

Special Advertising Section

# MEN'S HEALTH



## Keeping the Beat

*Latest Breakthroughs for Treating Arrhythmias Hold Hope for Many*

By Lisa Collier Cool

When Steve Lunz, M.D., got short of breath during his eight-year-old daughter's birthday party on January 6, he figured he was out of shape. The next day, during a break between seeing patients, he broke out in a sweat and got so dizzy that he had to lie down on his exam table. "My nurse did an EKG and as soon as I saw it, I knew this was serious," said the 50-year-old internist from Fairfield, Ohio. "In 20 years of medical practice, I'd never seen such a fast heart rate: 270 beats a minute. My nurse was screaming that we should call 911."

Instead, Dr. Lunz asked her to fax the EKG to a cardiologist. "I could tell that the electrical wiring in my heart had gone crazy." The heart doctor diagnosed atrial fibrillation (AF), an irregular, often very rapid heartbeat. It's the most common type of arrhythmia (heart rhythm abnormality), affecting up to 5.1 million Americans. AF, which sometimes goes undiagnosed because

it can occur sporadically, increases risk of blood clots, stroke, heart failure and premature death. The risk of developing it rises with age.

"I was hospitalized, and they had to shock me five times," due to a wildly erratic heartbeat, says Dr. Lunz, who had started to go into congestive heart failure. Ultimately, after medication treatment did not prove successful, he

underwent ablation, in which a laser-tipped catheter was snaked through his blood vessels to the heart, to zap areas causing the abnormal beat. "It was pretty amazing that a four-hour procedure fixed the problem 100 percent."

### The Arrhythmia Epidemic

More than 14 million Americans suffer from arrhythmias. Researchers already consider AF an epidemic, predicting that rates will triple over the coming decades. Men are at higher risk for heartbeat disorders, which range from harmless to potentially lethal. The most dangerous is sudden cardiac death (SCD), a leading killer of Americans, claiming about 400,000 lives a year. SCD is sparked by a catastrophic short circuit of the heart's wiring, leaving it unable to pump blood to the rest of the body, unless it's shocked back to life with a defibrillator.

Almost everyone has occasional heart rhythm glitches. Perhaps you've felt your heart flutter, pound faster than usual for no apparent reason or skip a beat. While that may seem scary, it's usually a minor blip in the heart's electrical system, says Jonathan Steinberg, M.D., the Al-Sabah endowed director of the Arrhythmia Institute at St. Luke's-Roosevelt Hospital Center in New York City. "Most people also have a few extra beats a day, which isn't dangerous, but can be uncomfortable or even take your breath away." By the time you sense something's awry, your heart is back to its usual steady 60 to 100 beats a minute.

Arrhythmia warning signs include getting unusually winded or fatigued from mild exertion, like walking up a couple of flights of stairs; heart palpitations, which can feel like fluttering or flip-flops; and skipped, abnormally slow or rapid beats. "If you have any of these symptoms frequently, or they're accompanied by severe dizziness, almost fainting or actually passing out, it warrants a visit to your family doctor for screening and an EKG," cautions Dr. Steinberg. Sometimes heartbeat disorders don't cause any symptoms, but may be found in a routine physical.

What goes wrong? Every day, your heart pumps about 2,000 gallons of blood through your body. To keep the

flow going, your heart has a natural pacemaker that powers the electrical circuitry. Signals travel through an intricate system of nerve fibers, much like the wiring in your home, causing heart muscle to contract at a steady pace. But sometimes nerves form abnormal pathways, throwing the beat out of sync. Eighty percent of arrhythmias occur in the heart's upper chambers (atria) and are generally less serious than those in the lower chambers (ventricles), which can be life-threatening.

Your risk of heartbeat disorders goes up if you have diabetes, sleep apnea, thyroid problems, heart disease or a family history of arrhythmias. Size also matters: In April, a large Swedish study reported that middle-aged men who were tall or large at age 20 — or packed on a lot of pounds in midlife — are twice as likely to get AF. Why? "Bigger people have bigger hearts, so there's more real estate in the atria," says Eric Rashba, M.D., director of the electrophysiology lab at Stony Brook Medical Center, in New York.

### High-Tech Detection

Because arrhythmias may not show up during an office exam or treadmill test, heart doctors typically send patients home with a portable heart monitor the size of a cell phone to track rhythms during daily activities. "Previously, we'd just get a snapshot over 24 hours and would often miss intermittent problems," says Dr. Rashba. "Now we have event monitors patients can use for three weeks to a month." Patients push a button on a remote control if they feel something odd, then transmit their EKG over the phone to a central monitoring station for evaluation.

