

# SportsCardiologyBC

## A Year in Review

January 2020



Dr. Saul Isserow, Head, Sports Cardiology BC

Athletes and physically active individuals are not immune to the risks of cardiac disease. Although, regular habitual exercise has numerous health benefits, vigorous exercise can result in an increased risk of heart attack and sudden cardiac death. In some individuals, exercise may accelerate underlying cardiovascular disease, triggering irregular heartbeats and potentially resulting in cardiac arrest.

Despite the risks, most athletes are not surrounded by the vital equipment and essential knowledge that could save their lives should the worst happen. Active individuals and their coaches, trainers and parents need preventative medicine, lifesaving equipment, and education to reduce the risks.

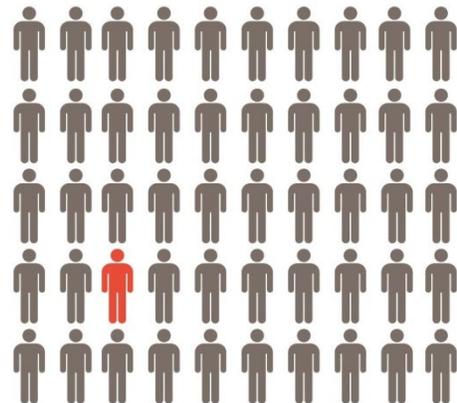
Thanks to your generous support, the SportsCardiologyBC team is leading the way in detecting, treating and researching cardiovascular disease in physically active individuals. Led by Dr. Saul Isserow and powered by your philanthropy, this unique team focused on three key areas in 2019: 1) research, 2) cardiovascular screening and 3) public education.

I am excited to share the progress that this team has made over the past year.

### 1. Research

#### Master Athlete Screening Study

In 2014, the SportsCardiologyBC team launched its Master Athlete Screening Study (MASS). The study screened 798 master athletes and found that 11.4% had cardiovascular disease. Over the last four years, the team has followed these athletes and screened them annually. These efforts have revealed new cases of cardiovascular disease and risk factors for heart attacks.



Annually, 1 new diagnosis of CVD per 50 athletes screened

Preliminary analysis of the MASS data suggests that:

1. annual screenings can identify 2 new diagnoses per 100 athletes annually, and
2. a large portion of athletes have undiagnosed and untreated cardiac risk factors, such as high blood pressure and high cholesterol.

Results from this pioneering study will be presented at the American College of Sports Medicine Conference in San Francisco in May 2020.

## MASS Legacy

Building on the success of MASS, the SportsCardiologyBC team is now launching a follow-up study called MASS Legacy. The study will follow athletes for 10 additional years to determine the incidence of cardiovascular diseases.



MASS Legacy will screen a further 4,000 athletes from various sports. With the growing number of participants, the team will use state-of-the-art technology and equipment to examine the effectiveness of stress testing and cardiovascular screening in master athletes.

## Hypertensive Response to Exercise

The Hypertensive Response to Exercise project launched in 2019 and will evaluate the dangers of exercising with high blood pressure. Regular exercise can be used to reduce blood pressure. However, during exercise blood pressure rises as more blood is pumped around the body. For some individuals, this temporary rise in blood pressure is exaggerated.

The new study aims to evaluate the risk that abnormally high blood pressure poses during exercise. It will explore whether individuals who have exaggerated rises in their blood pressure during physical activity have a higher occurrence of abnormal heart rhythms.

## The Role of Magnesium in Athletes

Magnesium is a vital mineral required by all of our bodies. It helps us to regulate muscle and heart function, while also contributing to sleep quality. The levels of magnesium in our bodies fluctuate and can be affected by what we eat, alcohol consumption and excessive sweating. Athletes are especially susceptible to low levels of magnesium as they perspire substantially and often.

Limited data exists on how magnesium levels are related to abnormal heart rhythms. In this new study, SportsCardiologyBC will assess the effect of taking magnesium supplements on the reduction of heart rhythm abnormalities and palpitations in athletes.

