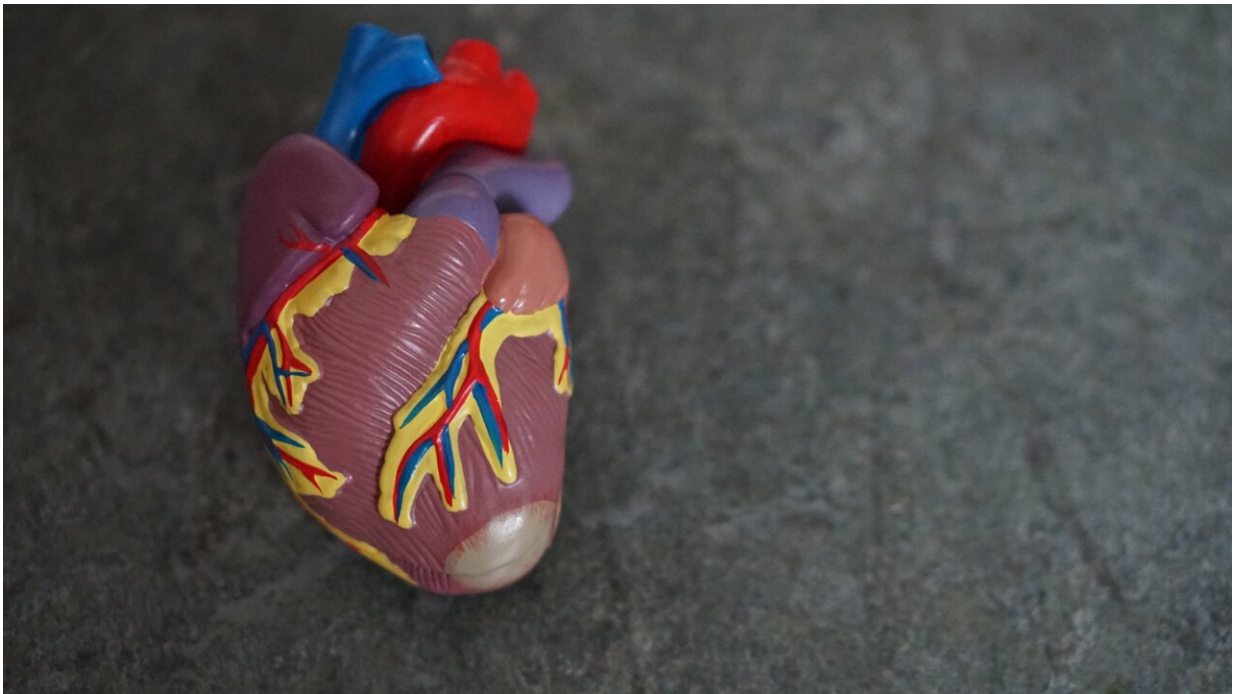


# Hearts and bodies change with age, heart disease treatments may need to change, too

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For people ages 75 and older, age-related changes in general health and in the heart and blood vessels require consideration and likely modifications in how heart attacks and heart disease are treated, according to a new American Heart Association scientific statement published today in the Association's flagship, peer-reviewed journal *Circulation*.

The new statement, "Management of acute coronary syndrome (ACS) in the older adult population," highlights recent evidence to help clinicians better care for patients over age 75. According to the statement, 30-40% of people hospitalized with ACS are age 75 or older. ACS includes [heart attack](#) and unstable angina (heart-related chest pain).

The statement is an update of a [2007 American Heart Association statement](#) on the treatment of heart attacks in the elderly.

Clinical practice guidelines are based on clinical trial research.

"However, [older adults](#) are often excluded from clinical trials because their health care needs are more complex when compared to younger patients," said Abdulla A. Damluji, M.D., Ph.D., FAHA, chair of the scientific statement writing committee, director of the Inova Center of Outcomes Research in Fairfax, Virginia, and an associate professor of medicine at Johns Hopkins School of Medicine in Baltimore.

"Older patients have more pronounced anatomical changes and more severe functional impairment, and they are more likely to have additional health conditions not related to [heart disease](#)," said Damluji. "These include frailty, other chronic disorders (treated with multiple medications), physical dysfunction, [cognitive decline](#) and/or urinary incontinence—and these are not regularly studied in the context of ACS."

