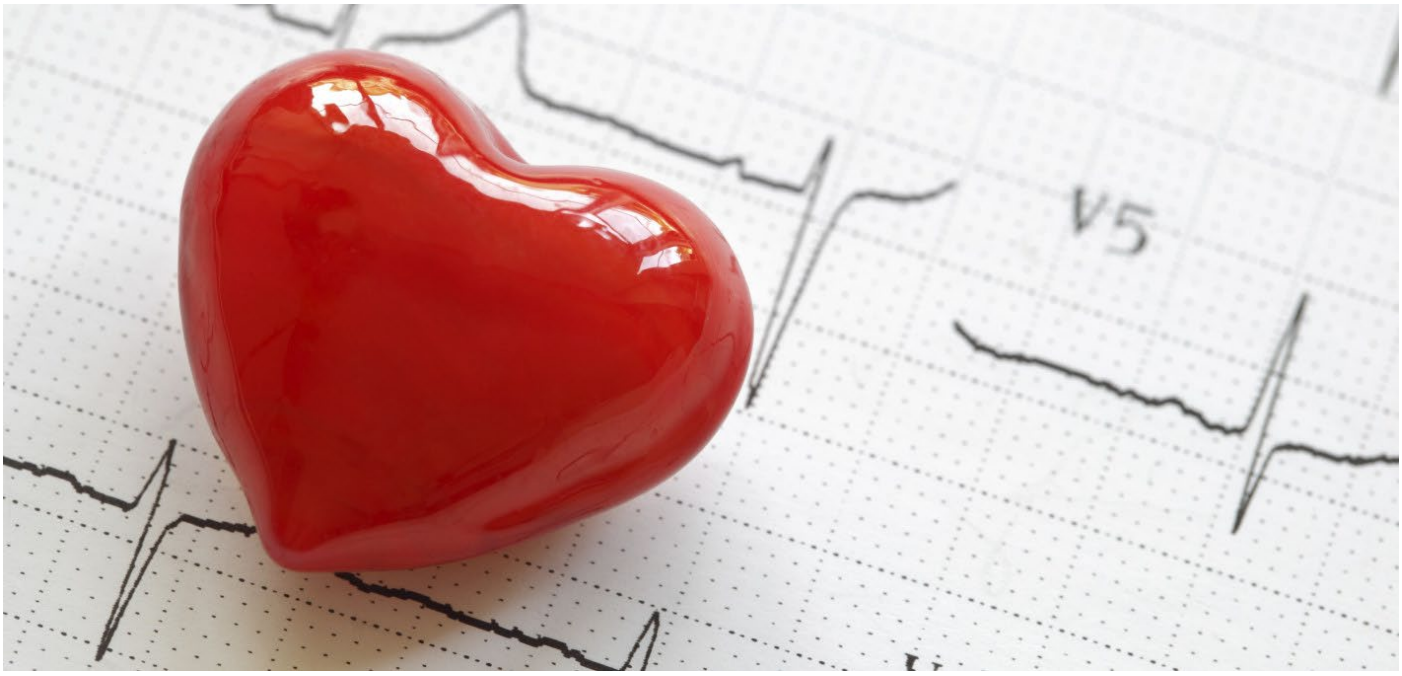
HOT Newsletter April 2022



HIV AND HEART HEALTH

With advances in the treatment of HIV, people with HIV are now living longer but unfortunately experience heart disease and its complications at faster rates than people without HIV infection.

Johns Hopkins researchers found that PLWHIV (PEOPLE LIVING WITH HIV) who have had long-term HIV infections are at higher risk than uninfected the general population of developing plaque in their coronary arteries, regardless of other risk factors for coronary artery disease.

In another Johns Hopkins study, the coronary arteries of people infected with HIV who had not yet developed plaque reacted very abnormally to stress. This abnormal stress response was similar to people with severe coronary artery disease and is itself a predictor of future adverse cardiovascular events such as heart attack and sudden death.

Thus, even before the presence of detectable plaque, the heart arteries of HIV-infected people exhibit abnormal responses associated with adverse outcomes. One possible explanation is that people living with HIV have elevated levels of inflammation and immune-activation, even if the levels of HIV are undetectable in the blood. Hopkins researchers are studying novel biomarkers of inflammation and whether decreasing inflammation improves the health of the heart arteries seen with MRI.

