



CARDIAC HEALTH

FOUNDATION OF CANADA

Cardiac Health Fdn Bulletin Winter Edition

Volume 8

PREVENTION, EDUCATION & CARDIOVASCULAR REHABILITATION

ISSUE 8

WELCOME to the 8th edition! 35th Anniversary of the Walk of Life 2019

Welcome to the eighth edition of the bulletin! We dedicate this edition to the staff, volunteers and patients both operating and participating in cardiovascular rehabilitation programs across Canada. Your dedication to recovery, ongoing wellness and to extending the lives of individuals affected by heart disease and stroke is applauded. You are the unsung heroes of our health system in Canada. Your commitment has contributed to the recovery of thousands of individuals who have both completed cardiac rehabilitation programs & adopted the lifestyle changes that makes it possible for a 94 year old Arthur Huycke to live fully for at least another 50 years. If you recall from Volume 6, Arthur had two major heart attacks and attended two cardiac rehab programs and continues to take his daily walk in maintaining a healthy lifestyle. We applaud you for the support of and successes of people like Arthur. In celebrating Heart Month we call on all Canadians to support your local cardiac rehabilitation programs by joining their local Walk of Life events or other fundraising initiatives that sustain their programs.

This year in honour of the 35th Anniversary, we challenge our readers to share their stories with us. We would like to receive 35 individual stories that we can share with our readers through social media, newsletters and media releases in highlighting your unique heart disease experience along with your journey in healing.

We would like to know what helped you and who has been your support system including your heroes. Please write to us at jsawdon@cardiachealth.ca or call me directly at 416-730-0354 to share your story.

Within this newsletter we shall highlight the upcoming 35th Walk of Life scheduled for May 25th 2019 at the Ontario Science Centre. Provide commentary and description of the 4th Annual Healthy Hearts Chef Challenge being held on February 26th in support of Heart Month and as our official kick off to the 35th Anniversary Walk of Life event. We will introduce the team and provide a brief operational glimpse of the Paediatric Exercise Medicine Room and Cardiac Rehab programs first year at the Hospital for Sick Children. We will incorporate Dr. Shane Marshall's article on the role of Inflammation within Cardiac Corner and also offer some tips to consider in celebrating Heart Month. We have two book reviews along with our suggestions for Healthy Heart Recipes.

GTA Walk of Life

We are pleased to once again announce that our 35th Anniversary of the Walk of Life will be held May 25th, 2019 at the Ontario Science Centre & Parkland at 770 Don Mills Road, Toronto, Ontario.

This year we will once again focus our efforts in raising funds for the Cardiac Rehabilitation Programs across Canada, for scholarships and our other health related Partners including two new members of this group. We are pleased to welcome the Toronto Rehab Cardiac Rehabilitation & Secondary Prevention Program and the Canadian SADS Foundation. The Canadian Congenital Heart Alliance, The Mikey Network and the University of Toronto Dr. Terry Kavanagh Heart Health Lab. We are also entering our third year of our 3-year commitment to funding the Paediatric Exercise Medicine Room & Cardiac Rehab Program at the Hospital for Sick Children.



Starting Line Human Ribbon at the 2019 Walk of Life

Editor: John Sawdon
Digital Design & Layout: Christina Mellos
Executive Director: Sarah Smith

This year will be a fun filled family event featuring mascots, bouncy castles, a Kids Fun Run, chair exercises, a 1, 3, 5 km Walk along with a 5 km Run. We will once again have free parking, t-shirts, snacks & beverages, live entertainment, Ontario Science Centre educational modules, prizes, medals and a BBQ lunch. Registration is free for children under 14.

Remember we will have the Tribute Wall once again in supporting you to honour of a family member or a friend who has been impacted by Heart Disease. Our goal is to raise \$500,000 so remember, set your goals early and begin reaching out to potential sponsors. Registration will be live by end of February, and if you would like to receive notifications, please add your email on our website homepage.



Our 4th Annual Healthy Hearts Chef Challenge



We are well underway in the planning of our 4th Healthy Hearts Chef Challenge to take place on February 26th, 2019 at the BMO Institute for Learning located at 3550 Pharmacy Avenue, Toronto, Ontario. This event will be hosted by Dr. Paul Oh, our Senior Medical Advisor and Director of the UHN Toronto Rehab Rumsey Centre. We have five teams of Executive Chefs who will be contending with their mouth-watering heart healthy recipes. They include Chef Teams from Chartwell Retirement Residences, Delmanor Communities, Esprit Lifestyle Communities, Revera Retirement Residences and Schlegel Villages. This year, we will once again be serenaded by the music of Andrew Beg, Tom King, Frances Beg and Salena Harriman. Additionally, we will have a featured guest who is a 13 year old girl with congenital heart disease. She and her mother will share her story including her current functioning as a member of the competitive Ontario gymnastic team. The evening will begin with the launching of a silent auction, and distribution of non-alcoholic drinks supplied by Nestle Professional and Nestle Water; and sparkling, red and white wines donated by Colio Estate Wines. Our

Executive Chef Murray is again performing his magic by coordinating all of this at the BMO Institute of Learning. Our Executive Chef teams and their entrees include:

- Chartwell Retirement Residences Culinary Team:**
 Chefs Stephen Huszczo, Anthony Rizzo, Craig Ryder, Michelle Dunnett, Joan McNeil, Angelo Bertolino
 Food Theme: Italian:
 - Porcini Crusted Pork Tenderloin
 - Truffle and Cauliflower Puree
 - Butternut Squash Caponata
 - Fig and Cipollini Marmellata
- Delmanor Communities Culinary Team:**
 Chefs Divakar Raju, Sarah Wagner, Gaurav Saxena, Keith Sullivan, Jordan Bruce, Bernard Attard
 Food Theme: Mediterranean
 - Grilled Lamb Chops Dusted with Zatar Spice
 - Chickpea Lentil Patty
 - Pickled Radish & Garlic Mint Yogurt Sauce
- Esprit Lifestyle Communities Culinary Team:**
 Chefs Steve Chapman, Jay Campbell, Chris Lundy, David Pryce, Erica Hanson
 Food Theme: Indian
 - Indian Spiced Sea-Bass
 - Pickled Cucumber Raita
 - Lentil Dahl
- Revera Retirement Living Culinary Team:**
 Chefs Ian Thomson, Nick Calina, Alicia Briscoe, Nelson Salazar, Jeff Law, Phil Lalonde, Sarah Lyons
 Food Theme: Canadian
 - Braised Veal Short-Rib
 - Maple Whiskey Glaze
 - Celeriac Puree
 - Apple Cabbage Slaw
 - Walnut Vinaigrette

