily. Studies support the value of hospital-based palliative care programs on several levels, including relief of physical and emotional difficulties, improved satisfaction by those receiving the care and their families, and reduced costs.

Palliative care isn’t limited to the hospital setting. It may be provided on an outpatient basis as well as in settings such as rehabilitation centers, nursing homes or even through in-home care services. Palliative care can be used for a number of serious conditions, such as cancer, severe heart disease, kidney failure, lung disease, organ transplantation, dementia, Parkinson’s disease and stroke.

Palliative care is very much a team effort. In addition to your primary doctor, medical specialists may be called upon to help you clarify your overall treatment goals. They can help define treatment strategies for pain and management of other symptoms such as fatigue, loss of appetite, insomnia, shortness of breath, nausea, constipation, depression, anxiety and grief. As needed, others may be brought on board to help with your care. These may include specially trained nurses, pharmacists, dietitians, physical or occupational therapists, nurse practitioners, physician assistants, social workers, chaplains, psychologists, and psychiatrists.

Some palliative programs may provide help with practical problems — such as coordinating medical appointments, arranging transportation and helping you deal with financial difficulties related to ongoing care.

A time and place

There’s increasing demand for and availability of palliative care. Its value earlier during treatment of serious illness is also gaining attention. For example, recent data shows that for people newly diagnosed with certain types of cancer, early use of palliative care in addition to standard cancer treatment not only helped them feel better but also helped them live longer when compared with people who had standard treatment only. At Mayo Clinic, a recent five-year review of palliative care consultations concluded that people with cancer benefit most from earlier palliative care involvement — earlier meaning Mayo Clinic’s palliative care services occurred right along with chemotherapy and radiation treatments.

Seeking palliative care doesn’t mean that you no longer receive your regular treatment as prescribed by your doctor. No one is giving up on your care. Instead, more care is directed at conditions affecting your physical comfort and well-being.
Stopping smoking

Risks and rewards

No matter what your age, your health will benefit almost immediately if you stop smoking. Just 20 minutes after your last cigarette, your heart rate goes down. Twelve hours later, levels of carbon monoxide in your blood return to normal. Lung function improves and your circulation starts to get better within three months. After a year, your risk of having a heart attack because you smoked drops by half. And after five to 15 years, your stroke risk will be the same as that of a nonsmoker.

If you’ve tried to stop smoking but failed, don’t give up. Most smokers make many attempts to stop before they have long-term success. You’re more likely to succeed by using:

- **Behavioral counseling** — This can help you develop the skills to stay away from tobacco over the long run. Your doctor may recommend local support groups or a counseling program. In addition, every state has at least one telephone quit line, which you can access by calling 800-QUIT-NOW (800-784-8669).

- **Medications** — These can help with withdrawal symptoms.

Due to recent reports about the side effects of drugs to help you stop smoking — including depression, agitation, unusual behavior and even suicidal thoughts — some people may be reluctant to use medications to help stop smoking. However, side effects of these medications are usually infrequent, minor and manageable, either by reducing doses or switching to another medication. If you think you’re experiencing side effects, contact your doctor right away.

In contrast, the toll that continued smoking takes is severe. Smoking increases heart disease and stroke risk by two to four times, lung cancer risk by 13 to 23 times, risk of dying from other lung diseases by 12 to 13 times and increases the risk of bone loss and fractures. Risk of infection, slow wound healing, gum disease and other health problems are higher. Secondhand smoke raises the risk of health problems in those around you.