In addition, heart failure and abnormal heart rhythms may be more likely in people living with HIV. Studies are ongoing to evaluate this risk using MRI tests that evaluate heart function and scarring and also using echocardiography. Research participants also wear heart monitors that detect irregular heart rhythms, such as atrial fibrillation, and also potentially dangerous ventricular arrhythmias.

Read the research results at JOHN HOPKINS on the link between HIV Infection and Coronary Artery Disease in next article.

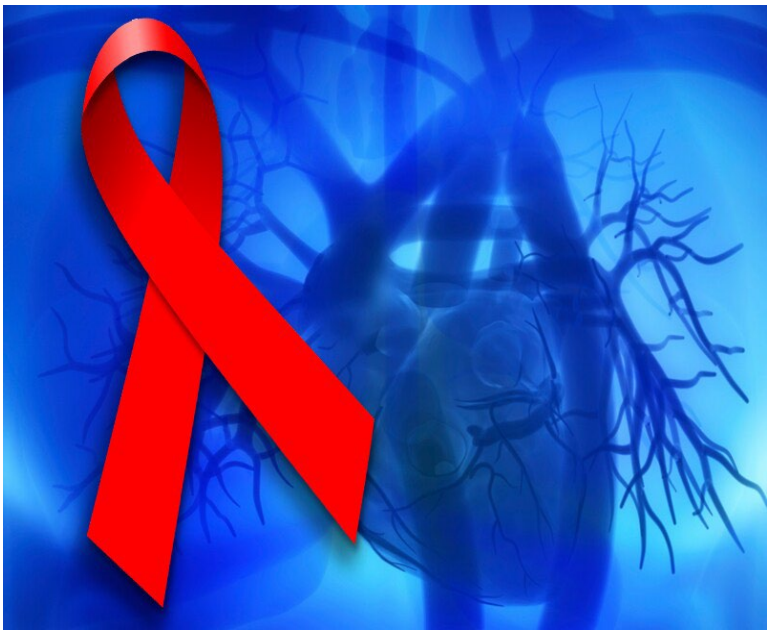
IN THIS ISSUE

The link between HIV Infection and Coronary Artery Disease.

Fast Facts:

- Men with long-term HIV infections are at higher risk for coronary artery disease.
- Cardiologist Wendy S. Post, M.D., M.S., and colleagues studied the presence and extent of plaque in the arteries of 1,001 males.
- Evaluations were done by use of coronary computed tomography angiography (CTA), an advanced type of CT scan.
- Advances in treatment for HIV/AIDS have led to longer survival and the emergence of age-related diseases among this population.
- Research published in the April issue of Annals of Internal Medicine.

Men with long-term HIV infections are at higher risk than uninfected men of developing plaque in their coronary arteries, regardless of their other risk factors for coronary artery disease, according to results of a study led by Johns Hopkins researchers. A report on the research appears in the April 1 issue of *Annals of Internal Medicine*.



The finding is important, investigators say, because advances in treatment have led to long-term survival of people living with HIV/AIDS and the emergence of chronic, age-related heart and other diseases among this population. Coronary artery disease may lead to heart attacks.

Although previous studies suggested a link between HIV infection and cardiovascular disease, results have been inconclusive.

To nail down the connection, the Johns Hopkins-led team did a comprehensive evaluation of coronary atherosclerosis in HIV-infected men using coronary computed tomography angiography (CTA), an advanced type of CT scan of the arteries that nourish the heart.

The researchers studied men already part of the Multicenter AIDS Cohort Study, or MACS, an ongoing study of HIV infection in homosexual and bisexual men before and after they began treatment in the Baltimore/Washington, Chicago, Pittsburgh and Los Angeles areas. The study population included 618 HIV-infected men and 383 uninfected men who were 40 to 70 years old and had had no prior surgery to restore blood flow to the coronary arteries.

“MACS participants are a very good population for this study, because the control group comprises uninfected men drawn from the same population of men who are infected,” says Wendy S. Post, M.D., M.S., the lead author of the study. Post, a cardiologist, is a professor of medicine at the Johns Hopkins University School of Medicine and a professor of epidemiology at the Bloomberg School of Public Health.

“This means the uninfected men are also at risk for HIV and share similar environmental exposures and lifestyles,” she says.

