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Do Heart Attack Symptoms Vary Between Men and Women?

Analysis by Dr. Joseph Mercola | February 05, 2024

STORY AT-A-GLANCE

- Heart attack symptoms may vary significantly between men and women
- Both women and men reporting chest pain and chest tightness or pressure as the most common symptoms upon arrival at a hospital
- Women are more likely to experience atypical heart attack symptoms from men, including nausea, vomiting, dizziness and fear of death
- Compared to men, women experience more prodromal symptoms in the days and weeks leading up to a heart attack, including unusual fatigue, sleep disturbances, anxiety and shortness of breath
- Heart attacks in women are more likely to be misdiagnosed, possibly because women tend to display more varied, unique symptoms and physicians may be less likely to suspect a heart attack in women

Cardiovascular diseases are the No. 1 cause of death globally, with 17.9 million lives lost each year as a result. Among them, 4 out of 5 are due to heart attacks and strokes.[1] Knowing the symptoms of a heart attack is important so you can get emergency medical care without delay, but signs may vary significantly between men and women.

Females are more likely to have atypical heart attack symptoms, like fatigue and nausea, while men tend to experience more classic signs, including chest pain. This may be why, even though the incidence of heart attack is higher in men than in women, females have a greater one-year mortality rate after suffering from one.[2]

Women Have More Unusual Heart Attack Symptoms Than Men

Researchers with Nova Southeastern University in Florida conducted a systematic review of 74 studies examining differences in heart attack symptoms among women and men. Some similarities were noted in the research, published in Cureus, with both women and men reporting chest pain and chest tightness or pressure as the most common symptoms upon arrival at a hospital.

But men reported chest pain 13% to 15% more often than women as their No. 1 symptom, and were more likely to experience a burning or pricking pain sensation and sweating. Other typical symptoms reported by both sexes include pain in the chest, arm or jaw with a dull, heavy, tight or crushing sensation. Women were more likely to experience atypical symptoms than men, however, including the following:[3]

- Nausea
- Vomiting
- Dizziness
- Fear of death

The location of the pain also differed, with women more often feeling pain in their jaw or neck, along with the upper back, left arm, left shoulder, left hand and abdomen. Women also had a wider variety of symptoms and more of them. Compared to men, women between the ages of 18 and 55 had 10% more symptoms during a heart attack, while women aged 75 and over had 17% more symptoms.[4]

Women Often Experience Symptoms Days or Weeks Before a Heart Attack Occurs

Some people experience subtle symptoms in the days and weeks leading up to a heart attack. In some cases, symptoms may begin a year in advance. Known as prodromal symptoms, these occur more often in females than males and include, in order of prevalence:[5]

- Feeling tired or with unusual fatigue
- Sleep disturbance
- Anxiety
- Shortness of breath
- Arm, back or chest pain

Sleep disturbances are particularly common, with more than 50% of women experiencing sleep alterations within four weeks of a heart attack, compared to 32% of men.[6] Part of the reason why women may experience more prodromal symptoms may be due to their increased likelihood of nonobstructive heart attack, meaning a heart attack that occurs with no obstructive coronary artery disease.

"This follows since prodromal symptoms should not occur weeks and months prior to an acute thrombus formation," the researchers explained, noting that these "unusual" symptoms occur so often in women experiencing heart attacks that perhaps they should no longer be described as such:[7]

> *"Symptomatically, females present most often with chest pain when having an MI, but so often present with 'atypical' symptoms that the term atypical itself may need to be amended, as females present more often with an atypical symptom than they do without one."*

While it's unknown why men and women may experience such different heart attack symptoms, difference in pain tolerance, atherosclerotic burden and microvasculature could be involved. According to the study:[8]

> *"… [A]t all ages, females have less atherosclerotic burden than males, have higher rates of MI not related to plaque rupture or erosion, and have increased microvasculature resistance when they have an MI. It has been proposed that this physiological difference is etiologic for the male-female difference in symptoms, but this has not been studied directly and is a promising area of future research."*

Heart Attacks in Women More Likely To Be Misdiagnosed

Heart attacks are missed more often in young women compared to young men, possibly because women tend to display more varied, unique symptoms.[9] Physicians tend to start the diagnostic process by "intuitively recognizing familiar symptom phenotypes." Since women may fall outside of that familiar realm, researchers reasoned in the journal Circulation, physicians may make an incorrect diagnosis:[10]

> *"We found that women had significantly more symptom phenotypes than men, and symptom phenotypes were distributed differently in women and men … This finding may have important implications for teaching and improving clinicians' ability to recognize the diagnosis of acute myocardial infarction in women."*

About 11% of the time,[11] medical conditions are misdiagnosed, according to research published in BMJ Quality & Safety.[12] The likelihood of misdiagnosis varies widely, however, depending on the type of medical problem and the symptoms presented. While only about 1.5% of heart attacks are misdiagnosed, women are more likely to receive a misdiagnosis — even when they have chest pain.