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<tr>
<th>Drug</th>
<th>Benefits</th>
<th>Potential side effects or risks</th>
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<tr>
<td>Nicotine patch</td>
<td>Provides a steady dose of nicotine to ease withdrawal symptoms. Odds of quitting double when used alone. The odds nearly triple when combined with fast-acting nicotine replacement.</td>
<td>Skin irritation at the patch site, dizziness, racing or irregular heartbeat, sleep problems, headache, and nausea. Sleep disturbance may be minimized by taking the patch off at night.</td>
</tr>
<tr>
<td>Nicotine gum, nasal spray, inhalers, lozenges</td>
<td>Fast-acting nicotine replacement to help you get through cravings. Doubles the odds of quitting when used alone. The odds nearly triple when combined with the nicotine patch.</td>
<td>Irritation of mouth, nose or throat, coughing, nausea, headache, and minor digestive issues.</td>
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<tr>
<td>Varenicline (Chantix)</td>
<td>Decreases withdrawal symptoms and reduces feelings of pleasure from smoking. Increases odds of stopping by at least 2 1/2 times.</td>
<td>Nausea, headache, insomnia and vivid dreams. Rarely, associated with serious psychiatric symptoms, such as depressed mood, agitation and suicidal thoughts. There have been some reports of slightly increased risk of heart attack in those with established heart disease.</td>
</tr>
<tr>
<td>Bupropion (Zyban)</td>
<td>Increases levels of brain chemicals that are also boosted by nicotine, decreasing withdrawal symptoms and reducing pleasure from smoking. Doubles odds of stopping. May help minimize weight gain as you stop smoking.</td>
<td>Sleep disturbances, dry mouth and headache. Very rarely associated with serious psychiatric symptoms.</td>
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Coffee and health

The latest buzz

You’ve just finished that perfect cup of morning coffee. Nothing wrong with drinking a little coffee, is there? News of coffee’s potential impact on health has for years gone back and forth. Initially, concerns centered on caffeine. In reality, coffee is the sum of many substances — some are known and many others aren’t. The most commonly recognized is caffeine, a naturally occurring stimulant. Some lesser known are compounds that have antioxidant properties. Antioxidants are generally associated with potential health benefits.

As more becomes known, it appears as if the drink may be just fine for most, and possibly even of some benefit.

The usual suspect

Most people associate coffee with caffeine. How much ends up in your cup depends on many factors, including the beans, how they’re processed, roasted and ground, and how the coffee is brewed. An 8-ounce cup of coffee has about 100 milligrams of caffeine. Some commercial coffees can be much higher. By comparison, 1 ounce of espresso has 64 mg of caffeine.

Caffeine is well recognized for its ability to increase alertness, energy and ability to concentrate. It can also enhance physical endurance. Caffeine may also affect mood. A recent study found that women who drank four or more cups of regular coffee a day had decreased risk of depression.

One study found that people who metabolized caffeine slowly and drank two or more cups a day had increased heart disease risk.

Otherwise, years of study have turned up little support for concerns about caffeine’s effect on cancer risk and heart health. For most healthy adults, moderate doses of caffeine — 200 to 300 mg a day, which is two or three cups of regular brewed coffee — are fine.

Consider the evidence

Interest in coffee’s pros and cons related to health has generated considerable research. Among the findings so far, coffee may protect against:

■ Type 2 diabetes — Researchers found that compounds in coffee — chlorogenic acid and caffeine — may thwart protein formation that contributes to the death of pancreas cells. Normally, pancreas cells produce insulin. An earlier study of younger and middle-aged women found that drinking two or more cups of coffee a day was associated with a substantially lower risk of type 2 diabetes.

■ Parkinson’s disease — Numerous studies indicate regular coffee consumption may reduce the risk of Parkinson’s disease.

■ Various cancers — A recent study found that women who drank coffee reduced their risk of endometrial cancer by 20 percent. A recent analysis of multiple studies suggests there may be a correlation between drinking coffee and a reduced risk of pancreatic cancer. One study found that drinking an additional two cups of coffee a day was associated with a 43 percent reduced risk of liver cancer.

■ Alzheimer’s disease — A recent review of multiple studies reported there’s a trend toward a protective effect from coffee, but more study is needed to determine if the trend is significant.