- Schlegel Villages Culinary Team:**
 Chefs George Madalena, Regina Lyte, Peter Mariano, Adonis Black
 Food Theme: North American Japanese
 - Salmon Tataki with Light Smoke
 - Shaved Crisp Vegetable Salad
 - Dashi Soy and Avocado Mayo Dressing

A sample of Entree photos will tantalize your taste buds while inspiring you to buy tickets to this event. The tickets are only \$50 a piece. Check out these Culinary delights:



In putting on an event on like this we need the commitment of the Retirement Communities who commit the time along with their Chef Teams in addition to purchasing tickets and lining up sponsors for their proteins. We simply could never contemplate this concept without the incredible philanthropic support of our sponsors which include the five Retirement Communities of Chartwell, Delmanor, Esprit, Rivera and Schlegel Villages. We also wish to thank our gold

sponsors BMO, Boehringer Ingelheim-Lilly Diabetes Alliance, Sysco Canada, The Brand Factory, and The Printing House. We also express sincere appreciation and thank you to Nestle Professional, Silver Group Purchasing, Montpak, Syco and Fresh Start, Colio Estate Wines for the sparkling, Red and white wines. Although we haven't finished seeking donations for our silent auction, we wish to thank all of those sponsors who have donated to the Silent auction. We will

acknowledge your sponsorship on the 26th and through our social media postings.

We look forward to another fabulous evening and encourage you to go online at www.cardiachealth.ca and purchase your tickets today. We look forward to seeing there. The evening starts at 6:15pm and runs until about 9:30pm giving you time to get home for a good night's sleep.

Paediatric Exercise Medicine Room & Cardiac Rehab Program - One Year Later



Dr. Barbara Cifra, Exercise Medicine Program Lead

On January 29th, I joined with Dr. Barbara Cifra, the Director of the above-mentioned program, and conducted a telephone interview to see what has transpired during the first 12 months since the program opened. I learned that this program had accepted, assessed and worked with 40 patients during this time.

Dr. Cifra indicated they have a hybrid model program that includes supervision plus our traditional onsite exercise medicine program & cardiac rehab program. This decision was made to reduce the hardship that would have been created for families trying to attend the hospital three times a week for twelve weeks. That kind of traditional program would only be beneficial to families living within close proximity to the Hospital for Sick Children.

Our goal is to change lifestyles of the child/adolescent and to ultimately improve the quality of life for these individuals. We are now asking families to come in 3 times for one week, then twice for a week and then once before implementing a monitored program at home. Our focus is to facilitate movement, to become active, then to monitor symptoms, assessing psycho-social and emotional responses. We also

ensure that we can diagnose while the child/adolescent is at home. We use telehealth, and a hook up for their home-based systems. We will also use a fit-bit for the children/adolescents while doing their home-based program.



Robin Deliva, Physiotherapist



Heather McFall, Assitant Physiotherapist

Our biggest challenges include working with children with complex congenital heart conditions and secondly getting full buy-in with health personnel including subsequent referrals from physicians. I spend lots of time educating staff including nurses, nurse practitioners and physicians about what we do, and who could benefit from our program. We have also launched a hybrid program for 20 youth which

we hope will be beneficial to the child/family and influences physicians to make more referrals. This program is evidenced based, will include a feasibility study and also include a research component. We want to make this available to other children/adolescents who are struggling with a variety of chronic diseases. I have an expanded team now which includes Robin Deliva a physiotherapist and Heather McFall who is an assistant physiotherapist who does follow up at home with the child/adolescent and the family. Robin will assess the physical capacity and design exercises that enhance physical, respiratory capacity while Dr. Cifra focuses on the cardiology and heart factors. We also have support from Susan Lori who completes all of the cardiopulmonary tests for each child/adolescent.

In expanding our reach, we have had referrals from oncology and rheumatology that I am really excited about. Many children/adolescents being treated through oncology and receiving chemo are impacted by cardio-toxicity. We can address this and also want to address nutrition as a component. As a Paediatric Exercise Medicine Room, we can serve many additional children/adolescents with a variety of chronic conditions. Many of these individuals could enhance their quality of life by increasing capacity for physical activity while modifying their diets. Children/adolescents who are not active when they are young are also not active as an adult. This increases risk for metabolic syndrome, type 2 Diabetes and or atherosclerosis. Our program makes both an immediate change in their lives and serves as a preventive measure for future chronic disease.

Many of the youth we serve with cardiology issues experience lots of fatigue and exhaustion. We need to adjust for and attend to this. We know that strenuous activity can also cause

inflammation thus we monitor this very closely. Our focus is identifying and providing the right dose, the right intensity within an exercise medicine approach. We are committed to empowering the child/adolescent and creating a rewarding experience. Our approach includes doing a cardiopulmonary test, physical capacity assessment, administering a quality of life questionnaire to the child/adolescent and also to the family. Our quality of life questionnaire also assesses fatigue within the community activities. We will have different modules. We also include exercise counselling including asking the following type of questions:

- What do you like to do?
- What are your individual goals?
- How much time do you spend sitting including watching tv, playing with PS4 and Nintendo games?
- What foods do you eat for breakfast, lunch and dinner and snacks?
- When do you go to bed, how much actual sleep do you get?
- How do you feel emotionally each day? How much anxiety do you experience, including when and where? Do you experience sadness, and if so, how often?

We also provide psychological and emotional support to youth who experience significant anxiety. We have youth keep diaries and if needed also link with social work and or psychological services.

Personally, I try to learn by being aware of the various models that are used to address specific

disease states such as cardiology, oncology, rheumatology, diabetes etc.

Every four months youth come back to a clinic for follow up monitoring. During this time, we do an assessment including a review of symptoms, changes that have occurred, a physiotherapy assessment, blood work, cardiopulmonary assessment. We utilize stages of change and motivational counselling assessing readiness to change and in creating strategies for behaviour change. If the child/adolescent does not need a cardiopulmonary assessment we do not do it. For some children just walking is success. For other children we set a goal of 12,000 steps a day. The utilization of fit-bits for each child assists us to monitor activity on a daily basis.

For complex cases we resort to individualized medicine. These children have more modified goals for daily activity.

