



Heart Murmurs

March 2021

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Heart Murmurs is the newsletter of CASE published in February, March, April, May, September, October, November, and December each year. Suggested articles can be submitted to Barry Clark at kbclark1@telus.net. Back issues of the newsletter are posted on the CASE website at: <http://www.edmontoncase.ca>

If you wish to unsubscribe from this newsletter, please e-mail stuart_e@telus.net with a subject line 'unsubscribe'.

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Support for CASE

As a recognized charitable institution, CASE makes a significant difference to people interested in maintaining their heart health. If you make a financial gift, either as a direct contribution, or in the memory of a member who has passed, we will issue a tax receipt.

TO BE ANNOUNCED...

With current limitations on meetings the Board has decided to postpone date of the Annual General meeting from its usual date in March. We will reschedule the meeting when the opportunity to get together, safely, is opened. Until that date, the current Board, elected last year prior to the lockdown, has agreed to continue to serve. We are considering holding an event outdoors to combine with an AGM when the health regulations allow, and the weather becomes sufficiently summery!

FISH OIL HELPS SHRINK PLAQUE IN HEART ARTERIES

Recent research indicates that a drug made from a highly purified form of EPA (an omega-3 fatty acid found in fish) appears to help reduce plaque in the heart's arteries, according to a study published online Aug. 29, 2020, by the *European Heart Journal*.

The findings may explain why the drug, icosapent ethyl (Vascepa), lowers the risk of heart attack and stroke by 26% in people at high risk for those serious problems.

The study included 80 people with fatty plaque in the arteries of the heart (coronary artery disease). Most of them had diabetes and were taking a statin. Their triglycerides were elevated, ranging from 135 to 499 milligrams per deciliter. Half were randomly assigned to take 4 grams of icosapent ethyl daily; the other half received a placebo.

After 18 months, imaging tests showed that compared with the placebo group, the group taking the drug had less unstable (dangerous) plaque. The total volume of plaque was also lower among those taking the drug.

Source: [Harvard Heart Letter](#) Published: December 2020

CAN A SMART WATCH DIAGNOSE A HEART ATTACK?

This technology is not ready for prime time yet. But detecting various heart problems with a smart watch could become a reality within the decade. To diagnose a heart attack, doctors look for a distinctive pattern on a tracing of the heart's electrical activity, using a test known as a 12-lead electrocardiogram, or ECG. Now, a small study suggests that ECG readings taken with a smart watch may be just as accurate as a traditional ECG done in a medical setting.

While these new findings show potential, the real-world applicability is still years away. "This study is more a proof-of-principle rather than something that's clinically useful," says Harvard Medical School professor Dr. Peter Libby, a cardiologist at Harvard-affiliated Brigham and Women's Hospital.

ECG recording challenges: Obtaining an ECG with a smart watch requires carefully holding the back of the watch on the wrist and at eight specific locations on the chest and abdomen. In the study, physicians, (not the study participants) placed the watch in those positions. In a few people, other health problems (including Parkinson's disease and a previous stroke) made it impossible to get a clear signal.

The smart watch, like other popular smartphone-linked ECG devices, can have a wavy baseline if not applied carefully. Also, even if someone with a suspected heart attack was able to capture successfully all nine ECG readings, the results would still need to be interpreted by a physician. So, for now, the advice for the public remains the same: **"If you have chest pain or discomfort, don't mess around with your smart watch — call 911."**

For the study, researchers obtained both standard and smart watch ECGs on 81 people who sought care for a likely heart attack at one Italian clinic from April 2019 to January

2020. Two-thirds of the participants were men, and their average age was 61. For comparison purposes, both types of ECGs were also done on 19 healthy people.

The smart watch generated ECGs were 93% to 95% accurate at correctly identifying and distinguishing between different types of heart attacks. Among the healthy people, the watch's accuracy was 90% for correctly noting the absence of a heart attack. The findings were published online Aug. 31, 2020, by *JAMA Cardiology*.

Researchers used an Apple Watch Series 4 to record the ECGs, which were then uploaded to an iPhone 11 Pro. These were the latest available versions of those products at the time. However, the innovations that enabled the first recordings of the heart's weak electrical currents date back to the early 1900s. Dutch physician Willem Einthoven was awarded the Nobel Prize in medicine for inventing the first practical ECG in 1924.