Specifically, Post and the other investigators measured the presence and extent of plaque in the heart arteries and also stenosis — the abnormal narrowing of blood vessels — and sought to determine if plaques causing the narrowing were non-calcified, partly calcified (less than 50 percent calcified) or calcified. Coronary stenosis that narrows the artery by more than 50 percent indicates the presence of advanced atherosclerosis.

The presence of no calcified and partly calcified plaques is significant, because they are more likely than calcified plaques to rupture and trigger development of a clot that reduces or blocks blood flow to the heart. Since no calcified plaque is not visible using standard CTA, the researchers intravenously injected a special contrast dye that enhances the visibility of these plaques.

The researchers found that no calcified coronary artery plaque was more prevalent and extensive in HIV-infected men, suggesting increased risk for heart attacks. HIV-infected men had a greater prevalence of any plaque, especially no calcified plaque, than uninfected men, even after accounting for other coronary artery disease risk factors such as high cholesterol, smoking and high blood pressure.

Among HIV-infected men, coronary artery stenosis greater than 50 percent was associated with more advanced HIV and longer treatment with highly active antiretroviral treatment (HAART), a commonly prescribed HIV drug cocktail.

These results emphasize the importance of assessing and modifying traditional cardiovascular risk factors in this population, especially in men with more advanced HIV, Post says. Future studies will try to determine whether earlier treatment with HAART might make it less likely that people with HIV will develop heart disease.

Post said her team hopes to repeat the CT angiograms in this population to measure progression of atherosclerosis and figure out why HIV-infected men have more no calcified plaque.

Other Johns Hopkins researchers involved in the study include Lisa P. Jacobson, Sc.D.; Xiuhong Li, M.S.; Richard T. George, M.D.; Todd T. Brown, M.D., Ph.D.; Adrian Dobs, M.D., M.H.S.; Joseph Margolick, M.D.; and A. Richey Sharrett, M.D., Ph.D. Researchers from the Los Angeles Biomedical Research Institute at Harbor-UCLA Medical Center, the University of Pittsburgh and Northwestern University also contributed.

By David Artavia
JULY 21 2017

A CALL TO ACTION WITH HIV POSITIVE HEART HEALTH

A new report published in the *Journal of Acquired Immune Deficiency Syndromes* shows a majority of HIV-positive people at high risk for heart disease are not on statins, a lipid-lowering medication that's been found to reduce heart disease particularly in the early stages.

Researchers studied cases at a clinic in Chicago, and found that only one-third of people who were eligible to be on statin therapy were using it for preventative measures. Thankfully, however, the majority of people who were already diagnosed with clinical heart disease and/or diabetes *were* taking statins.

Needless to say, these results are frightening, especially since studies have shown that HIV-positive people are more likely to suffer a heart attack. Even if one's viral load is undetectable, HIV-positive are still at risk.

So why aren't doctors recommending for HIV-positive people to be on statin therapy? Good question...

HIV is not mentioned as a consideration in the 2013 edition of the American College of Cardiology/American Heart Association for assessing cardiovascular disease risk and use of lipid-lowering medications as prevention, AIDS Map points out.

According to the Centers for Disease Control and Prevention, cardiovascular disease is the number one killer of both men and women, killing 25 percent of Americans every year. But for PLWHIV people, that risk is four to six times higher.

In fact, HIV poses the same risk of heart disease as diabetes. Findings published in the journal *Clinical Infectious Diseases* show that the increased inflammation one gets from having HIV creates metabolic changes. And as a result, people are likely to have low levels of "good" HDL cholesterol, which contribute to heart disease.

"Though we acknowledge that current cardiovascular guidelines have not been validated for the HIV-positive population, this study highlights potentially suboptimal cardiovascular disease prevention and management among HIV-positive [people]," authors from the Chicago study wrote.

Currently, there is limited data on the use of statins among HIV-positive people at high risk for heart disease, which is why investigators from the Infectious Diseases Center at Northwestern University designed the initial study, reports AIDS Map.