Another type of monitor, the implantable loop recorder, is a major breakthrough in diagnosing unexplained fainting spells. In a 20-minute procedure, a battery-powered device the size of a memory stick is slipped under the skin of the left chest. It can take continuous EKGs for up to two years, in loop recordings that are eventually overwritten, unless the patient's heart goes haywire. Then the recording is saved and wirelessly transmitted to the monitoring station. The device has an algorithm to automatically detect beat abnormalities, which the doctor can program to watch for specific problems, such as a heart rate below 40 beats a minute or above 150.

"Patients may get such a rapid heartbeat that they pass out, but if that only happens every six months, it is extremely tough to diagnose," reports

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*Continued on next page*

*Illustration by Peter Hoey*

# Do You Need an Annual PSA Test?

## Amid Controversy, New Guidelines Call for Less Frequent Screening, Starting at 40

Twice a year, David Williams does something some friends and family consider unnecessary and a waste of money: He gets a PSA test to check for prostate cancer. "My brother and brother-in-law are physicians who question the need to be tested so often, but that's what my urologist recommends," says the 51-year-old graphic designer from Atlanta, Georgia. "Because my dad was screened regularly, his prostate cancer was caught early. Given my family history, I've come down on the side of caution."

### The PSA Controversy

New research has intensified an already fiery debate about the value of PSA screening: a blood test to measure prostate-specific antigen (a protein secreted by the walnut-sized prostate gland to liquefy semen). A higher-than-normal level may signal prostate cancer, the second leading cancer killer of men, expected to claim 27,260 American lives this year. It strikes one in six men during their lifetime.

"I strongly favor PSA screening, but I also strongly favor judicious management of the diagnoses obtained from screening," says Robert Carey, M.D., Ph.D., clinical associate professor of urology at Florida State University College of Medicine in Sarasota. "We may find men with high-grade aggressive cancer who need treatment. However, many men with less aggressive cancer can safely be spared the cost and the potential morbidity of treatment through appropriate watchful waiting protocols."

In the 1980s, PSA testing was hailed as a major breakthrough. Since prostate cancer rarely sparks early symptoms, it was previously diagnosed at an advanced

stage. Now doctors typically find small cancers that haven't spread.

### Conflicting Studies

Does early detection save lives? Two major studies, released in March, offered conflicting answers. When National Institutes of Health researchers tracked nearly 77,000 men for seven years, screening boosted prostate cancer diagnosis — with no increase in survival. An ever bigger European study, of 182,000 men, had the opposite result: After ten years, PSA testing cut deaths from the disease by 20 percent, compared to the rate in men who weren't screened.

These studies have given the two warring factions fresh ammunition. Proponents cite the European study as proof the test saves lives over the long term. Critics, however, charge that for every death prevented, an estimated 1,410 men must be screened, and 48 subjected to potentially risky treatments they may not need.

"I used to think everyone should be screened and treated," says Carrington Mason, D.O., section chief of urology at Methodist Dallas Medical Center. Being diagnosed with prostate cancer at 41 changed his mind. He now deems screening a Pandora's box men open at their own risk. "Men have to ask themselves, 'If I have cancer, do I really want to know?'" Physicians need to better counsel patients regarding risks and benefits of screening.

Pitfalls of screening include false alarms. "Eighty percent of men we biopsy don't have cancer,"

Dr. Mason reports. Benign conditions, such as an inflamed or enlarged prostate, also elevate PSA. In rare cases, biopsies can cause serious infections, he adds.

### New Screening Strategies

Although PSA isn't a perfect test, doctors are using it more strategically. New American Urological Association guidelines, issued in April, call for a baseline test at 40, instead of 50. "PSA at 40 is strongly predictive of future risk, which helps guide your medical care," explains Peter Carroll, M.D., chair of the department of urology at University of California, San Francisco, who headed the committee that wrote the guidelines.

The guidelines suggest that annual tests aren't always necessary. While they don't set a timetable, men with low PSA may be able to wait two to four years between tests, says Dr. Carroll. To tell if that's safe, your doctor should evaluate your risk, which is higher if you have a father or brother with prostate cancer. For unknown

reasons, it's also more common in African-Americans. Another major change is that the guidelines don't list a specific PSA score as the danger zone. That's because velocity — how fast your level raises over time — is a better indicator of risk. Based on the European study, doctors recommend that screening continue until your life expectancy is less than 10 years. After that, it's unlikely that prostate cancer would progress fast enough to be a threat.

— L.C.C.

