



# Heart Murmurs

February 2020

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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](mailto: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](mailto:stuart_e@telus.net) with a subject line 'unsubscribe'.

## **Cardiac Athletic Society Edmonton -Board**

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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.

## ***FEBRUARY EDUCATION EVENING HAS BEEN CANCELLED***

The February 10th Education meeting is cancelled as we are still in negotiations with Terwillegar Recreation Centre about a contract for the year to provide a room for the meetings at low cost to us. Thus, no speaker has been booked. The next Education meeting is scheduled for Mon. April 20 after Easter.

## ***WOULD YOU LIKE TO HELP CASE?***

The **Annual General Meeting is coming on Monday March 9, 2020**. Please mark this on your calendar and make sure to come out. We must have a quorum to maintain our status as a charitable, volunteer organization.

## ***THE TIME HAS PAST...***

The 2020 fees were payable before December 31, 2019. Stuart Embleton is still collecting the 2020 fees and issuing the new membership cards. These cards are needed to obtain the City's discounted rates on the use of the Terwillegar Family Recreation Centre and participation in the CASE exercise and volleyball programs.

## ***CARDIOLOGY TRENDS TO BE WATCHED***

The Harvard Heart Letter has selected five promising new developments in cardiovascular research that you may be hearing more about in the coming years.

**1. Digital stethoscopes:** First developed more than 200 years ago, the instrument doctors use to listen to the heart and lungs has undergone some high-tech improvements in recent years. The latest digital stethoscopes feature specialized microphones and sensors that filter, buffer, and amplify sounds from the heart. The sounds are then converted to a digital signal and sent wirelessly to a smartphone, where the patterns can be visualized and further analyzed. Some models are so sensitive they can detect turbulent blood flow in the arteries of the heart, possibly enabling doctors to detect coronary artery disease. Studies assessing that potential use are currently under way.

**2. Finding safer anti-clotting medications:** A chip the size of a postage stamp may help researchers quickly screen new anti-clotting medications. The "lab-on-a-chip" contains an array of miniature channels, valves, processors, and pumps that enable precise manipulation of different fluids. The chip was specially designed to reveal how specific compounds interact with blood and platelets (the components in blood that clump together to form clots). The chip, which can screen hundreds of compounds in just a few hours, was developed by Australian scientists, who hope to identify better and safer anti-clotting treatments.

**3. New ways to lower cholesterol:** For people with stubbornly high LDL (bad) cholesterol, an experimental drug called *Inclisiran* may cut LDL by about half. Like two other injectable cholesterol drugs, alirocumab (Praluent) and evolocumab (Repatha), the new drug targets a protein called PCSK9 that regulates LDL. But inclisiran blocks the expression of PCSK9 in the liver, whereas the other drugs block the protein after it's been made. Inclisiran requires just two injections a year where the other drugs require self-injections at least once a month. Large studies to evaluate inclisiran's safety and ability to lower heart-related complications are currently under way.

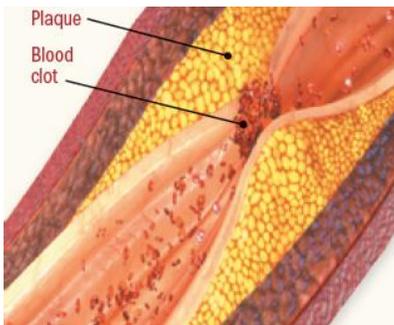
Another new drug, bempedoic acid, also reduces LDL and is currently under evaluation. Taken in pill form, it can lower LDL by about 25% in people who can't tolerate high doses of statins. Unlike statins, bempedoic acid is not converted into its active form in muscle tissue, which means it may not have muscle-related side effects.

**4. Cuffless blood pressure monitor:** Last summer, the FDA approved the first blood pressure monitor that doesn't require an inflatable cuff squeezing the upper arm. Instead, the Biobeat device relies on a small skin patch that can measure light absorbed or reflected by blood vessels, a technique called photoplethysmography. Paired with a special smartwatch, the device continuously measures a person's heart rate and oxygen level in addition to blood pressure. The patch is placed on the upper torso and lasts for 10 days, providing real-time, wireless monitoring of these three vital signs. Hospitals, clinics, and long-term care facilities are the main target audience, but the Israel-based manufacturer suggests a consumer version may be available in the future.

**5. Handheld ultrasound:** Cardiologists have long relied on echocardiography (heart ultrasound) to diagnose cardiac conditions. Increasingly, doctors are using miniaturized ultrasound devices that can be used at a patient's bedside to quickly visualize the heart. Designed to fit into a doctor's lab coat pocket, the device plugs into a smartphone or tablet, providing images that can detect problems with the aorta (the heart's largest vessel) or the heart valves and also determine the severity of heart failure. Other potential uses include checking the health of the arteries in the neck, abdomen, and legs. The handheld devices won't replace high-end standard echocardiograms, some of which provide three-dimensional images. But because the handheld devices are portable, they hold the promise for faster diagnosis and treatment of common heart problems.

