

**THE EXERCISE
MEDICINE PROGRAM**
FOR ADOLESCENTS WITH
HEART DISEASE

SickKids[®]



**Let's
get
active!**

**Promoting a
healthy and
active lifestyle.**

**Maximizing the quality
of life through exercise,
nutrition and sleep
recommendations.**

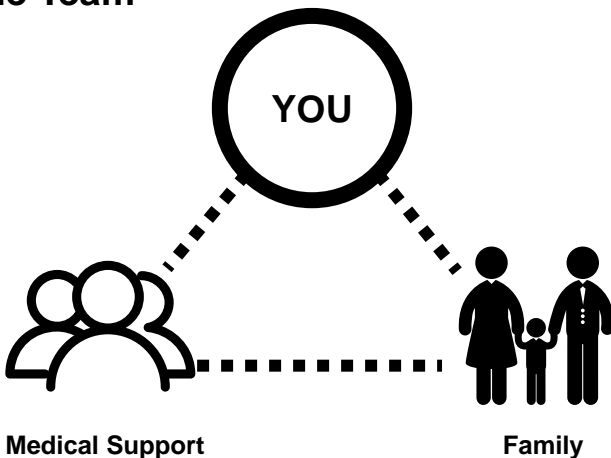
About the Exercise Medicine Program

The Exercise Medicine Program was created within the Labatt Family Heart Centre at The Hospital for Sick Children. It represents the first pediatric program in Canada that focuses on promoting physical activity and individualized lifestyle recommendations for children and adolescents with heart disease based on a comprehensive medical and functional evaluation.

WHY

Heart-Healthy lifestyle behaviors are easier to maintain through life if acquired in the beginning of childhood and encouraged by the family. Early promotion is the best way to ensure positive long-term health outcomes for adolescents with heart disease. A heart-healthy lifestyle helps reducing additional risk factors that contribute to cardiovascular disease, such as obesity, high blood pressure, diabetes and mental health disorders like depression and anxiety.

The Team



Medical Support

Physician
Physiotherapist
Kinesiologist

Family

What to expect once you are enrolled?

Physical Exam

Exercise Assessment

Strength and Flexibility Evaluation

Lifestyle Assessment

Months 1-2

Regular check-ins by telemedicine

Months 4-5

Regular check-ins by telemedicine

Start

Initial Assessment

Month 3

Follow-up

6th Month

Final Assessment

Ask your doctor how to enroll in this program.

4 Keys to a Healthier Life

Build YOUR Best Day!



Physical Activity

Adequate levels of physical activity is vital for adolescents wellbeing, health and development. Staying active reduces risk of developing other disease like high blood pressure, diabetes, cancer and mental health disorders later in life. Moreover, an active lifestyle is associated with positive self-esteem and increased cognitive skills and academic performance.



Sleep

Adequate sleep is essential for healthy cognitive, psychosocial and physical health. To establish and maintain healthy sleep patterns, adolescents should have a consistent bedtime and wake-up routine, limited access to electronics before bed, and have quiet, comfortable bedrooms.



Nutrition

Healthy eating in adolescents is important for body and brain health. Proper nutrition helps to achieve and maintain a healthy body weight and reduces the risk of developing additional health conditions such as metabolic syndrome, or diabetes.




Sedentary Behavior

Refers to any waking behavior characterized by very little physical movement like sitting or lying down while playing video games or watching TV. Greater durations and frequencies of screen time are associated with increased body weight, lower scores on emotional and social health indicators and can counteract the benefits of being physically active.

General Health Recommendations

**FOR TEENS
12-17 YEARS**



**At least
60 minutes**
of physical activity daily
can be broken up
in shorter sessions
throughout the day.



**2 hours
per day**
of screen time.
Break up long
periods of sitting as
often as possible.



8-10 hours
of uninterrupted
sleep per night with
consistent bed and
wake-up times.

3-4x / week: Aerobic Exercises

- Moderate (50-70% of maximal heart rate)* to Vigorous (70-80% of maximal heart rate)** intensity activities
- Progressive, 30-60 minutes / session

3x / week: Resistance Training

- 20-30 minutes / session on non-consecutive days
- 2-3 sets of exercises with 10-15 repetitions
- Add 10-12 minutes of warm-up and cool-down
- Promotes muscle growth and bone health
- Increases strength and mobility development

- Be active during recess and meet for outside activities with your friends after school.
- Look for recreational programs in your community.
- Be creative and try out new things: **every move counts!**
- Avoid exercising at extreme hot or cold weather conditions.
- If you are on blood thinners and / or have implanted devices avoid sports that require physical contact between players.