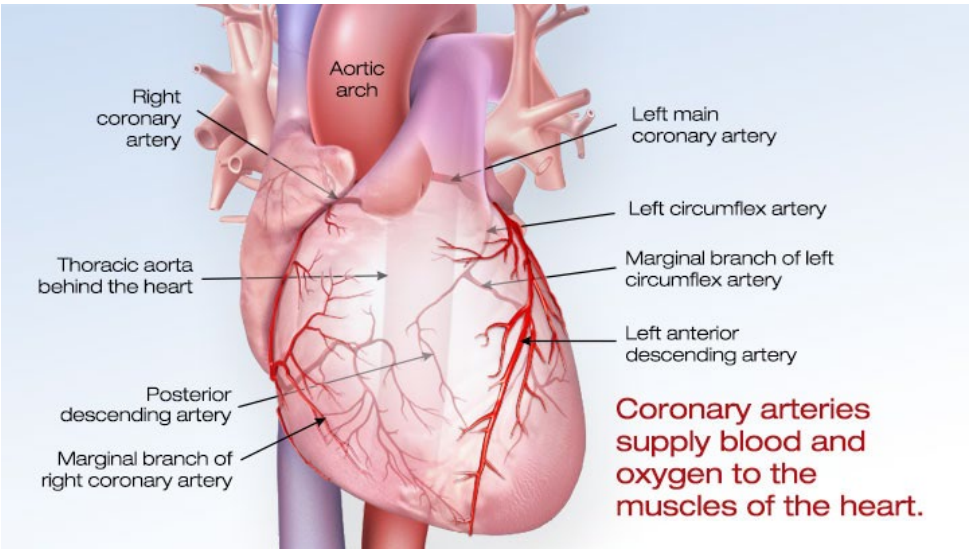
In the study, researchers took 460 patients (81 percent male with a median age of 52), and assessed risk factors. On the bases of the 2013 ACC/AHA guidelines, only 194 patients were eligible for statins — yet only 95 of them were on treatment.

"Available evidence strongly supports statin use in HIV+ patients," the researchers state. "HIV-positive persons are exceptionally vulnerable to [heart disease] compared to the general population due to an increased burden of high-risk, non-calcified plaque and higher prevalence of [heart disease] risk factors."

In order for the call of action to be made to update the 2013 ACC/AHA guidelines to broaden the use among HIV-positive people, further studies are needed to figure out the best strategies of exactly how to do it. Researchers write, “The growing evidence of increased CVD risk in HIV+ patients, likely even higher than predicted by the ACC/AHA guidelines, underscores the need for corrective measures.”

These articles may I say although researched and written in USA are thought provoking and I wonder if we should not be giving more voice to this in the Australian context, especially in our local health district of South East Sydney Local Health District?

I encourage all HOT consumers to feel free to approach the Consumer Advisory Committee if you are interested in advocating for research in our area maybe with KIRBY INSTITUTE to gather data in our local context. WE HAVE POWER IN OUR CONSUMER VOICE, I am keen to support and advocate alongside all our consumers and encourage you to make a time to meet and talk about this with the CAC or myself. *Dianne Nyoni*



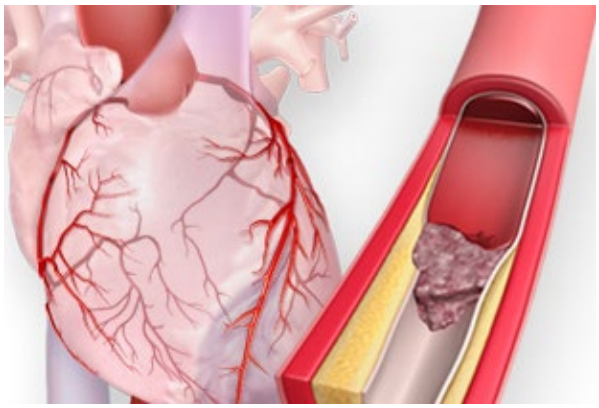
Heart Attack occurs when the blood flow that brings oxygen to the heart muscle is severely reduced or stopped. This happens because coronary arteries that supply the heart with blood can slowly become thicker and harder from a build-up of fat, cholesterol and other substances, called plaque. This slow process is known as atherosclerosis. If the plaque breaks open and a blood clot forms that blocks the blood flow, a heart attack occurs.

WHAT ARE THE SIGNS OF A HEART ATTACK?

Heart Attack and Sudden Cardiac Arrest Differences

People often use these terms interchangeably, but they are not synonyms. A heart attack is when blood flow to the heart is blocked, and sudden cardiac arrest is when the heart malfunctions and suddenly stops beating unexpectedly. A heart attack is a “circulation” problem and sudden cardiac arrest is an “electrical” problem.

What is a heart attack?



A heart attack occurs when a blocked artery prevents oxygen-rich blood from reaching a section of the heart. If the blocked artery is not reopened quickly, the part of the heart normally nourished by that artery begins to die. The longer a person goes without treatment, the greater the damage.