Our biggest goal has been to educate the system on the importance of exercise medicine. As mentioned earlier we provide educational sessions to nurses and to doctors. We have a new electronic health records that will assist us with this. The record requires the physician or healthcare practitioner to consider exercise medicine as an option for each child/adolescent. This ensures that each child is assessed and considered for referral.

We are also being called upon for advice and assistance to the congenital heart group at Toronto General Hospital for younger patients ranging from 20 to 30 years of age as this is an

underserved group who used to be patients of the Hospital for Sick Children.

I asked Dr. Cifra, if you could have one wish granted that our donors might help with, what would it be? I would like a facility similar to one that I saw in the Netherlands. It has a full gym with lots of assessment equipment; it is technologically sound and incorporates numerous approaches to respond to individual issues including individuals with complex needs. It has bio-machines for motor skill development. It uses stimulation to assist individuals to walk.

I would also like to see this program carried on in the community. It could be in partnership with the YMCA or Boys/Girls Clubs or Community Centres. They would need special staff trained to support children/adolescents with special needs in providing access to programs. This would probably require additional financial support.

I hope to strengthen our linkage with Kinesiology interns at the Masters level in expanding our capacity. I will keep you informed. In future we will need additional equipment and the means to support families in the community to support their children /adolescents to become active physically and socially in improving quality of life.

To our readers, we encourage you to become involved in both the Healthy Hearts Chef Challenge and the 35th Anniversary Walk of Life in raising funds to continue to support this program and its expansion.

Cardiac Corner

UNDERSTANDING YOUR INFLAMMATION STATUS

By: Dr. Shane Marshall

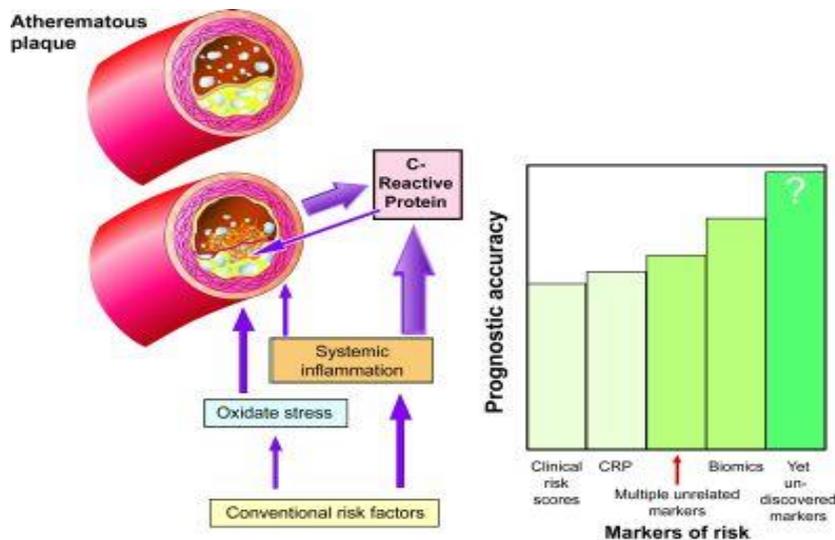
How many drugs do you have in the house to suppress inflammation? Here's a list from a walk-around I did this morning: aspirin (outdated, from days when it was popular for primary prevention), Advil (someone else's), Indocin (last years slipped disc, gracias Dr. Peckett), Arcoxia (shoulder bursitis the year before), hydrocortisone cream (various rashes – don't ask), Voltaren gel (knees), QVar asthma inhaler (left behind by Christmas guest) and four crumbling prednisone tablets (poison ivy, 2016) - I should really throw those away. If you have an organ transplant or how an inflammatory disease like lupus or rheumatoid arthritis, your list might also include methotrexate, plaquenil, and Cellcept. No matter how you look at it, we spend a lot of money suppressing inflammation.

Have you considered the effect of inflammation on your heart? If someone asked what causes atherosclerosis – blockages in the heart's blood vessels – the first thing that comes to many people's minds is cholesterol. But in fact, the correct answer is vascular injury and inflammation. You've heard the expression "smooth as a baby's bottom"? Well, at birth the inner lining of your blood vessels – the endothelium – is smooth as a baby's bottom – it's a glistening layer of cells. When, for one reason or another, the endothelium becomes inflamed, the artery's lining becomes ragged, pocked, and frayed, providing the opportunity for cholesterol and other gunk to slide in, and now you've got a plaque. I think of it as vascular acne.



Our immune system is activated whenever we come into contact with something foreign, which is just about all the time. Viruses, bacteria, mold, pollen, mites, fried foods - the list goes on. When your immune system is activated in response to an infection, that's good – it can save your life. But what happens when it's constantly activated? Not so good.

One way to measure inflammation in your body is the high sensitivity C-reactive protein blood test, hs-CRP for short. This protein is made in the liver in response to signals, called cytokines, released by white blood cells. Cytokines are like little text messages. When the white blood cell sees an invader, it texts the liver. The liver tweets out CRP, which further enhances the inflammatory process. There's no level of CRP that's considered normal, probably because we all have a little immune action going on all the time. But the risk of atherosclerosis – leading to heart attacks and strokes - is significantly increased with a CRP level above 3 mg/L compared to levels below 1 mg/L.



Can you reduce your CRP levels? Maybe you're already taking statins like Crestor, Lipitor, or Zocor. For all the bad press statins get, it turns out that, in addition to lowering cholesterol, they also lower CRP levels. That's awesome. The trouble is, we never really knew whether the life-saving properties of statins are due their cholesterol lowering properties or their anti-inflammatory properties. So, what happens if you take people who are already on statins but still have high inflammation levels, and give them a pure anti-inflammatory drug? Would that save them from another heart attack or stroke? Definitely worth trying. And that's exactly what researchers from Brigham & Women's did in 2017 when they published the CANTOS study.

The CANTOS study randomized over 10,000 patients with heart attacks whose CRP levels were 2 mg/L or higher to receive canakinumab injections every 3 months or placebo. Canakinumab is a human monoclonal antibody and a potent anti-inflammatory drug. After two years they added up the number of people in each group who had another heart attack, or stroke, or who died. Canakinumab lowered everybody's CRP level. Patients taking 150 mg had a lower incidence of cardiovascular events than the placebo group, and, as a nice bonus, less osteoarthritis and gout. Unfortunately, patients receiving the medication had a higher incidence of fatal infection.

