# Cardiovascular Disease and Risk  Reduction:

## Exercise and Fitness goals for Cardiac Risk Reduction

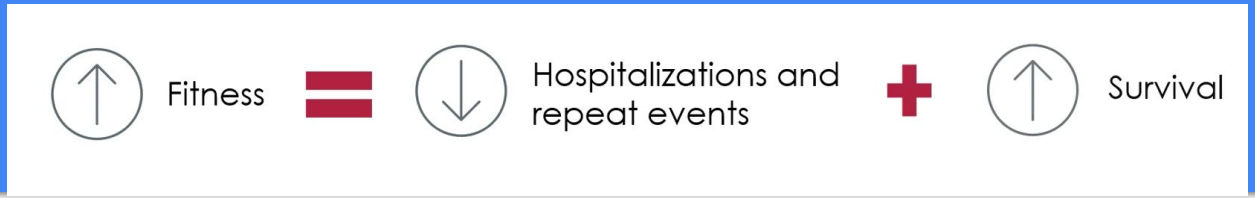
Emma Curle & Sarah-Jane Chamorro

# Physical Inactivity

Recent World Health Organization (WHO) estimates suggest that 27.5% of adults do not meet physical activity guidelines

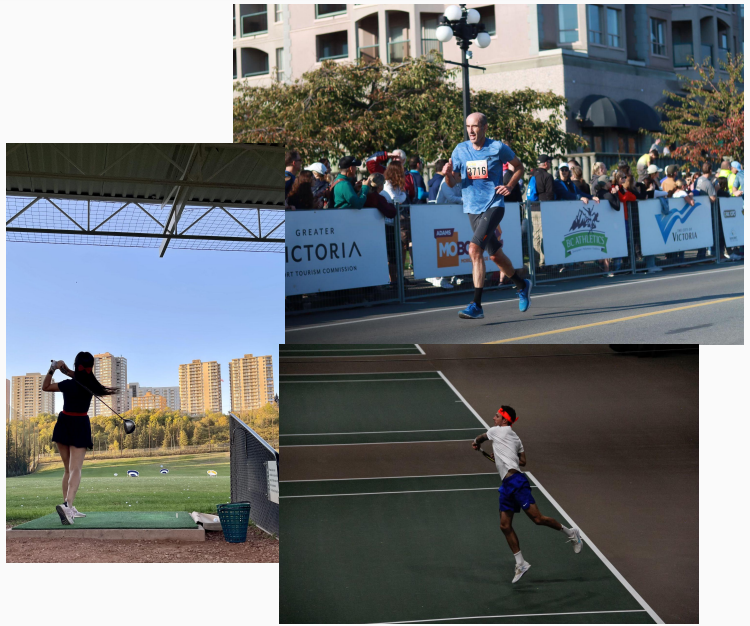
- Consequences of a physically inactive lifestyle include low CRF, obesity, dylipidemia, hypertension, insulin resistance, and hyperglycemia.
- It is also associated with increased risk of type 2 diabetes, CAD, heart failure, stroke, cardiovascular events, and all-cause mortality.
- A global examination of physical inactivity and major non-communicable disease found that physical inactivity caused more than 5.3 million of the 57 million deaths that occured world wide in 2008.
- WHO physical activity guidelines call for at least 150 minutes of moderate-intensity aerobic or 75 minus vigorous intensity aerobic physical activity per week.

# INTRODUCING CARDIAC RISK REDUCTION THROUGH FITNESS




OUR GOAL:

