Heart Murmurs

September 2022

Cardiac Athletic Society Edmonton - Contacts

Gary Duguay, President Phone: 780-433-8628,
cell: 780-993-0281
Email: garyduguay@gmail.com

Burn Evans, Membership Phone: 780-435-1285
Email: gbevans@telus.net

Heart Murmurs is the newsletter of CASE published each year in February, March, April, May, September, October, November, and December. 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 gbevans@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.

SOCIAL PROGRAMS

A big part of CASE has always been the opportunity to get together with other members socially. It is these relationships that build an ongoing commitment to work together building a heart healthy lifestyle.

Heart Health Education Program: Our Education coordinator, Mae Hadley, has been working to restart these monthly sessions. The first session will be held Monday September 12 at 7:00PM at Terwillegar in Multi-Purpose Room A. This is not one we have used before. You will find it upstairs over skating rinks, to the immediate right at top of stairs or left off elevator.

The September topic is ***Hearing and its Importance*** You should attend even if you currently have good hearing now and learn key points! The speaker is Michael Shields,

owner, and President of Accent Associates Hearing Aid Service Ltd., and who has been dispensing hearing aids since 1982.

Subsequent sessions are being scheduled for October 17, and November 14. Please set these dates aside in your calendar so we can get back together again!

Monthly breakfasts: We have restarted this activity on the first Thursday of each month at the Woodvale Restaurant in the Millwoods Golf Course,4540 50 street. You can order from the regular menu and be billed individually with separate cheques.

UPDATE OF CASE EXERCISE ACTIVITIES FOR FALL

Healthy at Heart Program at Terwillegar (TCRC) Our exercise program continues Tuesdays and Thursdays 11.30 - 12.20 and we have introductory pickleball and other activities for those interested from 12.20 to 12.45. This is a fun time that sure gets the heart rate up.

Please note that these classes are open to TCRC drop-ins. However, we need participation by more CASE members to keep it going. You should note that CASE members, Community League members and Seniors receive a discount on TCRC admission (Max. 2 discounts).

Essentrics Online with Lynn. The next Essentrics sessions begins September 7 on **Mondays at 1:00PM and Wednesdays at 11:00AM**. The dates for the fall sessions are:

- September 7 - 28
- October 3 - 26 (there is no class on October 10)
- November 7 - 30 and
- December 5 - 28 (there is no class December 26).

The monthly fee is $45 per month for both days' classes, and the fee for Mondays only is $24. If you are participating, it would be appreciated if you would forward the required payment for Essentrics via e-transfer to the CASE Treasurer (john@sieffert.com) by early September.

You may pay for the entire 4 months, or on a monthly basis. If there are any changes to your participation schedule, please keep Lynn and John updated and adjust your payments as required.

CASE is financially supporting this class.

Lynn is continuing to offer an additional class on Fridays at not cost to CASE members. She will provide links and information regarding Friday sessions to members enrolled in the regular Essentrics classes.

Please let Wayne know if you wish to join this class but have not registered yet.

CASE Walks There were no walks in August because your leader was out of commission… The next walk is scheduled for Friday September 9. Further information

will be sent to the regular walkers. If you would like to be added to the walkers' email list, please let Wayne Jackson know.

Hopefully there will be at least two more walks after Sept 9.

Keep moving everyone.
Wayne
CASE Exercise Coordinator
waynejackson66@gmail.com

Weekly Golfing: Weather permitting, golf will continue weekly every Wednesday until October at 11:00 at the Twin Willows Golf Course. Contact Wayne Saunders (sharway@telusplanet.net) for more information.

WARNING ABOUT PORTABLE ELECTRONICS

A recent study cautions that you do not carry an Apple AirPods Pro charging case in a front chest pocket if you have an implantable cardioverter-defibrillator (ICD).

The same warning applies to the Apple Pencil 2nd Generation and the Microsoft Surface Pen. All three portable electronics (as well as the iPhone 12 Pro Max, as an earlier study noted) contain strong magnets that can interfere with the function of an ICD. These devices, surgically implanted in the chest, detect abnormal heart rhythms, and deliver a shock if needed to restore normal rhythm.

As reported in the March 1, 2022, issue of *Circulation: Arrhythmia and Electrophysiology*, the products can interfere with ICDs if they come within about an inch. Researchers performed multiple tests on the products using five ICDs from two different manufacturers. As they point out, the devices may cause a problem not only if you carry one in a shirt or jacket pocket in front of the chest, but also if you lie down and rest the device on your chest or fall asleep with the device.