This is usually where I sigh and throw the paper away. I'm not likely to trade heart attack prevention for fatal infection. But that was 2017. Fast forward to November 2018, when another New England Journal of Medicine study comes out, this one testing low-dose methotrexate to prevent heart attacks – cheaper, possibly safer, and definitely easier to pronounce. Unfortunately, it didn't lower CRP, didn't lower heart attack risk, and didn't lower death rate. It just didn't work. Dang. Back to canakinumab.

In the December 18, 2018 American College of Cardiology guide to reducing inflammation, we are advised that a simple method to predict long-term benefit from canakinumab is to give one dose and then only continue treatment in those whose CRP levels drop by 50%, or lower than 2 mg/l. Hmm. I'm still not convinced. I'm not enthralled by a drug that might prevent a heart attack but kill me from an infection. Especially when the current price for monthly injections is \$200,000.00/year. When you consider all the other conventional risk factors that patients struggle with - smoking, obesity, diabetes, high blood pressure, high cholesterol, and sedentary lifestyle, I see a lot more bang for your buck with simple lifestyle modifications. I might consider canakinumab for a patient who's had a heart attack, has adopted a healthy lifestyle, quit smoking, has cholesterol, blood pressure, and diabetes in control, is exercising regularly, not overweight, and is still having heart attacks or strokes despite all the best efforts – if I'm describing you, you might want to share this newsletter with your doctor.

Should you have your CRP levels checked? Most cardiologists say: not routinely. However, if your 10-year cardiovascular risk is intermediate (10-20% chance of having heart attack, stroke, heart failure, or peripheral vascular disease) and you're debating whether to start a statin, you may want to check your CRP level, and if it's high, you might want to bite the bullet and accept the statin. If you need a reminder how to calculate your risk, check out my "Vascular Selfie" newsletter at <https://bit.ly/zAT5oy2>. Talk to your doctor. Understand your personal risk of heart attack and stroke.

Chronic inflammation has been linked not just to heart disease, but to cancer, arthritis, diabetes, depression, and Alzheimer's. For me, the major importance of the CANTOS trial was that it was the first study to prove that reducing total body inflammation prevents heart attacks. That's hard science, and that is a big deal. We just need to find safer and less expensive ways to do it. Either way, here's wishing you a 2019 high in health and low in inflammation.

What will you do to improve your inflammatory status? You may not be ready to take canakinumab, but there's lots you can do starting in the grocery store and restaurants. It's about everyday choices. Some foods aggravate chronic inflammation – white flour, red meat, sugar, margarine, and fried foods – pretty much all the stuff you already recognize as not great for you. According to Dr. Frank Hu, professor of nutrition and epidemiology at Harvard School of Public Health, an anti-inflammatory diet should consist of tomatoes, olive oil, leafy green vegetables, nuts, fatty fish, and fruits



A handful of antioxidants and polyphenols to suppress inflammation.

such as strawberries, blueberries, cherries, and oranges. If that sounds like a Mediterranean diet, it's because it is. These are foods high in antioxidants and polyphenols. You might also be happy to learn that coffee has anti-inflammatory properties. A little wine also makes the list – I admit I've never acquired a taste for it, but I do add a little red to simmering chili and white to spaghetti aglio e olio. And although it's not prevalent in a traditional Mediterranean diet, you might also want to make friends with turmeric, the root containing that other wonderful polyphenol curcumin, another natural anti-inflammatory. Finally, this sort of plant-based diet also encourages the proliferation of healthy gut bacteria. If, after all that, you're not convinced to change your diet to reduce heart attack risk, do it for your mood. Yep. If you or someone you love is prone to chronic grumpiness, feed them a Mediterranean diet. A major analysis published in the September 2018 issue of Nature suggests that those following a Mediterranean diet had a 33% lower risk of depression. I predict the day is not far off that a diagnosis of depression will result in a referral to the psychologist and the nutritionist. Now, that's worth thinking about!

Dr. Shane Marshall is an award-winning Canadian cardiologist who lives and practices in Bermuda. He is the author of the "Annals of Cardiology" and can be reached at info@shanemarshallmd.com.

Heart Health Resources and Links

Within this section we are providing a summary of 2 books that may be of interest to our readership. The first is entitled, "Exercises For Cardiac Recovery" by William Smith M.S., Keith Burns M.S. and Christopher Volgraf. The second book is, "The Keto Cure, A low-carb, high-fat dietary solution to heal your body & optimize your health" by Adam S. Nally MD (Docmuscles), Jimmy Moore with recipes by Maria Emmerich.

We have also included Exercise Tips in managing Heart Disease in honour of Heart Month. We have also added three healthy heart recipes to entice your taste buds. If you would like us to add additional topics that you are interested in please send us an email at jsawdon@cardiachealth.ca.

EXERCISES FOR Cardiac Recovery



The Strong Heart Fitness Program for
Life After Heart Attack & Heart Surgery
WILLIAM SMITH, M.S., KEITH BURNS, M.S.
and CHRISTOPHER VOLGRAF
FOREWORD BY JOHN RUMBERGER, PH.D.
hatherleigh

Book Review: **Exercises for Cardiac Recovery, The Strong Heart Fitness Program for Life after Heart Attack & Heart Surgery**

By: William Smith M.S., Keith Burns M.S., & Christopher Volgraf

Copyright 2018: ISBN: 978-1-57826-706-4, Hatherleigh Press www.hatherleighpress.com

Introduction:

This book is a quick read that addresses the doubt and potential anxiety that can accrue for individuals who have had a Heart Attack and or Heart Surgery when thinking about exercising after attending a cardiac rehab Program. The forward is written by Dr. John A. Rumberger, Director of Cardiac Imaging, The Princeton Longevity Centre who is a Cardiologist with over 35 years of practice in Cardiac Care, Cardiac Rehab and Critical Care Cardiology.

The authors William Smith MS, NA-CSCS, MEPTD, Keith Burns MS, CSCS and Christopher Volgraf CSCS all have extensive experience in exercise physiology, fitness instruction and are certified by the American College of Sports Medicine's Exercise is Medicine initiative and the American College of Sports Medicine.

The Introduction and Chapter 1, is devoted to the concept of exercise is medicine including a brief overview of the various forms of cardiovascular disease.