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

## NEW INSIGHTS ABOUT INFLAMMATION



Recent research has reignited interest in inflammation, a major player in heart disease. A buildup of cholesterol-rich plaque inside arteries, known as atherosclerosis, is the root cause of most heart attacks and strokes.

Researchers have long recognized that **chronic inflammation** sparks this artery-damaging process.

Inflammation refers to the immune system's response to an injury or infection. For example, if you sprain your ankle or scrape your knee, your immune system unleashes an army of white blood cells to engulf and protect the area, causing visible redness and swelling. Infections such as the flu or pneumonia trigger a similar response to eliminate the harmful pathogens.

Chronic inflammation often begins with a similar cellular response but morphs into a lingering state that persists far longer. Toxins such as cigarette smoke or an excess of fat cells (especially around the belly area) can also trigger inflammation. So can the fatty plaque inside arteries, which causes inflammatory cells to cover and wall off the plaque from the flowing blood. But the plaque may rupture, mingle with blood, and form a clot. These clots are responsible for the majority of heart attacks and most strokes.

Addressing inflammation is vital. Even when people take steps to lower their risks for heart disease, such as reducing their cholesterol and blood pressure, they may still face life-threatening cardiovascular events.

"Even if you're on a statin and your LDL cholesterol is quite low, you're not home free. You may still have inflammatory risk," says Dr. Paul Ridker, director of the Center for Cardiovascular Disease Prevention at Harvard-affiliated Brigham and Women's Hospital. A blood test that detects C-reactive protein (CRP), a by-product of inflammation, is just as good at predicting heart disease as an LDL measurement, he says.

### **The hsCRP test**

Results from the test, known as a high-sensitivity CRP (hsCRP) test, are categorized into three levels: below 1 milligram of CRP per liter of blood (mg/L) is considered low risk, 1 to 3 mg/L means average risk, and above 3 mg/L signals high risk. So why don't most doctors do this test routinely? One reason is that cholesterol-lowering statins (the mainstay treatment for reducing heart disease risk) also lower CRP. That's also true for recommended lifestyle approaches, such as exercising, eating a diet that includes lots of plants, controlling your weight, and avoiding tobacco. As a result, knowing your CRP level wouldn't necessarily change your doctor's advice. That's directly related to the second reason: aside from statins, there aren't any currently available drugs proven to lower CRP and related cardiovascular problems.

But two large clinical trials have helped pave the way for some possible new treatments. A 2017 study found that a drug called canakinumab (Ilaris), which targets a specific molecule involved in inflammation known as interleukin-1, cut the risk of heart attacks, strokes, and other cardiovascular events by 17% in people with heart disease who were already taking standard heart drugs. The benefits were even better among people with the biggest drops in their CRP levels. However, in Dr. Ridker's trial, the drug led to far more striking reductions, up to 70% lower, in lung cancer among the participants. As a result, the drug's maker, Novartis, has changed priorities and is now focusing exclusively on that application.

The second study, focused on people with heart disease but tested an older drug called methotrexate (Trexall), which is used to treat rheumatoid arthritis and other inflammatory types of arthritis. But methotrexate did not lower inflammatory markers, CRP levels, or cardiovascular events. Despite that somewhat disheartening result, the finding provided important clues for future drug development. Putting the two studies together, we have a road map for the future, because we now recognize the inflammation target for heart disease prevention is somewhere along the pathway from interleukin-1 to CRP.

Source: [Harvard Heart Letter](#) Published: July 2019

# CASE Events Calendar - February 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4 <b>Exercise Program</b> Terwillegar Rec. Ctre Volleyball 3:45 Aerobic/Stretch 4:45	5	6 <b>Exercise Program</b> Terwillegar Rec. Ctre Volleyball 3:45 Aerobic/Stretch 4:45	7	8
9	10	11 <b>Exercise Program</b> Terwillegar Rec. Ctre Volleyball 3:45 Aerobic/Stretch 4:45	12	13 <b>Exercise Program</b> Terwillegar Rec. Ctre Volleyball 3:45 Aerobic/Stretch 4:45	14	15
16	17 Family Day	18 <b>Exercise Program</b> Terwillegar Rec. Ctre Volleyball 3:45 Aerobic/Stretch 4:45	19	20 <b>Exercise Program</b> Terwillegar Rec. Ctre Volleyball 3:45 Aerobic/Stretch 4:45	21	22
23	24 Board Meeting Bonnie Doone 9 a.m.	25 <b>Exercise Program</b> Terwillegar Rec. Ctre Volleyball 3:45 Aerobic/Stretch 4:45	26 Social Breakfast SEESA 9 am	27 <b>Exercise Program</b> Terwillegar Rec. Ctre Volleyball 3:45 Aerobic/Stretch 4:45	28	29