## 2. Cardiovascular Screening Initiatives

### Getting Our Young Athletes READY

The Research, Education and Detection in the Young (READY) program aims to make cardiovascular screening accessible to young athletes between 14 and 35 years of age. The program brings the screening clinic to young athletes' sporting and training facilities in order to help prevent sudden cardiac death through early detection and education of players and their parents.

In 2019, the READY program screened approximately 350 athletes with various sporting backgrounds and experiences. These included junior, varsity and amateur athletes competing in American football, soccer, basketball, volleyball, cross country running, track and field, rowing, hockey, swimming, field hockey, basketball, rugby and golf.

The program partnered with the University of British Columbia Vancouver, University of British Columbia Okanagan, Douglas College, Langara College, Vancouver Island University and Richmond Football Club.



The SportsCardiologyBC team screening the Langara men's soccer team in August 2019

## First Responders Wellness and Research Program



A fire hall's sleeping dormitory transformed into a clinic for the FR CREED screening program.

45% of all firefighter fatalities in the US over the last 10 years have been due to cardiovascular disease. Firefighters are more likely to die from cardiac-related conditions than from fire-related causes.

The SportsCardiologyBC team is determined to screen, raise awareness and detect disease in our first responders. The First Responders Cardiovascular Research, Education and Early Detection (FR CREED) program aims to identify high risk individuals and intervene early to protect those who have dedicated their lives to protecting our communities.

To make this program accessible to firefighters, the team is setting up clinics within fire halls across BC. Innovatively, they bring their equipment to stations and transform sleeping dormitories into screening and testing spaces.

To date, the team has tested firefighters in in Delta, Nanaimo and Langley. They are scheduled to extend participation into Vancouver, Port Moody, Coquitlam, West Vancouver, North Vancouver, Campbell River, Mission and Victoria in 2020.



SportsCardiologyBC team with Nanaimo Fire Department after completing the Nanaimo screenings in November 2019

### 3. Public Education

#### AED Awareness and Training

Do you know where your nearest Automated External Defibrillator (AED) is right now? Your answer could save a life. For every minute a person with a stopped heart does not receive defibrillation with an AED or chest compressions, their chance of retaining brain function decreases by 10%. Every second counts and, with each passing moment, the prognosis for someone with cardiac arrest worsens.

The use of AEDs and Emergency Action Plans (EAP) are exceedingly effective in reducing sudden cardiac death. However, access to AEDs and development of EAPs is poor.

The SportsCardiologyBC team is stepping in to educate staff at fitness and sporting facilities about the importance of having an AED available and knowing how to use it. The team has started hosting CPR and AED training sessions to equip fitness and facility staff with the knowledge and tools to handle emergency situations. Participating staff practice CPR and using an AED in real-life situations, such as performing compressions on an individual who has hit their head while falling from a spin bike.

In the year to come, the SportsCardiologyBC team is looking forward to helping more fitness facilities incorporate the lifesaving AED device into their operation.



SportsCardiology BC hosting AED training at Method Cycling Team in March 2019

#### The Team that Makes It All Possible



SportsCardiologyBC Team (from left to right): Raymond Tran, Ahmed Khan, Samantha Pyke, Dr. Jimmy McKinney, Dr. Saul Isserow, Maida Valkenier, Barbara Morrison

The highly specialized SportsCardiologyBC team now includes two physicians, an Executive Director, four Project and Research Coordinators and a Cardiology Technologist. Their exciting pursuits are furthered by 15 dedicated and passionate volunteers.

## Thank you

The SportsCardiologyBC team is immensely grateful for your generosity. Through your support, they have continued to push novel research forward, expanded their screenings and brought educational initiatives to more communities than ever before. Thank you for your visionary philanthropic support.

## Stay Connected with SportsCardiologyBC

You can stay connected with the SportsCardiologyBC team by following them on Facebook, Instagram or Twitter. If you or someone you know may be interested in participating in SportsCardiologyBC's research or screening, please contact Maida Valkenier at 604-318-7991 or [maida.valkenier@vch.ca](mailto:maida.valkenier@vch.ca)



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