Chapter 2 provides an overview of cardiac recovery including the FITT principles. This includes Frequency, Intensity, Time and Type. This chapter reviews risk factors for Coronary Artery Disease and then reviews stress test, medications, comorbidities, orthopedic concerns and history of physical activity. It then goes into depth on the FITT principles and reviews types of exercises to be considered. It then reviews principles of cardiac wellness, including body mind connection and addresses Value based medicine/healthcare which is more dominant and visible in the United States and parts of Europe. It concludes this chapter with a list of things you should do before and during exercise and what to look for in a personal trainer.

Chapter 3 focuses on assessment and screening including identifying the risk factors that you can control and the chronic factors that you cannot control. This chapter concludes with an exploration of the Activities of Daily Living that are impacted by chronic conditions and capacity to perform.

Chapter 4 The Exercises focuses on introducing different exercises to strengthen the body. This includes upper body strengthening, lower body strengthening, core body flexibility. This chapter has coloured pictures of each exercise which makes it user friendly.

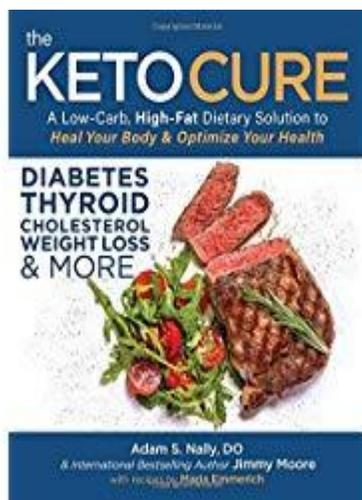
Chapter 5 Physical Evaluations addresses the FITT principle for aerobic exercises and provides a weekly layout for level 1, level 2 and level 3 activities. Resistance training is then introduced including Progression 1, progression 2 and progression 3.

This is followed by an introduction to The Strong Heart Fitness Program. Within this section is a basic, intermediate and advanced aerobic schedule including blank forms that can be used to both record and plan for your workouts. The next section introduces the reader to a Basic, intermediate and advanced resistance training schedule with a list of exercises that you can do to follow each level. It ends this chapter with an integrated cardiac recovery workout for basic, intermediate and advanced levels.

The book provides an appendix with Appendix A covering commonly used cardiac terminology. Appendix B covers a glossary of exercise terminology. This book concludes with a section on Cardiac Quick Fixes and Life Hacks which is followed an overview of the authors.

This is a quick read which provides a schedule of exercises that are fully illustrated. The only additional recommendation might include "Be certain to see your Doctor before you start exercising". If you purchase this book take it with you to your Doctors who can then write you out an exercise is medicine prescription.

~ ~ ~



Book Review: The Keto Cure A Low-Carb, High-Fat Dietary Solution to Heal Your Body & Optimize Your Health

By: Adam S. Nally, DO & International Bestselling Author Jimmy Moore with recipes by Maria Emmerich

Publisher Victory Belt Publishing Inc. 2018 ISBN_13: 978-1-628601-29-9

Overview, this publication provides an excellent grounding in theory and research in understanding ketogenic principles, lifestyles and diet. It is organized in three parts:

Part 1: The Basics: Introduction, why were the last 50 years of Nutrition wrong? What is Ketosis? Insulin Resistance

Part 2: The Keto Cure Approach to Disease Treatment: Type 1 and Type 2 Diabetes, Hypertension, Abnormal Cholesterol (Dyslipidemia), Atherosclerosis, Uric Acid and Gout, Kidney Stones, Non-Alcoholic Fatty Liver Disease, Thyroid and Thyroiditis, Neurodegenerative Diseases, Testosterone, Polycystic Ovary Syndrome, Sweeteners

Part 3: The recipes: Breakfast, Appetizers & Snacks, Soups, Salads & Sides, Main Dishes, Sweet Endings

Each Chapter also includes a side bar dialogue from Jimmy (Moore) says. The actual chapter is written by Adam Nally except for Part 3, recipes which are authored by Maria Emmerich. Additionally, each chapter in Section 2 contains principles that have been found helpful in changing physical laws (human body functions in response to physical laws). Each principle within the guide is based on a truth, the truth must be applied through an action. Thus, the Keto Cure is the application of a principle that results in an action.

Part 1: The Basics

Introduction and Chapter 1: the author introduces the reader to the concept of diseases of civilization which include heart disease, elevated cholesterol, diabetes, pre-diabetes, impaired fasting glucose, hypoglycemia, kidney stones, gout, psoriasis, eczema, inflammatory disease-including arthritis & polycystic ovary syndrome. The six principles offered within each chapter are metabolically essential in reversing the causes of the "diseases of civilization". Adam introduces himself, his family history and how he became interested in the Keto approach and also why he created DocMuscles.com He then introduces Jimmy Moore who wrote Keto Clarity with Dr. Eric Westman and Maria Emmerich who wrote Quick & Easy Ketogenic Cooking. He continues with instructions on how to use the book including recommending that you plan and track: daily carbohydrates intake, protein intake, fat intake, water intake, exercise and sleeping patterns daily. He then suggests that lifestyle change is very powerful and before starting this journey you should see your Doctor for a full physical. He introduces the reader to macronutrients which includes proteins, carbohydrates and fats. He indicates that deficiencies in protein or fat cause disease in humans however deficiency in carbohydrates does not cause disease. He then introduces the science behind weight gain including the fact that insulin is the master hormone and anything that raises insulin halts weight loss and stimulates inflammation including diseases of civilization. He introduces insulin resistance including some telltale signs that suggest you are insulin resistant.

Chapter 2: Why were the last 50 years of nutrition wrong? He begins this chapter by indicating that President Franklin D. Roosevelt's Agricultural Adjustment Act of 1933 which provided subsidies for farmers for particular crops and livestock set the stage for the nutrition disaster faced by Americans today. He graphs the US population and the growth of being overweight, obese and extremely obese from 1960 to 2008. He concludes if we remain on this track 58% of the US population will be Obese by 2030. He then paints a picture of obesity and healthcare costs indicating that in 2017 the US obesity rate was 36.5% of population were obese, with another 34% being overweight. This means that 127.9 million adults and 13.2 million children in the US are obese. He then introduces Ancel Keys the man how invented K-rations who was the epidemiologist with the most influence in the nutrition community between 1940 and 1970. His claim to fame was the Seven Countries Study which turned out to be flawed. Key introduced the Diet-Heart Hypothesis which indicates if you eat fat you get fat. This coincided with the lipid measurement of cholesterol. He points out that Senator George McGovern the Chairman of the Senate Select Committee on Nutrition passed a recommendation against eating meat that was adopted by the American Heart Association and the National Institutes of Health. He sums the chapter by pointing out that cutting out fat made

people fatter and made blood sugar worse, diabetes worse, cholesterol worse, made blood pressure go up, increased uric acid levels, increased gout and kidney stones.