Symptoms of a heart attack may be immediate and intense. More often, though, symptoms start slowly and persist for hours, days or weeks before a heart attack. Unlike with sudden cardiac arrest, the heart usually does not stop beating during a heart attack. The heart attack symptoms in women can be different than men.

What is cardiac arrest?

Sudden cardiac arrest occurs suddenly and often without warning. It is triggered by an electrical malfunction in the heart that causes an irregular heartbeat (arrhythmia). With its pumping action disrupted, the heart cannot pump blood to the brain, lungs and other organs. Seconds later, a person loses consciousness and has no pulse. Death occurs within minutes if the victim does not receive treatment.

What is the link?

These two distinct heart conditions are linked. Sudden cardiac arrest can occur after a heart attack, or during recovery. Heart attacks increase the risk for sudden cardiac arrest. Most heart attacks do not lead to sudden cardiac arrest. But when sudden cardiac arrest occurs, heart attack is a common cause. Other heart conditions may also disrupt the heart's rhythm and lead to sudden cardiac arrest. These include a thickened heart muscle (cardiomyopathy), heart failure, arrhythmias, particularly ventricular fibrillation, and long Q-T syndrome.

Cardiac arrest can strike without warning

Do you suspect someone is experiencing cardiac arrest? The signs are:

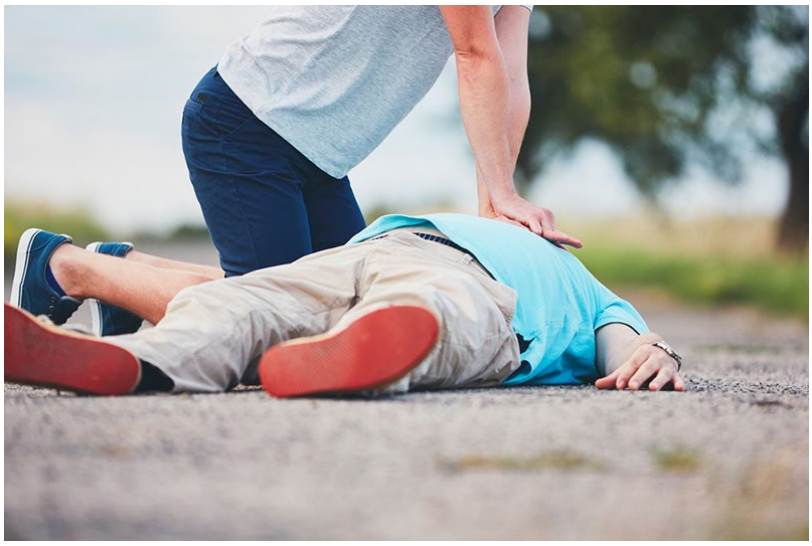
- Sudden loss of responsiveness – The person doesn't respond, even if you tap them hard on the shoulders or ask loudly if they're OK. The person doesn't move, speak, blink or otherwise react.

- No normal breathing – The person isn't breathing or is only gasping for air.

What to do

If you think the person may be suffering cardiac arrest and you're a trained lay rescuer:

1. Ensure scene safety.
2. Check for response.
3. Shout for help. Tell someone nearby to call 000 or your emergency response number. Ask that person or another bystander to bring you an AED (automated external defibrillator), if there's one on hand. Tell them to hurry – time is critical. If you're alone with an adult who has signs of cardiac arrest, call 000 and get an AED (if one is available).
4. Check for no breathing or only gasping. If the person isn't breathing or is only gasping, begin CPR with compressions.
5. Begin high quality CPR. Push down at least two inches in the center of the chest at a rate of 100 to 120 pushes a minute. Allow the chest to come back up to its normal position after each push.
6. Use an AED. As soon as it arrives, turn it on and follow the prompts.
7. Continue CPR. Administer it until the person starts to breathe or move, or until someone with more advanced training, such as an EMS team member, takes over.