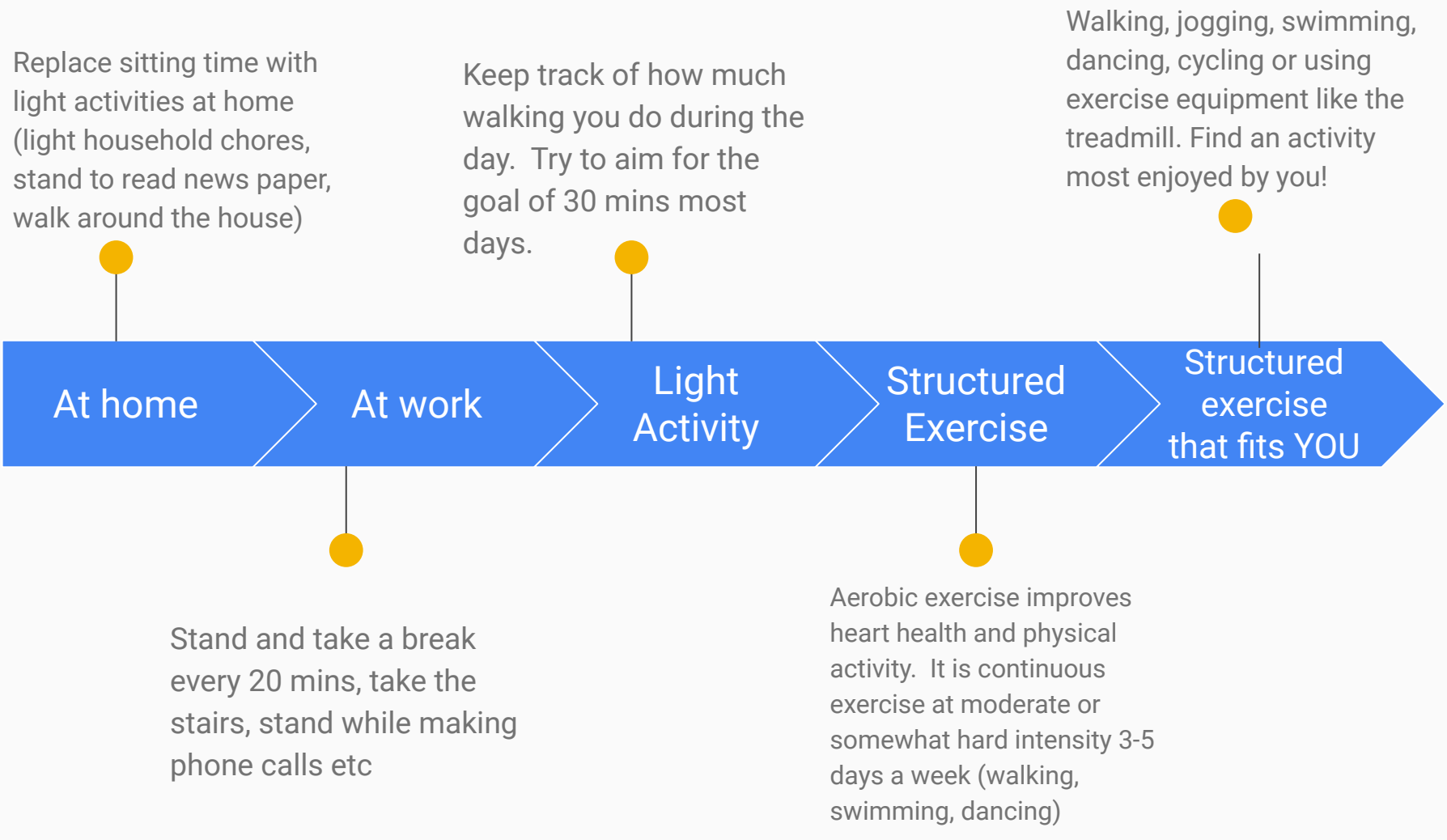
Studies show that people who increase their fitness and activity levels are less likely to have repeat events, surgeries, and hospital admissions. We will work with you to develop an exercise program that works best for you and your abilities by adding light activities to your daily routines and help you return safely to your daily activities. We will also create structured exercise routines, monitor intensities, and manage any symptoms that may arise with these activities. Mainly, we will also provide support, advice and tools to improve overall fitness but most importantly cardiovascular fitness to help reduce risk of a cardiac event!



## DOCTOR'S APPOINTMENT + EXERCISE STRESS TEST

Risk factor identification + medication management

- This appointment is to help identify a patient's risk factors and to see if their medications are working as they should.
- Help to determine if further tests or referrals to any specialty clinics are needed.
- Results are shared with your doctors and can be used to create your exercise prescription and a set of goals to manage your personal risk factors.


Replace sitting time with light activities at home (light household chores, stand to read news paper, walk around the house)
Keep track of how much walking you do during the day. Try to aim for the goal of 30 mins most days.
Walking, jogging, swimming, dancing, cycling or using exercise equipment like the treadmill. Find an activity most enjoyed by you!
At home
At work
Light Activity
Structured Exercise
Structured exercise that fits YOU
Stand and take a break every 20 mins, take the stairs, stand while making phone calls etc
Aerobic exercise improves heart health and physical activity. It is continuous exercise at moderate or somewhat hard intensity 3-5 days a week (walking, swimming, dancing)

# AHA: Common Problems and Solutions for Being Physically Active

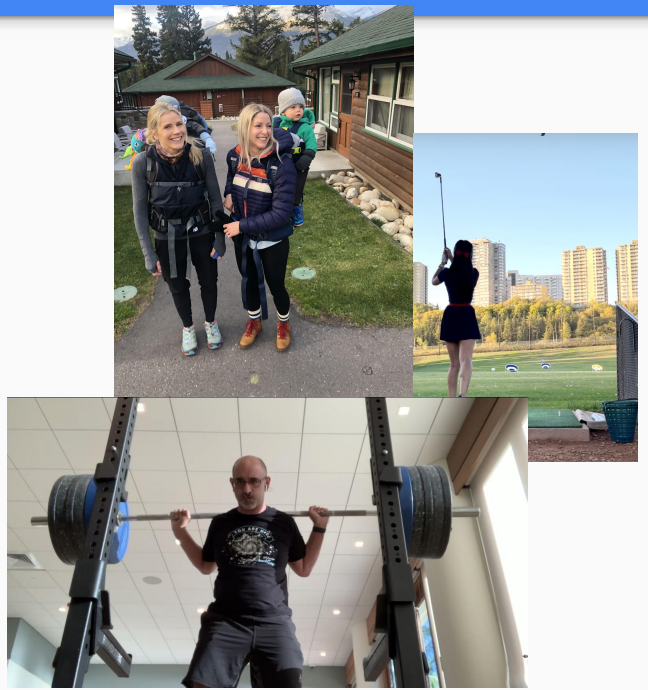
Lack of time: Break up activities into a few short sessions instead of a longer period of time at once.  Consider combining physical activities with other things you might like to do! For example, try to meet a friend for a walk instead of going for coffee.

