

THE NEW OLD AGE

New Insights Into Older Hearts

Heart disease is more common in people over 65, but treatments are better than ever. That can complicate decision-making for older heart patients.

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Implantable cardioverter defibrillators can deliver a shock to the wearer’s heart in the case of sudden cardiac arrest. Ann Johansson for The New York Times

By **Paula Span**

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It turns out that the Isley Brothers, who sang that 1966 Motown hit “This Old Heart of Mine (Is Weak for You),” were onto something when they linked age to an aching and flagging heart.

Heart disease, the nation’s leading cause of death and disability, has been diagnosed in about 6 percent of Americans ages 45 to 64, but in more than 18 percent of those over 65, [according to the Centers for Disease Control and Prevention](#).

Old hearts are physiologically different. “The heart gets stiffer as

we age,” said Dr. John Dodson, director of the geriatric cardiology program at NYU Langone Health. “It doesn’t fill with blood as easily. The muscles don’t relax as well.”

Age also changes the blood vessels, which can grow rigid and cause hypertension, and the nerve fibers that send electrical impulses to the heart. It affects other organs and systems that play a role in cardiovascular health, too. “After age 75 is when things accelerate,” Dr. Dodson said.

But in recent years, dramatic improvements in treatments for many kinds of cardiovascular conditions have helped reduce both [heart attacks](#) and [cardiac deaths](#).

“Cardiology has been blessed with a lot of progress and research and drug development,” said Dr. Karen Alexander, who teaches geriatric cardiology at Duke University. “The medications are better than ever, and we know how to use them better.”

That can complicate decision-making for heart patients in their 70s and beyond, however. Certain procedures or regimens may not markedly extend the lives of older patients or improve the quality of their remaining years, especially if they have already suffered heart attacks and are contending with other illnesses as well.

“We don’t need to open an artery just because there’s an artery to be opened,” said Dr. Alexander, referring to inserting a stent. “We need to think of the whole person.”

Recent research indicates that some frequently used medical approaches don’t pay off for older patients, while too few of them take advantage of one intervention that does.

Here’s some of what researchers are learning about old hearts:

A Shock to the Heart

An implantable cardioverter defibrillator, or I.C.D., is a small battery-powered device that is placed under the skin and delivers a shock in the case of sudden cardiac arrest. “It’s easy to sell these things to patients,” said Dr. Daniel Matlock, a geriatrician and researcher at the University of Colorado. “You say, ‘This can prevent sudden cardiac death.’ The patient says, ‘That sounds great.’”

In 2005, an [influential study](#) persuaded Medicare to cover I.C.D.s in patients with heart failure, even those without high-risk arrhythmias, and “it just took off,” Dr. Matlock said.

From 2015 through September 2024, surgeons implanted 585,000 such devices in patients’ chests, according to the American College

of Cardiology's registry. That's probably an undercount, as not all hospitals participate in the registry.

But in 2017, among patients with nonischemic heart failure (meaning that the heart isn't pumping effectively but there is no blocked artery), [another influential study](#) showed that I.C.D.s did not reduce mortality for patients over 70. The device only prevented sudden cardiac deaths, the authors noted — and those occur more frequently in younger patients.

Moreover, “at 85 or 90, sudden death is not necessarily the worst thing that can happen,” Dr. Matlock said, compared to death from “progressive heart failure, which can go quickly or last for years; it's unpredictable.” The wallop of an I.C.D. shock can also frighten and distress older patients, who often are unaware that the device can be deactivated with a computer.

Cardiologists and researchers still [debate how much I.C.D.s benefit older patients](#). But because cardiac drugs have grown so much more potent since 2005, a [major multisite study is underway](#) to determine, among patients at lower risk of sudden death, whether medications alone might now be more effective.

Invasive procedures

Medications alone already appear to be at least as effective in treating older people who have suffered the kind of heart attacks not caused by a suddenly and completely blocked artery. (Technically these are referred to as NSTEMI, for non-ST-segment elevation myocardial infarction.)

Half of these occur in people over 70, said Dr. Vijay Kunadian, a professor of interventional cardiology at Newcastle University in England and the lead author of a recent study in *The New England Journal of Medicine*.

“Older people often are underrepresented in research,” Dr. Kunadian said. “There are a lot of preconceived biases.” So her team recruited an older-than-typical sample (average age 82) in which to compare the benefits of conservative and invasive treatment.

Half of the 1,500 patients [in the study](#) began a regimen of cardiac medications that included blood thinners, statins, beta blockers and ACE inhibitors. The other half had more invasive treatment, starting with an angiogram (an X-ray of the blood vessels). Then, roughly half of that group received a stent or, in much smaller numbers, underwent bypass surgery. These patients were also prescribed the same kinds of medications as the patients who were treated with drugs alone.

Over four years, the team found no difference in the patients' risk of cardiovascular death or a nonfatal heart attack. Although surgical risks generally rise with age, complications were low in both groups.

Facing such situations, older patients and their families need to ask important questions, Dr. Alexander said: "How is this going to help me, and what are the other options, especially if it's invasive? Is it necessary? What if I don't do this?"

Dr. Kunadian agreed. "One size does not fit all in this group," she said. Invasive treatment did not benefit patients, but it didn't harm them, either.

Still, Dr. Kunadian said, "if they're very frail, living in a nursing home with dementia, with a number of other conditions, it's reasonable to say it's in their best interest to use medical therapy alone."

Cardiac Rehabilitation

One intervention known to benefit patients with heart disease is cardiac rehabilitation: a program of regular, supervised exercise that significantly [reduces heart attacks, hospitalization and cardiovascular deaths](#).

But cardiac rehab remains perennially underused. Only about one-quarter of eligible patients participate, Dr. Dodson said, and among older adults, who could benefit even more, the proportion is lower still.

"There are [barriers for people](#) in the 70s and 80s," he said. They have to show up at a facility to exercise, so sometimes "transportation is a problem."

And, he added, "people can get deconditioned or afraid of activity. They may worry about falling."

The in-person NYU Langone program involves three exercise sessions a week for three months, with nutritional and psychological counseling. Since enrollment among seniors had been disappointing, researchers tried replicating it with [a remote program](#).

They offered it to patients (average age 71) with ischemic heart disease (caused by narrowed arteries, which impede blood and oxygen flow to the heart) who had suffered a heart attack or undergone a stent procedure. Each received a tablet computer and broadband access so that they could undertake a rehab program at home. An exercise therapist checked in by phone weekly.

At-home participation fell off over time, however. After three months, those assigned to remote rehab showed no greater functional capacity — measured by how far they could walk in six minutes — than a similar group who followed the usual care. Was that because seniors struggled with the technology? Or feared exercising with heart problems? Would working out in person, alongside others on treadmills and elliptical trainers, inspire more engagement?

“We need to figure out the delivery system that’s most effective,” Dr. Dodson said. “What’s most motivating for older patients?” He’ll be trying again.

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