Source: Julie Corliss, Executive Editor, Harvard Heart Letter June 1, 2022

CHECK YOUR BLOOD PRESSURE

Because high blood pressure rarely has any warning signs or symptoms, many people with this stealth condition do not realize they have it. But pressure that measures 130/80 millimeters of mercury (mm Hg) or higher injures blood vessels, causing them to thicken and stiffen. Left untreated, high blood pressure eventually damages the heart, brain, and kidneys.

Every health care visit should include a blood pressure check. Keep a record of your readings, which can fluctuate due to a range of factors, including exertion or stress. If your readings start trending toward the high range, or you have already been diagnosed with high blood pressure, you should get a device for home-based checks.

"Heart attacks, strokes, and other serious health problems correlate far more closely with home blood pressure than with office blood pressure readings," says internist Dr. Katherine Sakmar, assistant professor of medicine at Harvard Medical School. Blood pressure at home better represents what your heart and brain experience most of the time than blood pressure during the 15 to 20 minutes you are in a doctor's office, she explains.

Although automated machines have made checking blood pressure quite simple, it is still important to be aware of factors that can affect the accuracy of the reading, both in health care settings and at home. At the doctor's office If you have never had your blood pressure checked in both arms sequentially, ask to have this done at your next health care appointment. If the reading from one arm is higher, that side should be the one upon which to base any treatment and to check in the future.

Bring your home monitor to your next medical appointment to compare its readout with the measurement taken in the doctor's office. If the readings vary by less than 10%, you can consider your home monitor validated.

General advice Many factors (some of which may be connected) can slightly elevate your blood pressure. Caffeine is a stimulant that raises the heart rate and blood pressure. A full bladder and crossed legs can both reduce blood flow returning to your heart; your body's natural response to this is to raise your blood pressure to make sure your kidneys and brain are getting enough blood.

The following tips can help you get the most accurate blood pressure reading:

- Avoid caffeine, tobacco, and exercise for at least 30 minutes beforehand.
- Empty your bladder.
- Sit with your feet flat on the floor.
- Place the cuff on your bare arm (not over clothing) with the bottom edge about a finger's width above the crook of your elbow.
- Support your forearm by resting it on a table, with your elbow positioned roughly at heart height.
- Sit quietly without talking (or doing anything else such as reading, watching TV, or doing a crossword puzzle) during the measurement.

Choosing a home blood pressure monitor

Look for one that automatically inflates and automatically records the pressure. Many can store readings for a week or two, and pricier ones can wirelessly send the data to an app on your smartphone, making it easier to track your progress over time and share the information with doctors.

Skip devices with a wrist cuff or a fingertip sensor, as they are not as dependable as those with an upper arm cuff. Be sure to choose the correct cuff size — the inflatable part should completely cover at least 80% of your bare arm. (A too-small cuff can give a reading that is falsely high.)

Current guidelines suggest that people wait one minute, retake the reading, and then average the two numbers. Follow your doctor's advice about when and how often to check your blood pressure at home. To watch a video from the American Heart Association demonstrating the correct technique, go online to https://targetbp.org/tools_downloads/self-measured-blood-pressure-video.

Source: Julie Corliss, Executive Editor, Harvard Heart Letter June 1, 2022

SMALLER AND BETTER!

Getting a scan usually means a visit to a doctor and some giant equipment. What if that gear was wearable? While ultrasound technology is a staple in many medical settings, it is often big and bulky. Xuanhe Zhao, a mechanical engineer at the Massachusetts Institute of Technology, aims to miniaturize and simplify the entire thing and make it wearable. Zhao and his team describe their development of a tiny ultrasound patch that, when stuck to the skin, can provide high-resolution images of what lies underneath. The scientists hope that the technology can lead to ultrasound becoming comfortable for longer-term monitoring even at home rather than at a doctor's office.

Because ultrasound equipment is so large and requires an office visit its imaging capabilities are often for only a few seconds, limiting the ability to see how an organ changes over time. For example, physicians might want to see how a patient's lungs change after taking medication or exercising, something that is difficult to achieve within an office visit. To tackle these problems, the scientists designed a patch approximately one square inch in size and a few millimeters thick that can be placed practically anywhere on the body and worn for a couple of days.

The patch is multi-layered with two main components: an ultrasound probe which is stacked on top of a couplant, a material that helps facilitate the transmission of acoustic waves from the probe into the body. The MIT team is among a small group of labs that have produced similar miniaturized ultrasound devices over the past few years.