Chapter 3, What is Ketosis: He points out that when the body is not using carbohydrates nor excess protein as a fuel source then it is left with fat. Without glucose in the bloodstream this fat is then turned to ketones to make fancy ATP molecules. Ketones do not require insulin to create energy. Insulin is the hormone that drives weight gain and diseases of civilization. Ketones are created in the liver and dumped into the bloodstream thus fueling cells throughout the body. He then introduces the reader to nutritional ketosis which is a state in which blood ketones are between .05 and .06 millimoles per liter. The body changes its predominant fuel from glucose to ketones as the level of ketones rises above .05mmol/L. As ketone levels rise in the body, he suggests that your energy will as well, you will experience more fat loss, improved blood pressure, improve cholesterol levels and better control of seizures. He points out that to get into a state of ketosis your insulin levels must be low enough to keep fat cells, adipose tissue from being processed in the liver. High insulin levels push fat into fat cells and keep fat in fat cells. Jimmy Moore in his side comments, states that the pursuit of nutritional ketosis are aimed at reducing insulin levels to a range that optimizes the way your body functions. High levels make it impossible to be in ketosis, lower inflammation and lose weight, whereas too low levels are equally unhealthy. He then explains ketoacidosis which occurs when the body has no insulin whatsoever. Ketoacidosis although very rare can occur when a person becomes dehydrated while overworking muscles and experiencing heat exhaustion. He then explains keto adaptation phase which lasts from two to eight weeks depending upon your body's adaptation. He suggests getting adequate fat in your diet, replacing existing salt with Himalayan salt and taking a Methylated Folic Acid. The final pages in this chapter address testing for ketosis including urine testing, breath testing and blood ketone testing.

Chapter 4, Insulin Resistance 101: He indicates that Insulin Resistance is insulin overproduction. Insulin which is referred to as the master hormone opens the cells so they can receive glucose when it is in the bloodstream. In insulin resistance the blood glucose doesn't enter the cells causing the body to produce 2 to 10 times the normal amount of insulin. This excessive insulin production occurs because signaling mechanism to let glucose into the cells isn't being received at the rate it should be, it becomes resistant. This extra insulin the author argues is the cause of diseases of civilization. He then details how insulin resistance occurs, the stages of Insulin resistance, the negative effects of insulin and the signs of insulin resistance. This includes triglycerides greater than 150; triglyceride to HDL ratio greater than 3; elevated small dense LDL particles greater than 500; fasting insulin greater than 5mg/dL; fasting blood sugar higher than 100mg/dL; postprandial blood sugar greater than 140mg/dL (two hours post meal) and waist circumference greater than 40 inches for men and 35 inches for women.

Part 2: The Keto Cure Approach to Disease Treatment

Each chapter within this section focuses on one disease or class of diseases along with 6 principles related to each disease. These include Principle 1: Lower Insulin Levels with Diet; Principle 2: Avoid additives that raise Insulin levels; Principle 3: Moderate Protein where appropriate; Principle 4: Eliminate Problem Medications; Principle 5: Add medications that Help; and Principle 6: Consider Appropriate Supplementation. In every chapter if a change is suggested, then a Green Caution note is also added. This Note indicates you should consult with your Doctor before making any changes suggested in the book.

Chapter 5, Type 1 and Type 2 Diabetes: he explains what Type 1 Diabetes is and that it makes up 5% of Diabetic population. He then explains Type 2 Diabetes linking it to Insulin Resistance and impaired GLUT-2 receptor activation and Abca1 transporters. He then addresses the Six Principles as they apply to Type 1 Diabetes and adds the green caution: Consult with your Physician. He then provides a graph along with an explanation of body's attempts to maintain blood sugar and the impact and actions that occur with each level. He replicates the same process for Type 2 Diabetes providing the Six Principles as it relates to Type 2 Diabetes.

Chapter 6, Hypertension: He indicates that hypertension occurs when Systolic Blood Pressure is above 140mmHg with Diastolic above 90mmHg. This he explains can cause increased risk for coronary artery disease, heart attack, stroke, vascular disease, heart failure, risk of kidney damage, brain bleeding and retinal damage. He then cautions to consult with your Doctor before taking bold action such as changing medications. This is followed by a discussion of the Six Principles in relation to Hypertension.

Chapter 7, Abnormal Cholesterol (Dyslipidemia): He opens this chapter by answering the question "what will happen to my cholesterol if I reduce my carbohydrates and increase the amount of fat I eat?" He rhetorically answers your cholesterol will improve." He argues that cutting carbohydrates while increasing fat intake with complimentary balance of proteins reduces cardiovascular risk including improvements in cholesterol markers. He introduces the French Paradox while pointing out that those who eat more cheese, butter, and whole eggs have the lowest rate of coronary vessel calcification and heart disease. The author takes the reader through existing studies on cholesterol including statin use and argues that pharma's use of "relative risk reduction" to sell their product instead of actual risk reduction. He then takes the reader on an exploration of cholesterol including what the numbers means, the difference between large fluffy LDL particles and small sticky particles of LDL on coronary artery disease risk. He summarizes by applying Keto Principles 1, 4 and 6 in creating action in responding to Dyslipidemia. He indicates that Principle 2, 3 and 5 are not applicable to this issue.

Chapter 8, Atherosclerosis: He introduces the reader to the role of atherosclerosis in heart disease, cerebral vascular disease and peripheral artery disease including graphic illustrations of arteries. He then introduces the role of fructose which is processed in the liver leading to fructose metabolism and ultimately to decreased nitric oxide. Decreased nitric oxide in the presence of insulin-driven inflammation allows the lining of the vessel walls to crack or break. These cracks allow for the deposits of the small dense particles of LDL in the cracks which then become oxidized damaging the collagen lining of the artery walls which leads to build of plaque. This inflammation also leads to thrombosis or clots which then block the artery resulting in a heart attack or a stroke. He describes the actual process that occurs including stating that a ketogenic diet removes sugars, lowers insulin, eliminates fructose being metabolized in the liver. This results in nitric oxide returning to normal and inflammation is avoided. The author uses a case study of Mrs. Plaque to demonstrate his theory and concludes with the application of principles 1, 3, 4, 5 & 6. Principle 2 he indicates was covered in the text.