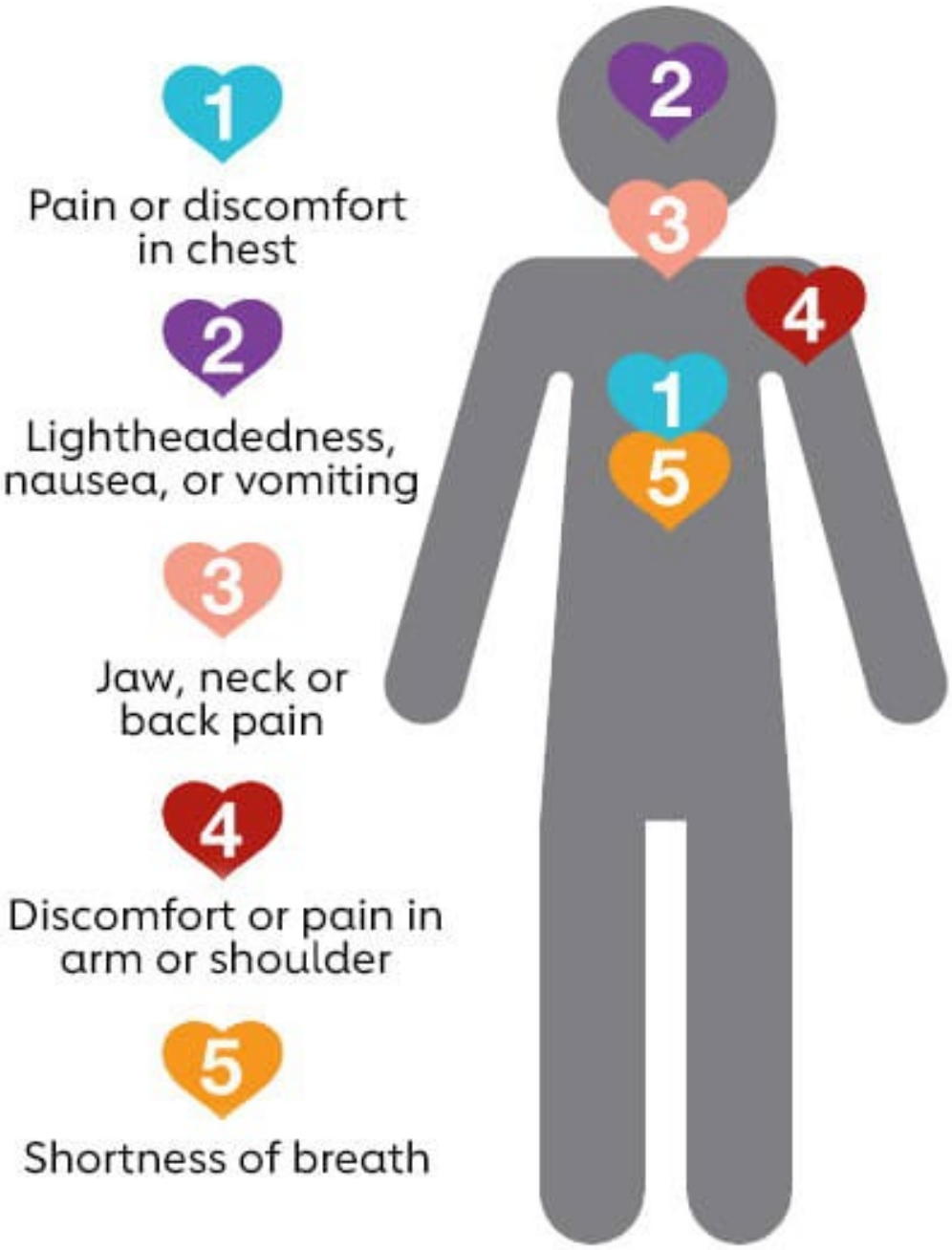


Catch the signs early

Don't wait to get help if you experience any of these heart attack warning signs. Some heart attacks are sudden and intense. But most start slowly, with mild pain or discomfort. Pay attention to your body and call 000 if you experience:

- Chest discomfort. Most heart attacks involve discomfort in the center of the chest that lasts more than a few minutes – or it may go away and then return. It can feel like uncomfortable pressure, squeezing, fullness or pain.
- Discomfort in other areas of the upper body. Symptoms can include pain or discomfort in one or both arms, the back, neck, jaw or stomach.
- Shortness of breath. This can occur with or without chest discomfort.
- Other signs. Other possible signs include breaking out in a cold sweat, nausea or lightheadedness.

Common Heart Attack Warning Signs



Copy this poster and put on fridge or near front door.

Symptoms vary between men and women

As with men, women's most common heart attack symptom is chest pain (angina) or discomfort. But women are somewhat more likely than men to experience some of the other common symptoms, particularly shortness of breath, nausea/vomiting, and back or jaw pain.