## Keeping the Beat

Continued from previous page

Dr. Rashba. "By the time people get to the emergency room, their EKG isn't that dramatic. With this device, we get a real-time recording of exactly what happened. Not only does that make it much easier to detect dangerous arrhythmias, but in some cases, we can reassure patients that the problem is not their heart."

### Getting the Heart on Track

Medications to combat arrhythmias include sodium-channel blockers to slow electrical conduction in the heart. Beta blockers obstruct signals that may spark an irregular beat and also lower heart rate. Another category of drug delays electrical impulses by blocking the heart's potassium channels. And here's good news if you have AF: A new drug called dronedarone, the first anti-arrhythmic shown in clinical trials to

cut deaths and complications from AF, is close to FDA approval, and likely to become available later this year.

Because AF causes blood to pool in the atria, upping risk for clots and strokes, sufferers are often put on blood thinners. What if medication doesn't do the trick? An experimental device called the Watchman Left Atrial Appendage System helps protect against AF-triggered strokes. A tiny umbrella-like device is threaded through a blood vessel in the groin up to the heart, preventing clots from traveling to the brain, which could otherwise spark a stroke.

New technology is making ablation safer and more effective for several types of arrhythmias. "In some studies, success rates are as high as 80 percent," says Dr. Steinberg. To help doctors pinpoint the precise location of an arrhythmia, he adds, "There's now a 3D mapping system so you can quickly move to the pre-defined trouble spots during a procedure, without having to X-ray all the time to

see where you are."

Doctors also use a hands-free ablation catheter that's guided into position with magnets. "It's taken off in a big way," notes Dr. Steinberg. "You literally sit at a computer outside the room, and use a keypad and joystick to maneuver the catheter inside the heart, instead of moving it around by hand."

Ablation typically uses radio frequency waves to burn away tiny dots of tissue that are causing abnormal beats, but next-generation devices still under investigation have balloon-tipped

catheters filled with chilled gas. That allows physicians to freeze larger, circular areas instead of making dots, speeding up the procedure and potentially making it even more precise, says Dr. Steinberg. "Balloons and freezing are likely to make ablation even more successful than it already is."

Lisa Collier Cool has won 18 awards for medical journalism and is a past president of the American Society of Journalists and Authors. Her articles have appeared in Self, Parents, and O, The Oprah Magazine.

### DASH DIET DOES IT ALL

Men who closely follow the Dietary Approaches to Stop Hypertension (DASH) diet (or a similar eating plan) are 38 percent less likely to suffer a stroke, Harvard researchers reported last year. This well-researched diet reduces blood pressure, cuts cholesterol and protects against heart attacks. And there's an added bonus: it also helps you slim down.

The DASH eating plan shown below is based on 2,000 calories a day. The number of daily servings in a food group may vary from those listed depending on your caloric needs.

Food Group	Daily Servings (except as noted)	Serving Sizes
<b>Grains &amp; grain products</b>	7 - 8	1 slice bread 1 cup ready-to-eat cereal* ½ cup cooked rice, pasta, or cereal
<b>Vegetables</b>	4 - 5	1 cup raw leafy vegetable ½ cup cooked vegetable 6 ounces vegetable juice
<b>Fruits</b>	4 - 5	1 medium fruit ¼ cup dried fruit ½ cup fresh, frozen, or canned fruit 6 ounces fruit juice
<b>Low-fat or fat-free dairy foods</b>	2 - 3	8 ounces milk 1 cup yogurt 1½ ounces cheese
<b>Lean meats, poultry, and fish</b>	2 or less	3 ounces cooked lean meats, skinless poultry, or fish
<b>Nuts, seeds, and dry beans</b>	4 - 5 per week	⅓ cup or 1½ ounces nuts 1 tablespoon or ½ ounce seeds ½ cup cooked dry beans
<b>Fats &amp; oils**</b>	2 - 3	1 teaspoon soft margarine 1 tablespoon low-fat mayonnaise 2 tablespoons light salad dressing 1 teaspoon vegetable oil
<b>Sweets</b>	5 per week	1 tablespoon sugar 1 tablespoon jelly or jam ½ ounce jelly beans 8 ounces lemonade

\* Serving sizes vary between ½ cup - 1¼ cups. Check the product's nutrition label.

\*\* Fat content changes serving counts for fats and oils: For example, 1 tablespoon of regular salad dressing equals 1 serving; 1 tablespoon of a low-fat dressing equals ½ serving; 1 tablespoon of a fat-free dressing equals 0 servings.

SOURCE: NATIONAL HEART, LUNG, AND BLOOD INSTITUTE (NHLBI) OF THE NATIONAL INSTITUTES OF HEALTH (NIH).

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