Areas where coffee may not be of help and may possibly be harmful are:

■ Bone health — Caffeine is known to increase the amount of calcium that’s passed in urine. It may also interfere with how well calcium is absorbed in the digestive tract. One study found that women who drank 20 ounces of coffee — about 2 1/2 cups — or more on a daily basis had a modest increase in fractures related to osteoporosis. However, other studies have found that if coffee drinkers get adequate calcium, the effect is minimized.

■ Blood pressure — For people who consume coffee only occasionally, there may be a temporary rise in blood pressure. However, regular coffee drinkers appear to develop a tolerance so that there isn’t much effect on blood pressure.

■ Lung health — A recent overview of 13 different studies concluded that high or increased coffee consumption might increase the risk of lung cancer. However, the authors of the overview also cautioned that other factors — specifically the effects of smoking — might have affected their findings. More study is needed to determine a connection — if indeed there is a connection.

Chemical wonders

Coffee is among the top 10 food sources of antioxidants. It’s also a major source of chlorogenic acid, which is one of its star players for antioxidant activity. Antioxidant activity associated with coffee has been linked to protective effects on multiple diseases, including cancer and cardiovascular diseases.
Q: What is a PET scan?

A: A positron emission tomography (PET) scan is a form of nuclear medicine imaging that uses a very small amount of radioactive material to help show how healthy and diseased organs are functioning. PET scans may be very helpful in evaluating a variety of conditions, including cancer, heart disease and neurological problems.

The radioactive material — which is injected into a vein — accumulates where there’s higher chemical activity in the organ or tissue being examined. The most common material used in PET imaging is a radioactive sugar (glucose). Areas where there’s greater accumulation of the radioactive material show up as bright spots on a PET scan.

For instance, cancerous tissue often requires more energy than does surrounding healthy tissue, so cancer appears as a bright spot. The opposite is true for tissue that’s severely injured or no longer viable, such as damaged heart muscle after a heart attack. In that case, the lack of chemical activity in the injured heart tissue makes that area look darker than adjacent normal heart tissue. PET scanning also can detect areas of decreased blood flow in the heart. Brain disorders — including tumors, stroke, memory disorders and seizures — can also be evaluated using PET scan technology.

A PET scan is usually done as an outpatient procedure. The scanner is a large machine that looks like a giant doughnut standing upright. Once you’ve received the radioactive substance, there’s typically a 30- to 60-minute wait for it to be absorbed properly. For the scan, you lie very still on a narrow table that slides into the scanner’s opening. The scan itself is painless and takes about 30 minutes.

A radiologist with specialized training interprets PET scan images. Results from your other imaging tests — such as recent computerized tomography (CT) or magnetic resonance imaging (MRI) scans — may be compared with or even combined with PET scan results.

More recent PET scanner technology combines PET and CT in the same machine. The resulting images provide greater clarity to the interpreting radiologist by fusing the chemical activity information of the PET scan with the anatomical information of the CT scan.

Q: I read that one good thing about being overweight or obese is that you don’t have to worry about having a bone fracture from osteoporosis. Is this true?

A: No, it’s a mistaken belief that overweight or obese people don’t need to pay as much attention to bone health as do people of normal weight. Although some studies have shown that people who are overweight or obese may have a slightly lower risk of bone fractures than do people of normal weight, others have shown no protective effect. In fact, some studies have shown that obese men have an increased risk of fractures.

Even among studies that show a protective effect, it isn’t very substantial. Since older adults are generally at higher risk of osteoporosis-related fractures overall, having your risk be somewhat lower still leaves you in a higher risk category. Further, most osteoporosis-related fractures occur in people who are overweight or obese simply because a majority of older adults in the United States are overweight or obese.

If you’re overweight or obese, don’t let screening for osteoporosis or osteoporosis prevention measures fall by the wayside. This may include having a bone density scan for women age 65 and older and men age 70 and older, developing an exercise plan, not smoking, assessing your home for tripping hazards, and making sure you’re getting enough calcium and vitamin D.

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