Current status, future directions: The American FDA has already approved the Apple Watch's built-in ECG tool for detecting atrial fibrillation (afib), a rapid, irregular heart rhythm that raises the risk of stroke. If your watch detects this arrhythmia, your doctor can use a simple formula that considers your age, sex, and other health problems to estimate your risk of stroke. If your stroke risk is high enough and you are not at high risk for bleeding, your doctor might recommend anti-clotting medications to lower your stroke risk.

So far, however, it is not clear whether finding afib with a smartwatch app translates to better outcomes (that is, fewer strokes). Physicians also worry about being inundated with ECG tracings sent from concerned patients who get alerts about possible afib on their Apple Watches.

As for detecting heart attacks, an editorial accompanying the new study conjures an image of a "smart watch-toting cardiologist" evaluating chest pain out in public — at a restaurant or on an airplane, for example. But home-based ECGs for patients are on the horizon, according to the article.

Dr. Libby agrees. "This is a technology with a great future. Coupling wearable devices with artificial intelligence will transform our ability to monitor and predict heart disease." In this capacity, artificial intelligence would use machine learning to parse massive amounts of data from regular ECGs. The resulting algorithms may one day be able to predict atrial fibrillation, heart attacks, and heart failure, perhaps years in advance. Quality control and regulatory issues will dictate the timeline. Dr. Libby expects these improved smart watches will be on the market in less than 10 years.

Source: [Harvard Heart Letter](#) Published: December 2020

THE BENEFITS OF BRIEF BURSTS OF EXERCISE

Doing vigorous exercise for just 12 minutes triggers changes in blood levels of substances linked to cardiovascular health, new research finds. The study used data from 411 middle-aged adults from the Framingham Heart Study. Researchers measured levels of 588 substances involved in metabolism (metabolites) in the volunteers' blood before and immediately after 12 minutes of vigorous exercise on an exercise bike.

The investigators detected changes in more than 80% of the metabolites, including favorable shifts in those linked to diabetes and heart disease. For example, exercise had beneficial effects on metabolites related to insulin resistance (a condition that is a precursor to diabetes), lipolysis (the breakdown of fats), inflammation, and blood vessel reactivity. These benefits appeared to be blunted among people with obesity.

The metabolites associated with exercise might provide unique "signatures" in the bloodstream that could reveal whether a person is physically fit, like the way blood tests show how well the kidney and liver are functioning, according to the authors. The study was published Nov. 17, 2020, in *Circulation*.

Source: Harvard Heart Letter Published: February 2021

NO PLACE LIKE HOME FOR ACCURATE BLOOD PRESSURE CHECKS

Reliable blood pressure readings are vital for diagnosing high blood pressure and estimating a person's risk of heart disease. New research suggests that using a home blood pressure monitor may be more dependable than other methods. Doctors have long relied on office visits to check people's blood pressure.

Growing evidence shows that readings done outside a doctor's office are more closely linked to a person's risk of heart-related problems. Ambulatory blood pressure monitoring (ABPM) involves wearing a device that automatically records blood pressure every 30 to 60 minutes for 24 hours, but it is not widely available. Researchers compared three techniques in 408 volunteers, with readings taken during three office visits, a week of home monitoring, and ABPM. Home monitoring was more consistently reliable than the other methods and more closely was associated with a sign of early heart disease (a slightly enlarged left ventricle, the heart's main pumping chamber). The findings were published Dec. 22, 2020, in the *Journal of the American College of Cardiology*.

Source: Harvard Heart Letter March 2021 <https://www.health.harvard.edu/heart-health/no-place-like-home-for-accurate-blood-pressure-checks>

CASE Events Calendar - March 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2 Essentrics and Cardio 11:30 to 12:45 Zoom with Lynn	3	4 Essentrics and Cardio 11:30 to 12:45 Zoom with Lynn	5	6
7	8	9 Essentrics and Cardio 11:30 to 12:45 Zoom with Lynn	10	11 Essentrics and Cardio 11:30 to 12:45 Zoom with Lynn	12	13
14	15	16 Essentrics and Cardio 11:30 to 12:45 Zoom with Lynn	17	18 Essentrics and Cardio 11:30 to 12:45 Zoom with Lynn	19	20
21	22 Board Meeting	23 Essentrics and Cardio 11:30 to 12:45 Zoom with Lynn	24	25 Essentrics and Cardio 11:30 to 12:45 Zoom with Lynn	26	27
28	29	30 Essentrics and Cardio 11:30 to 12:45 Zoom with Lynn	31			

Note: Watch email for more detail on activities and events.