Chapter 9, Uric Acid and Gout: he describes gout as painful swelling in the bone joints, usually knee, ankle, big toe, caused by high levels of uric acid in which urate crystals form in the joints. He indicates the crystals are like double sided needles causing extreme pain. He explores how they are caused and summarizes the chapter by applying principles 2, 5 and 6.

Chapter 10, Kidney Stones: He describes kidney stones which he calls the step child of gout. He discusses the formation of kidney stones, the influence of insulin and fructose that stimulates increased insulin and uric acid formation. He summarizes the chapter with discussion of the principles 1, 2, 5 and 6 to kidney stones.

Chapter 11, Non-Alcoholic Fatty Liver Disease: He points out that 22% of Americans and 30% of Europeans have NFLD. He points out this disease leads to inflammation of the liver and fibrosis and ultimately to cirrhosis and for some can lead to hepatic cancer. He discusses the role of insulin, and triglycerides within the liver and concludes with an application of the principles including 1, 2,4, 5 and 6.

Chapter 12, Thyroid and Thyroiditis: He discusses what the thyroid is, where it is located and what happens to this gland which controls your metabolism. He addresses concerns over the impact of ketosis on the thyroid, the impact of a ketosis diet on the thyroid and causes of hyperthyroidism and hypothyroidism including lack of iodine, smoking, obesity and excessive insulin and fructose. He sums the chapter with an application of the principles 1, 5 and 6.

Chapter 13, Neurodegenerative Diseases: he opens with a discussion of the effects of ketogenic diet in healing the nervous system. He then compared graphically damage to myelin sheath in multiple sclerosis compared to a healthy myelin sheath. He then explores epilepsy, causes of epilepsy including the role of glucose and the impact of the keto diet. He then explores multiple sclerosis, how it is caused, its difficulty in converting glucose to cell fuel and then describes in detail all of the beneficial effects of the keto diet. He then explores Alzheimer's Disease including familial Alzheimer's Dementia and sporadic Alzheimer's dementia. He links the brains gradual decline in ability to use glucose. He next explores Amyotrophic Lateral Sclerosis (ALS) and the degenerative progression of this disease. He then introduces the effect of the keto diet in improving neuronal survival. He talks very briefly about Parkinson's Disease and Inherited Glycogen Storage Disease. He then summarizes the chapter with an application of principles 1, 2 5 and 6.

Chapter 14, Testosterone & Nutritional Ketosis: he links insulin resistance to falling testosterone in men and rising testosterone in women. He explores the symptoms of Low testosterone and the causes of this. He then applies the principles of the keto diet including principle 1, 2, 3, 4, 5 and 6.

Chapter 15, Polycystic Ovary Syndrome: He explains PCOS, the symptoms and signs and then discusses causes. He indicates there are four phenotypes of PCOS and that 50% of women who have it have impaired glucose tolerance. He then discusses and illustrates the relationship between PCOS and Insulin. He summarizes discussion on the use of metformin and PCOS including a Ketose diet. He provides a discussion on ketogenic lifestyle and pregnancy before applying principles 1,2,4, 5, and 6 of the keto diet.

Chapter 16, The Sweeteners: The Good, Bad and the Ugly: He introduces the topic in relation to preparing your keto meals and the dilemma of using alternatives to sugar. He points out to be careful of fructose, and then tables the discussion of alternative sweeteners. This includes aspartame acesulfame potassium, sucralose, saccharine, cyclamate stevia, monk fruit, oligofructose, sugar alcohols and allulose. He concludes by recommending a combination of stevia, FOS and erythritol.

Part 3: The Recipes

This section includes 10 Breakfast recipes, 12 Appetizers and Snack recipes, 16 Soups, Salads & Sides recipes, 18 Main Dishes Recipes, and concludes with 10 Sweet endings recipes.

The book concludes with an Acknowledgement section and endnotes along with an index. I found the book very informative in linking the over production of insulin to diseases of civilization. It demystifies the theory behind the keto diet and provides practical recipes that can provide the foundation for change. It also reinforces that anyone considering this change needs to see their Doctors first and discuss the implications of these theories and principles on your individual circumstances.

~ ~ ~

Heart Healthy Tips in support of Heart Month

- Exercising regularly is a key strategy in preventing heart disease
- Regular exercise contributes to Healthy-Habits while preventing and or reducing levels of obesity, high blood pressure, and poor cholesterol levels which contribute to heart attacks and strokes
- American Heart Association notes that 69% of all adults are obese or overweight. This is directly related to increased diagnosis of Type 2 Diabetes Mellitus. In Canada, 25.3% of Canadians were considered obese in 2015. In 2014 61.8% of men and 46.2% of women were considered obese or overweight.
- Center for Disease Control indicates that lack of physical activity is a risk factor for heart disease and that only 20% of the adult population met the physical activity Guidelines for both aerobic and muscle strengthening activity. In Canada, only 20% of adults met the Canadian Physical Activity guidelines and only 10% of children & youth met these same Canadian Physical Activity Guidelines. Stats Canada 2016, AHA 2019



- Physical Activity is any body movement that works your muscles and requires more energy than resting. Walking, running, dancing, yoga, swimming, cycling and gardening are a few examples of physical activity
- There are four types of physical activity: aerobic, muscle strengthening, bone-strengthening and stretching. Aerobic activity makes your heart beat faster than usual, you also breathe harder. Over time regular aerobic exercise such as walking, running, cycling, dancing and swimming makes your heart and lungs stronger.
- When we do regular moderate and vigorous (can talk but cannot sing) physical activity strengthens the heart muscle. This improves the heart's ability to pump blood to your lungs and throughout your body. This means more blood flows to your muscles and oxygen levels in your blood rises. Capillaries which are the body's tiny blood vessels also widen. This allows them to deliver more oxygen to your body, strengthening cells and carrying away waste. (National institute of Heart, Lung & Blood Institute 2019)
- Physical activity can help reduce risk of coronary artery disease by controlling the following:
 - lowering blood pressure & triglycerides
 - raise an HDL cholesterol level which helps transport bad cholesterol for disposal
 - Helps body manage blood sugar and insulin levels
 - reduces C-reactive protein which is a sign of inflammation
 - reduces overweight and obesity levels
 - contributes to helping you quit smoking (NHLBI 2019)
- Do at least 2.5 hours of moderate to vigorous intensity physical activity per week. This can be accumulated by walking ten minutes after each meal.
- If you have not been active in a while, start at a comfortable pace for you. Gradually increase intensity and duration as your body adapts. If you have a chronic condition (living with Type 2 Diabetes, COPD, Heart Disease, Rheumatoid arthritis), ask your Doctor to provide some guidelines and potentially an exercise prescription in keeping you safe.
- Physical Activity on a daily basis becomes much easier when you become active with a friend. This type of social support reinforces motivation, energy and support as your physical and oxygen capacity including your mood improves.

