

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

SickKids[®]



**Promoting a
healthy and
active lifestyle.**

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

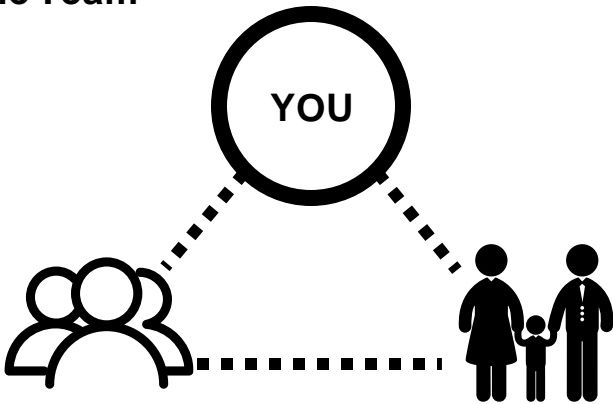
About the Exercise Medicine Program

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 childhood and encouraged by the family. Early promotion is the best way to ensure positive long-term health outcomes for children 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 virtual assessment

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 children's 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.



Nutrition

Healthy eating in childhood 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.



Sleep

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




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 CHILDREN 7-11 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.



9-11 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 minutes / session on non-consecutive days
- Add 5-10 minutes of warm-up and cool-down
- Promotes muscle growth and bone health
- Increases strength and mobility development

- Be active during recess and after school. Make time for outdoor family events on the weekend.
- Be creative and try out new things: **every move counts!**
- Avoid exercising at extreme hot or cold weather conditions.
- Children on blood thinners and / or with implanted devices should 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!

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



LEARN
MORE ABOUT
PHYSICAL
ACTIVITY

Moderate Intensity



Aerobic Exercise



Vigorous Intensity

Muscle Strengthening



Resistance Training



Bone Strengthening

Your child will be able to talk but not sing. She/he will feel the heart beating faster in the chest and will start sweating.

- **Bicycle riding**
- **Walking to school**
- **Skateboarding**
- **Skating**

Your child will not be able to say more than a few words without pausing for a breath. This is normal at this intensity. Breaks can be taken at any time.

- **Playing tag**
- **Running**
- **Bicycle riding**
- **Basketball**
- **Swimming**
- **Martial arts**

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

- **Playground activities**
- **Resistance exercises using body weight**
- **Yoga**

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

- **Hop-scotch**
- **Jumping rope**
- **Gymnastics**
- **Running**
- **Dancing**

Additional Information

Get around and be active!

Activities such as walking to and from school as well as playing outdoor on weekends can optimize children's daily 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 help keep children motivated and achieving their workout goals.

Coach yourself!

Children should learn how to monitor the intensity of their activities and the appropriate level 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, children should be reminded to take appropriate breaks, and stay hydrated between the sessions and throughout the whole day.



Team sports

Age-appropriate team-based activities or sports help children to connect with peers, get socially engaged and keeps them motivated.

Additional Information

Sleep

Sleep is essential for children's physical as well as cognitive growth. Bedtime routines, and both the quality and quantity of your child's 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 child's lifestyle and sleep routine.

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ABOUT
SLEEP



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 your child to explore new sensations, including those that are unpleasant. For parents, the best way to teach a child to be mindful is to embody the practice oneself.

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MINDFULNESS



Food is Fuel

Healthy eating habits are essential for children'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 children's diets, the easier they will be able to develop a healthy relationship with food that can last them a lifetime.



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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 Schrickler (Technical University of Munich) during her observership at SickKids.