

What is the prevalence of cardiac rhythm disorders?

Unfortunately each year in Canada, hundreds of children and young adults die needlessly from one of several cardiac rhythm disorders that can predispose a person to a sudden cardiac arrest. Many of these deaths are easily preventable.

As many as 1 in 500 Canadians under the age of 35 are affected by some form of cardiac rhythm disorder and about 700 children die of sudden cardiac death. Such tragedies among, seemingly healthy children and young adults are disturbingly common in communities across Canada — and many of them can be prevented.

More than half of all sudden cardiac deaths are preceded by warning signs that are too often ignored, missed or misinterpreted. With proper medical assessment, many of these disorders are identifiable and treatable.

We envision a day when:

- The majority of young people with inherited rhythm disorders are living rich and productive lives with a diagnosis.
- Universal knowledge of the warning signs and universal diagnostic screening combine to prevent hundreds of unnecessary deaths.

Building communities committed to preventing sudden cardiac death in young people

Team up to be a partner in a community initiative to save young lives at risk by creating awareness in;

- All elementary and secondary schools
- All youth sports organizations
- Municipal Parks and Recreation Departments

Many individuals at risk of sudden cardiac death can be identified by;

- Pre-participation screening questionnaire
- Pre-participation ECG screening to test for susceptibility to Sudden Cardiac Death.

Our Mission

The mission of the Alex Corrance Memorial Fund is to save the lives of young adults who are genetically prone to sudden death due to heart rhythm abnormalities.

The goal is to accelerate the pace of promising medical research into the cause and early detection of heart arrhythmias. Fundraising activities will benefit designated research studies along with education and awareness.

Information in this booklet has been sourced from London Health Sciences Centre, Cardiac Care Services and the following;

¹ Circulation, American Heart Association, Dr. Kimberly Harmon, April 22, 2011

² Johns Hopkins Health Alert, May 20, 2011

For more information please visit:

www.lhsc.on.ca

Search for more information under Patients, Families & Visitors/Cardiac Care Services/Inherited Heart Rhythm Clinic

www.alexcorrancememorialfund.com

www.sads.ca

www.heartandstroke.on.ca

Search for more information under Health Information/Heart Disease/Heart Disease Conditions.



Heart Rhythm Awareness

SAVE A LIFE

Working to build communities committed to preventing sudden cardiac death in young people



Sudden death in athletes caused by heart arrhythmias

The risk of SCA in athletes is higher than in non-athletes because of several factors associated with sports activity that increase the risk in people with an under-lying cardiovascular abnormality.

- The majority of sudden deaths in athletes occur during or immediately after exercise however some deaths occur at rest or during sleep.
- Over 50% of patients have fainting spells in the days, weeks or months prior to their death.

A recent study of NCAA athletes in the US indicates the rate of SCA in athletes is higher than previously estimated.¹

An ECG detects upwards of two-thirds of hidden cardiovascular diseases in athletes, it may be prudent to include an ECG as part of a pre-participation physical examination for athletes in higher risk sports.

Identifying “at risk” individuals through awareness

Recognition of the warning signs and early medical intervention are the keys to preventing sudden cardiac death in children and young adults. Anyone with young people in their life should know the warning signs and how to respond to them.

Recognize the warning signs

- Fainting or seizure during physical activity.
- Fainting or seizure resulting from emotional excitement, emotional distress or startle.
- Family history of unexpected sudden death during physical activity or during a seizure, or any other unexplained sudden death of an otherwise healthy young person.

A young person who has experienced any of these warning signs should be referred to a cardiologist or an electro physiologist for a complete cardiac assessment.

The assessment should include an analysis of the heart rhythm by Electrocardiogram (ECG), stress ECG, Holter monitor, Echocardiogram and MRI as required.

Responding appropriately to fainting during physical activity

- Call 911 for any player experiencing fainting or seizure during physical activity.
- Keep a record and report any episodes of fainting or seizures.
- Require the player have medical clearance before he/she returns to play.

Know the difference between Sudden Cardiac Arrest and Heart Attack

Sudden Cardiac Arrest (SCA) and Heart Attack are two distinct conditions;²

- SCA occurs when the heart suddenly stops pumping blood through the body owing to a glitch in the heart’s electrical system. The heart enters abnormal rhythm, known as ventricular fibrillation, in which the heart muscles twitch or quiver but do not beat.
- A heart attack occurs when a blocked blood vessel disrupts blood flow to the heart, resulting in an area of dead heart muscle. Throughout a heart attack, the heart usually continues beating normally.

During SCA, the patient collapses without warning and is completely unresponsive which is what makes it so frightening. Left untreated, SCA can cause irreversible brain damage and death within minutes.

By contrast, victims of a heart attack commonly have symptoms such as crushing chest pain, shortness of breath, a racing heart, dizziness, light-headedness, sweating and nausea or vomiting. And they generally remain conscious and responsive through the event.

Inherited heart rhythm disorders causing sudden cardiac arrest fall into two categories:

Structural / Muscle

- Hypertrophic Cardiomyopathy (HCM)
- Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC)

Electrical

- Long QT Syndrome
- Wolff-Parkinson-White (WPW)
- Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT)
- Brugada Syndrome

Some of these disorders are caused by congenital heart defects and can be a progressive condition that eventually may cause a fatal arrhythmia.

Tragically, children and adolescents are often highly publicized victims of fatal inherited heart rhythm disorders.

It is crucial for inherited heart rhythm disorders to be detected as soon as possible, as death may be the first clinical presentation of the disease.