~ ~ ~

Heart Healthy Recipes

Lemon Herb Mediterranean Chicken Salad

By: Café Delites, Karina Carrel

www.cafedelites.com

Ingredients:

2 tbsp olive oil
 1 lemon (quarter cup of squeezed lemon juice)
 2 tbsp water
 2 tbsp red wine vinegar
 2 tbsp chopped parsley (fresh)
 2 tbsp dried basil
 2 tsp garlic minced
 1 tsp dried oregano
 1 tsp salt
 Cracked black pepper to taste
 1 lb of chicken fillets boneless
 4 cups of romaine lettuce
 1 cucumber (diced)
 2 roma tomatoes (diced)
 1 purple onion (sliced)
 1 avocado (sliced)
 1/3 cup pitted kalamata olives
 Lemon wedges

Directions:

1. Whisk together all of the marinade/dressing ingredients in a large jug.
2. Pour out half of the marinade into a large, shallow dish.
3. Refrigerate the remaining marinade to use as the dressing later.
4. Add the chicken to the marinade in the bowl; marinate chicken for 15-30 minutes (or up to 2 hours in the refrigerator if time allows)
5. While waiting for the chicken, prepare all of the salad ingredients and mix in a large salad bowl.
6. Once chicken is ready, heat 1 teaspoon of oil in a grill pan or a grill plate over medium-high heat. Grill chicken on both sides until browned and completely cooked through.
7. Allow chicken to rest for 5 minutes; slice and arrange over salad. Drizzle salad with the remaining UNTOUCHED dressing.
8. Serve with lemon wedges.



Egg Roll Soup

By: Gimme Some Oven

www.gimmesomeoven.com

Ingredients:

- 1 lb ground pork or alternatively ground chicken
- 2 tbsp olive oil
- 1 medium white onion, peeled and diced
- 2 medium carrots, peeled and diced
- 3 cloves of garlic, minced
- 1 small green cabbage chopped into bite size pieces
- 6 to 8 cups of chicken or vegetable stock
- 2 tsp of ground ginger
- 1 tsp toasted sesame oil
- Optional toppings: toasted sesame seeds & finely sliced green onion

Directions:

1. Add ground pork or ground chicken to large stock pot, cook over medium heat for 5 to 6 minutes, stirring occasionally until port or chicken is lightly brown. Use a slotted spoon to take the meat out and set on a plate for later.
2. Add olive oil and onion, stir to combine. Saute for 5 minutes, stirring occasionally. Add carrots, garlic, saute for another 2 minutes then add cabbage, stock, ginger, and cooked meat, stirring to combine.
3. Continue cooking until soup reaches a simmer. Reduce heat to medium low, cover and simmer for 15 minutes or until carrots, cabbage are tender and cooked. Stir in sesame oil, combine then add salt and pepper to taste.
4. Serve warm, garnish with extra toppings. Can be refrigerated for 3 days or frozen for up to 3 months.



Mediterranean Baked Cod recipe with lemon and garlic

By: The Mediterranean Dish

www.themediterraneandish.com

Ingredients:

- 1.5 lb of cod fillet pieces (4 to 6 pieces)
- 5 garlic cloves, peeled and minced
- 1 quarter cup of chopped fresh parsley leaves

Lemon juice mixture:

- 5 tbsp fresh lemon juice
- 5 tbsp extra virgin olive oil
- 2 tbsp melted butter

For coating:

- 1/3 cup all-purpose flour
- 1 tsp ground coriander
- 3/4 tsp sweet Spanish paprika
- 3/4 tsp ground cumin
- 3/4 tsp salt
- 1/2 tsp black pepper

Directions:

1. Preheat oven to 400°F
2. Mix lemon juice, olive oil and melted butter in a shallow bowl.
3. In another shallow bowl, mix flour, spices, salt and pepper. Set aside next to lemon juice mixture.
4. Pat fish fillet dry, dip fish in lemon juice mixture, dip in flour mixture.
5. Heat 2 tbsp olive oil in cast iron skillet over medium high heat. Add fish and sear on each side for colour, remove from heat.
6. To the remaining lemon juice mixture, add minced garlic, mix and then drizzle over fish fillets.
7. Bake in oven until fish flakes easily with fork (approx. 10 minutes but check it), remove from heat and sprinkle chopped parsley.
8. Serve with Lebanese rice or a Greek salad.



Cardiac Health Foundation of Canada Website with Did You Know Articles

Although our articles on heart health and Did you Know have not yet moved to our new website, I am still writing articles that might be of interest to you. I have added two others, one on mental illness and lifestyle change and the most recent an article on Women and Cardiovascular Disease. If you would like a copy or have an interest in another topic related to cardiovascular disease please let us know by sending an email to jsawdon@cardiachealth.ca.

In this regard, I also want to announce that the launching of a Prodromal Assessment Scale by Dr. Sheila O'Keefe McCarthy RN, PhD of Brock University. This scale has come about because women's symptoms of a heart attack are different from men's symptoms and often ignored leading to significantly more heart muscle damage or death. The link to this scale is <https://brocku.ca/brock-news/2019/01/heart-health-month-new-app-from-brock-research-team-aims-to-help-catch-heart-disease-early/>

Cardiac Health Fdn Bulletin Winter Edition

Volume 8, Issue 8

If you would like to be updated with our foundation's news and bulletins, you can sign up for our free membership at www.cardiachealth.ca (at the bottom of the homepage). To view previous bulletins on our website, go to the News tab and click on Newsletter.

Cardiac Health Foundation of Canada

901 Lawrence Ave West, Suite 306

Toronto, ON M6A 1C3

Tel: 416-730-8299 Fax: 416-730-0421

Email: info@cardiachealth.ca

www.CardiacHealth.ca | www.WalkOfLife.ca

Facebook: www.facebook.com/CardiacHealth

Twitter: [@CardiacHealth](https://twitter.com/CardiacHealth)

Instagram: [@cardiachealthfoundation](https://www.instagram.com/cardiachealthfoundation)