The new design with a rigid probe on top of a stretchy couplant layer is a detour from other patches which often made the actual probe flexible. A flexible probe creates a problem, he says: "The ultrasound probe is like the imaging sensor of your camera. Imagine if you distort that imaging sensor; then the images captured will be distorted and the resolution will be lost." By keeping the probe rigid but letting the couplant layer bend and stretch, the scientists were able to achieve a higher resolution with better imaging quality. Their version also lets them customize the imaging depth, seeing as far as twenty centimeters below the skin, and the image resolution.

The current design has one big drawback: It is not wireless. That meant that to test the imaging capabilities of each patch over that two-day period, the subject had to agree to stay hooked up to a conventional laboratory ultrasound imaging system through a cable. The cable was long enough that the subject could still "move around, walk around; for example, they can also walk on a treadmill or bike on a cycling machine," Zhao says. By sticking the patch on different parts of the body, the researchers could get images of the stomach, muscles, blood vessels, lungs, and heart. After the subject exercised, the scientists showed that the left ventricle of the heart expanded and the blood-flow rate in the carotid artery increased.

Researchers note that the miniature nature and user-friendliness of a patch could help clinicians to feel confident that any changes observed are due to the patient changing their behavior and not operator error. For example, accidentally moving the probe a smidge to the side can make a vein look larger than it is. With the patch, it would be easier to tell if this apparent vein expansion were a mistake or could be attributed to something real, like the patient lying down.

This work "is very exciting," says Lawrence Le, who runs a laboratory focused on ultrasound imaging and technology development at the University of Alberta. He notes that cables and wires are still needed to connect the patch to an external imaging system. "In the future, I think it's possible that this data can be wirelessly sent out," Le says, given recent advances to miniaturize and integrate the imaging system.

Zhao and his team are already envisioning how this patch can be used in medical settings. One application, he says, could be for monitoring the lung function of a Covid patient at home and seeing how it changes over time. Another could be for measuring blood pressure and heart function in people with cardiovascular diseases. Zhao says that it could also be used to supplement something like an EKG, which records electrical signals from the heart but not images, to give a fuller picture of what is going on inside the body.

While the scientists have demonstrated that the patch works, they agree that it would be better if it were wireless so that the patient would not need to be constantly hooked up to a machine. They are also working on further improving the image resolution with the goal of reaching or exceeding the resolution of point-of-care ultrasound. A patch that users could wear for lengthy periods opens the possibility of long-term continuous imaging. "We have the opportunity to obtain huge amounts of data of different organs." It will be important to build algorithms to process that data, so that clinicians can potentially diagnose conditions from the images.

In the meantime, though, the team is thrilled that a stamp-sized patch can visualize a person's organs.

Source: Maggie Chen, Science, Jul 28, 2022. https://www.wired.com/story/this-stamp-sized-ultrasound-patch-can-image-internal-organs/

CASE Events Calendar - September 2022

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 Healthy at Heart 11:30 to 12:45 CASE Breakfast Millwoods Golf Course 9:00	2	3
4	5 Labour Day CASE Essentrics Online 1:00	6 Healthy at Heart TFRC 11:30 to 12:45	7 CASE Essentrics Online 11:00 ***Golf*** *Twin Willows Golf Club* *Noon Tee-Off*	8 Healthy at Heart TFRC 11:30 to 12:45	9	10
11	12 CASE Essentrics Online 1:00 CASE Education Speaker 7:00 PM TFRC	13 Healthy at Heart TFRC 11:30 to 12:45	14 CASE Essentrics Online 11:00 ***Golf*** *Twin Willows Golf Club* *Noon Tee-Off*	15 Healthy at Heart TFRC 11:30 to 12:45	16	17
18	19 CASE Essentrics Online 1:00	20 Healthy at Heart TFRC 11:30 to 12:45	21 CASE Essentrics Online 11:00 ***Golf*** *Twin Willows Golf Club* *Noon Tee-Off*	22 Healthy at Heart TFRC 11:30 to 12:45	23	24
25	26 CASE Essentrics Online 1:00 Board Meeting	27 Healthy at Heart TFRC 11:30 to 12:45	28 CASE Essentrics Online 11:00 ***Golf*** *Twin Willows Golf Club* *Noon Tee-Off*	29 Healthy at Heart TFRC 11:30 to 12:45	30	

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