* Intensity: 5-6, on a scale 0 to 10, where the highest level of effort possible is 10

**Intensity: 7-8, on a scale 0 to 10, where the highest level of effort possible is 10

Let's get active every day!



LEARN
MORE ABOUT
PHYSICAL
ACTIVITY

Below you find an overview of the multiple activities that are safe for adolescents with heart disease and help them to meet their physical activity guidelines. Many of these activities fall under different categories: aim for doing each type of activity at least 3 days each week! **Let's get active!**

Moderate Intensity



Aerobic
Exercise

If you are doing moderate intensity activities you can talk and you are working hard enough to raise your heart rate.

- Bicycle riding
- Skateboarding
- Skating
- Playing games that require catching and throwing

Vigorous Intensity



If you are doing vigorous intensity activities you will not be able to say more than a few words without pausing for a breath.

- Running
- Bicycle riding
- Basketball
- Swimming
- Dancing
- Hockey
- Martial arts

Muscle Strengthening



Resistance
Training

Body weight exercises help to increase muscle mass and strength that will improve your posture.

- Push-ups
- Resistance exercises using body weight and exercise bands
- Yoga

Bone Strengthening



Weight-bearing activities are ideal to ensure proper bone development and maturation.

- Skipping
- Jumping rope
- Gymnastics
- Running
- Basketball

Additional Information

Get around and be active!

Activities such as walking to and from school as well as outdoor exercises on weekends can contribute to teen's physical activity levels and improve their overall fitness.

Let's get started: Challenge yourself and try to get on 12 000 steps daily!



Accumulation

The concept refers to meeting the goal of 60 minutes per day by performing activities in multiple shorter bouts spread throughout the day. Start with smaller amounts of physical activity and gradually increase duration, frequency and intensity over time. Use a workout plan to keep you motivated and achieving your workout goals.



Coach yourself!

Adolescents should learn how to monitor the intensity of their activity to ensure they are appropriate for their condition. It is important to stop the exercise in the presence of any exertional symptoms such as dizziness, difficult breathing or chest pain.

Things that can help you:

- Talk Test
- Breathing techniques
- Heart rate monitoring with a wearable device



In addition, please remember to take appropriate breaks, and stay hydrated between the sessions and throughout the whole day.



Team sports

Age-appropriate and enjoyable teams sports help adolescents to connect with peers and get more socially engaged.

Additional Information

Sleep

Sleep is essential for teen's physical as well as cognitive growth. Bedtime routines, and both the quality and quantity of your sleep are crucial for developing a good sleeping hygiene. Sleep problems can often be caused by bad sleeping habits and can be corrected by making a few simple changes to your lifestyle and sleep routine.

Mindfulness

Meditation is a simple practice available to all, which can reduce stress, increase calmness and clarity and promote happiness.

Mindfulness is not something useful only in times of stress, it is a tool that can help to explore new sensations, including those that are unpleasant. You can be mindful anytime, anywhere, no matter what you are doing.

LEARN MORE
ABOUT
SLEEP



LEARN MORE
ABOUT
MINDFULNESS



Food is Fuel

Healthy eating habits are essential for teen's growth and development. A balanced diet suggests a variety of foods to get enough nutrients through vegetables and fruits, whole grains, and protein. Limit intake of sugary drinks, sweets, highly processed foods, and foods high in sodium and saturated fat. The sooner nutritious choices are introduced into teen's diets, the easier they will be able to develop a healthy relationship with food that can last them a lifetime.



LEARN
MORE
ABOUT
NUTRITION



This brochure summarizes data from multiple sources addressing physical activity among children and adolescents with heart disease and matching the general physical activity recommendations for healthy children and adolescents (5–17 years) in Canada. However, these recommendations will be individually adapted within the Exercise Medicine Program. This brochure was created by Dr. Barbara Cifra and Johanna Schmickler (Technical University of Munich) during her observership at SickKids.