## **Normal aging and age-related changes in the heart and blood vessels**

Cardiovascular changes that occur with normal aging make ACS more likely and may make diagnosing and treating it more complex: large arteries become stiffer; the heart muscle often works harder but pumps less effectively; [blood vessels](#) are less flexible and less able to respond to changes in the heart's oxygen needs; and there is an increased tendency

to form blood clots. Sensory decline due to aging may also alter hearing, vision and pain sensations. Kidney function also declines with age, with more than one-third of people ages 65 and older having [chronic kidney disease](#). These changes should be considered when diagnosing and treating ACS in older adults.

These considerations include:

- ACS is more likely to occur without chest pain in older adults, presenting with symptoms such as shortness of breath, fainting or sudden confusion.
- Measuring levels of the enzyme troponin in the blood is a standard test to diagnose a heart attack in younger people. However, troponin levels may already be higher in older people, especially those with kidney disease and a stiffened heart muscle. Evaluating patterns of the rise and fall of troponin levels may be more appropriate when using it to diagnose [heart](#) attacks in older adults.
- Age-related changes in metabolism, weight and muscle mass may necessitate different choices in anti-clotting medications to lower bleeding risk.
- As [kidney function](#) declines, the risk of kidney injury increases, particularly when contrast agents are used in imaging tests and procedures guided by imaging.
- Although many clinicians avoid cardiac rehabilitation for patients who are frail, they often benefit the most.
- Ensuring medications and other therapies are continued when people are transferred from the hospital to an outpatient care center is particularly important in older adults who are vulnerable to frailty, decline and complications during these transitions.

## **Multiple medical conditions and medications**

As people age, they are often diagnosed with health conditions that may be worsened by ACS or may complicate existing ACS. As these chronic conditions are treated, the number of medications prescribed may result in unwanted interactions or medications that treat one condition may worsen another.

"Geriatric syndromes and the complexities of their care may undermine the effectiveness of treatments for ACS, as well as the resiliency of older adults to survive and recover," said Damluji. "A detailed review of all medications—including supplements and over-the-counter medicines—is essential, ideally in consultation with a pharmacist who has geriatric expertise."

An individualized and patient-centered approach to ACS care, considering coexisting conditions and the need for input from multiple specialists, is best for older adults. Ideally, the multidisciplinary teams caring for older adults with ACS include cardiologists, surgeons, geriatricians, primary care clinicians, nutritionists, pharmacists, cardiac rehabilitation professionals, [social workers](#), nurses and family members.

In addition, people with cognitive difficulties and limited mobility may benefit from a simplified medication schedule, with fewer doses per day and 90-day supplies of medications so fewer refills are necessary. Monitoring symptom burden, functional status and [quality of life](#) during post-discharge follow-up are important to provide insight into how the patient is progressing relative to their goals of care and gauging potential for improvement.

## **Patient preferences and life expectancy**

Older adults differ widely in their independence, physical or cognitive limitations, [life expectancy](#) and goals for the future. The goals of care for older people with ACS should extend beyond clinical outcomes (such

as bleeding, stroke, another [heart attack](#) or the need for repeat procedures to reopen arteries). Goals focused on quality of life, the ability to live independently and/or returning to their previous lifestyle or living environment are important to consider when planning care for older adults with ACS. In addition, do-not-resuscitate (DNR) orders should be discussed before any surgery or procedure.

- Although the risks are greater, bypass surgery or procedures to reopen a clogged artery are beneficial to select older adults with ACS.
- If invasive treatment is chosen, a DNR order may need to be suspended for the duration of the procedure.
- If invasive treatment is not chosen, palliative care may help to manage symptoms, improve quality of life and provide psychosocial support.
- Important metrics for quality care include measurable goals, such as days spent at home and relief of pain and discomfort.

This scientific statement was prepared by the volunteer writing group on behalf of the American Heart Association's Cardiovascular Diseases in Older Populations Committee of the Council on Clinical Cardiology; the Council on Cardiovascular and Stroke Nursing; the Council on Cardiovascular Radiology and Intervention; and the Council on Lifestyle and Cardiometabolic Health. American Heart Association scientific statements promote greater awareness about cardiovascular diseases and stroke issues and help facilitate informed health care decisions.

Scientific statements outline what is currently known about a topic and what areas need additional research. While scientific statements inform the development of guidelines, they do not make treatment recommendations. American Heart Association guidelines provide the Association's official clinical practice recommendations.

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**More information:** Management of Acute Coronary Syndrome in the Older Adult Population: A Scientific Statement From the American Heart Association, *Circulation* (2022). [DOI: 10.1161/CIR.0000000000001112](https://doi.org/10.1161/CIR.0000000000001112)

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