Not feeling well:  As soon as you are well enough to leave the house, set a physical activity plan for the week.  Be careful not to jump into your pre illness workouts and substitute it for light activities so you don't get too tired. This way you can slowly work your way up to your normal activity levels.

Pain or injury:  Try switching your activity that doesn't irritate or bother your injured area!

# Benefits of Physical Activity

- Participating in regular physical activity can provide a number of health benefits including:
  - Lower risk of mortality, cardiovascular disease, hypertension, type 2 diabetes, cancer, anxiety, depression, & dementia
  - Benefits include improved bone health, weight maintenance, improved quality of life and physical function, as well as mental health.



# Physical Activity Guidelines

- Physical activity guidelines from the Canadian Society of Exercise Physiology outline the basic requirements for gaining the benefits associated with physical activity
- The guidelines include:
  - Moderate to vigorous aerobic activities resulting in 150 minutes per week
  - Muscle strengthening activities for major muscle groups twice weekly

# FITT Principle

- Frequency
  - How often you will exercise
    - Days per week
    - Minutes per day
- Intensity
  - How hard you are working during exercise
  - Mild/moderate/high/severe
- Time
  - How long each exercise session is
- Type
  - What kind of exercise (aerobic, resistance, flexibility/balance)

# Gauging Exercise Intensity

- Talk test
  - Using speaking aloud to gauge exercise intensity - for moderate intensity activity, you should be able to say four or five words without taking a breath
- RPE
  - On a scale from 1 to 10, how difficult is the activity
- Repetitions in reserve
  - How many more repetitions of an exercise could have been performed before failure
- Heart rate

| RPE SCALE | |
|---|---|
| 1 | Nothing |
| 2 | Very Easy |
| 3 | Easy |
| 4 | Comfortable |
| 5 | Somewhat Difficult |
| 6 | Difficult |
| 7 | Hard |
| 8 | Very Hard |
| 9 | Extremely Hard |
| 10 | Maximal/Exhaustion |

# Back to basics : Balance exercises!

After a cardiac event, sometimes you might feel like you're back to square one with your fitness. Let's set some goals and begin with a few exercises that might help with your confidence and body awareness.

Balance exercises can directly improve posture and body awareness, quality of life, coordination of muscular and skeletal strength and most importantly confidence.

It can also decrease your risk of injury, makes exercise fun and functional, and can help add a variety to your exercise program!

# Balance and Flexibility

- Balance training can improve coordination and strength as well as decrease risks of injury and falls
- Balance training:
  - *Frequency*
  - 2-7x/wk
- *Intensity*
  - Mild intensity (should not be difficult)
- *Time*
  - 10-30 minutes
- *Type*
  - Static: maintaining a still position
  - Dynamic: staying upright while changing positions
  - Important to focus on progression

# Aerobic Training

- Aerobic training is physical activity that increases the heart rate and use of oxygen in the body via the cardio-respiratory system
  - *Participating in aerobic activity increases aerobic fitness as well as improves cardiovascular health*
- Aerobic exercise includes brisk walking, jogging, swimming, cycling, and recreational sports
- Aerobic training:
  - *Frequency*
    - 3-5x/wk
  - *Intensity*
    - Moderate to vigorous
  - *Time*
    - 30-60 minutes per day
  - *Type*
    - Walking, running, swimming, cycling, etc

# Strength and Resistance Training

- Strength and resistance training consists of performing exercises with the intention of building strength
  - Resistance training improves muscle strength and can improve cardiovascular health
- Resistance training can involve free weights, bodyweight, or weight machines

Frequency

- 2-3x/wk

Intensity

- Resistance that allows 10-15 repetitions of each exercise

Time

- 30-45 minutes per session

Type

- Bodyweight, free weights, machines

# Resources

Tucker, W. J., Fegers-Wustrow, I., Halle, M., Haykowsky, M. J., Chung, E. H., & Kovacic, J. C. Exercise for primary and secondary prevention of cardiovascular disease. *Journal of The American College of Cardiology, 80*(11), 1091-1105. https://doi.org/10.1016/j.jacc.2022.07.004