A study conducted at the Hospital Clinic of Barcelona, Spain, described a "gender gap" when physicians first evaluate chest pain in women, with the likelihood of heart attack being underestimated. "Heart attack has traditionally been considered a male disease, and has been understudied, underdiagnosed, and undertreated in women, who may attribute symptoms to stress or anxiety," study author Dr. Gemma Martinez-Nadal said.[13]

The study also found that women themselves were also less likely to suspect a heart attack and, perhaps as a result, were more likely than men to wait more than 12 hours before seeking medical care.[14] As noted in the Cureus study:[15]

> *"A part of the greater mortality burden in females may be due to the lack of recognition of these atypical symptoms by physicians and patients alike, as females with MI are less likely to receive timely and evidence-based interventions upon MI symptom onset.*

> *Females who are having an MI also tend to present to the hospital later after symptom onset than males, which may indicate a possible lack of knowledge in the general population of the dangers of MI in females or a lack of knowledge of the differences in symptomology that females present with."*

That being said, it's estimated that 20% to 40% of all heart attacks are "silent," meaning they cause no symptoms or go unrecognized by the patient and physicians. Men are more likely than women to have suffered from a silent heart attack.[16]

Tips for Protecting Your Heart Health

There's no one-size-fits-all approach when it comes to supporting your heart health. However, healthy diet, exercise, stress reduction and heart-based connections — i.e., strong and positive relationships — are **key to heart and overall health**.

While cholesterol has been promoted as the sole and primary cause of plaque formation leading to heart disease, research has revealed that the truth is far different. The 2015-2020 Dietary Guidelines for Americans addressed this shortcoming when they announced that "cholesterol is not considered a nutrient of concern for overconsumption."[17]

Yet, by the 2020-2025 guidelines that statement was not included and instead the guidelines recommend that "trans-fat and dietary cholesterol consumption be as low as possible."[18] While trans fats should be limited or eliminated, to this day evidence keeps mounting that there is no link between cholesterol and heart disease.

On the other hand, 61% of Americans' food intake comes in the form of highly processed foods and drinks,[19] which are linked to cardiometabolic diseases and many other chronic illnesses.[20] While ultraprocessed foods are detrimental to your heart, Brown University researchers conducted a study to determine which micronutrients are best for your heart,[21] finding omega-3 fats, folate and CoQ10 topped the list.

The study found omega-3 fats decreased mortality from cardiovascular disease, while also reducing heart attacks and coronary heart disease events.[22] The Journal of the

American College of Cardiology study revealed that folic acid reduced stroke risk.[23] Folic acid is the synthetic version of folate, or vitamin B9, and it's the most important dietary determinant of homocysteine.

Elevated levels of homocysteine (Hcy) are a risk factor for coronary artery disease and are found in most patients with vascular disease.[24] The best way to increase your levels of this important micronutrient is to eat foods rich in natural folate, such as asparagus, avocados, Brussels sprouts, broccoli and spinach. CoQ10 also decreased all-cause mortality events, according to the Journal of the American College of Cardiology study.[25]

Ubiquinol — the reduced, electron-rich form of CoQ10 that your body produces naturally — plays an important role in the electron transport chain of your mitochondria, where it facilitates the conversion of energy substrates and oxygen into the biological energy (adenosine triphosphate, or ATP) needed by your cells for life, repair and regeneration.

Many conditions, including heart disease, appear to be rooted in mitochondrial dysfunction.[26] CoQ10 is used by every cell in your body, but especially your heart cells. Cardiac muscle cells have about 5,000 mitochondria per cell.[27]

Keep These in Your Medicine Cabinet in Case of Heart Attack

Pay close attention to any unusual health symptoms, from nausea and fatigue to sweating and pain outside of the chest. If you think you're experiencing signs of a heart attack, whether they're common or atypical, seek emergency medical care immediately.

Keeping methylene blue — the parent molecule for hydroxychloroquine and chloroquine — and melatonin on hand is also a wise move. The most common symptom of heart disease is sudden death, but if you do survive, reperfusion injury — where cellular dysfunction and death can be exacerbated following the restoration of blood flow — is a serious threat.

If you take methylene blue, you can significantly decrease the tissue damage that occurs. However, dosage is important — you only need a small amount and you don't want to overdose on it. I recommend using a microspoon for measuring the proper

amount, and I discussed **dosing suggestions** in my interview with Francisco Gonzalez-Lima, Ph.D., who is an expert on methylene blue.

Low doses, 0.5 milligram (mg) to 1 mg per kilo of bodyweight, are recommended for nonacute, longer-term treatments, including the prevention and treatment of dementia, post-stroke and other brain injuries, cognitive enhancement, and the general optimization of health if you're already healthy.

The second compound that I recommend keeping on hand is melatonin — in a 10 mg sublingual dose. It's a powerful antioxidant and will limit the reperfusion injury if taken right away after a heart attack or stroke. It's important that the methylene blue is also administered quickly, within minutes, of the heart attack or stroke. There's a critical threshold of time, which is why it's essential to keep these items on hand, in your emergency medicine kit.[28]

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