Women

If you have any of these signs, call 000 and get to a hospital right away.

1. Uncomfortable pressure, squeezing, fullness or pain in the center of your chest. It lasts more than a few minutes, or goes away and comes back.
2. Pain or discomfort in one or both arms, the back, neck, jaw or stomach.
3. Shortness of breath with or without chest discomfort.
4. Other signs such as breaking out in a cold sweat, nausea or lightheadedness.
5. As with men, women's most common heart attack symptom is chest pain or discomfort. But women are somewhat more likely than men to experience some of the other common symptoms, particularly shortness of breath, nausea/vomiting and back or jaw pain.

We've all seen the movie scenes where a man gasps, clutches his chest and falls to the ground. In reality, a heart attack victim could easily be a woman, and the scene may not be that dramatic.

"Although men and women can experience chest pressure that feels like an elephant sitting across the chest, women can experience a heart attack without chest pressure," said Nieca Goldberg, M.D., medical director for the Joan H. Tisch Center for Women's Health at NYU's Langone Medical Center and an American Heart Association volunteer. "Instead they may experience shortness of breath, pressure or pain in the lower chest or upper abdomen, dizziness, lightheadedness or fainting, upper back pressure or extreme fatigue."

Even when the signs are subtle, the consequences can be deadly, especially if the victim doesn't get help right away.

'I thought I had the flu'

Women often chalk up the symptoms to less life-threatening conditions like acid reflux, the flu or normal aging.

"They do this because they are scared and because they put their families first," Goldberg said. "There are still many women who are shocked that they could be having a heart attack."

Watch an animation of a heart attack at for more information;

https://watchlearnlive.heart.org/index.php?moduleSelect=hrtatk

Many women think the signs of a heart attack are unmistakable — the image of the elephant comes to mind — but in fact they can be subtler and sometimes confusing.

You could feel so short of breath, “as though you ran a marathon, but you haven't made a move,” Goldberg said.

Some women experiencing a heart attack describe upper back pressure that feels like squeezing or a rope being tied around them, Goldberg said. Dizziness, lightheadedness or actually fainting are other symptoms to look for.

“Many women I see take an aspirin if they think they are having a heart attack and never call 000,” Goldberg said. “But if they think about taking an aspirin for their heart attack, they should also call 000.”

Take care of yourself

Heart disease is preventable. Here are Goldberg’s top tips:

- Schedule an appointment with your healthcare provider to learn your personal risk for heart disease.
- Quit smoking. Did you know that just one year after you quit, you’ll cut your risk of coronary heart disease by 50 percent?
- Start an exercise program. Just walking 30 minutes a day can lower your risk for heart attack and stroke.
- Modify your family’s diet if needed. Check out these healthy cooking tips. You’ll learn smart substitutions, healthy snacking ideas and better prep methods. For example, with poultry, use the leaner light meat (breasts) instead of the fattier dark meat (legs and thighs), and be sure to remove the skin.

Watch video: “Just A Little Heart Attack” – a short film directed by and starring Elizabeth Banks

Don’t hesitate to call 000

Learn the signs for heart attack, and remember: Even if you’re not sure it’s a heart attack, have it checked out.

Minutes matter. Fast action can save lives - maybe your own.

Call 000 if you experience heart attack warning signs. Calling 000 is almost always the fastest way to get lifesaving treatment.

An emergency medical services (EMS) team can begin treatment when they arrive – up to an hour sooner than if someone gets to the hospital by car. EMS staff are also trained to revive someone whose heart has stopped. Patients with chest pain who arrive by ambulance usually receive faster treatment at the hospital, too.

For many reasons, it’s best to call 000 so that an experienced EMS team can begin treatment and arrange rapid transport to the emergency room.

Lifeline 13 11 14

Beyond Blue 1300 22 4636
Headspace 1800 650 890
Men's line Australia 1300 789 978
Multicultural Mental Health 1300 726 289
Crisis Care (Counselling, accommodation & food) 9223 1111

Feel free to call these agencies to talk or be referred for emergency assistance. HOT will be available over the holiday period to call also.

WORD FROM OUR CONSUMER ADVISORY GROUP

"We are looking at setting up a coffee morning on oxford st soon so watch this space!"

WE CAN DO THIS TOGETHER, STAY SAFE