

2020

# Brugada Syndrome

## Inherited Heart Disease (IHD) Clinic



[www.nshealth.ca](http://www.nshealth.ca)

## **How does the heart work?**

The heart is a hollow organ made of muscle. It has 4 chambers: 2 at the top (atria) and 2 at the bottom (ventricles). Blood flows from outside the heart into the top chambers, is pumped to the bottom chambers, and is then pumped back out to the body.

In a normal heartbeat, an electrical signal travels through the heart muscle cells, causing them to beat. This makes the heart pump blood from one chamber to another and out to the rest of the body.

Heart cells have special channels that work like doors. They control the movement of electrolytes into and out of the cells. These channels must open and close to let electrical signals flow through the heart cells.

## **What is Brugada syndrome?**

Brugada syndrome is a rare condition where there are changes in the electrical signals that make the heart beat.

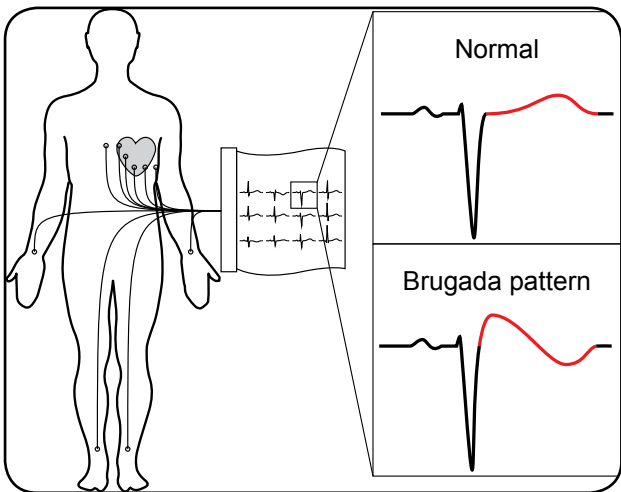
In Brugada syndrome, the channels in the heart cells do not work properly. The abnormal opening and closing of the channels can lead to dangerous heart rhythms. The heart may beat so fast that it cannot pump blood out to the body. This can cause collapse and, if the rhythm does not stop, sudden death.

## **What causes Brugada syndrome?**

Brugada syndrome can be caused by:

- › a change in your DNA (genes). Brugada syndrome can be hereditary (passed from parents to their children).
- › certain medications

Sometimes the cause of Brugada syndrome is not known.



## What are the symptoms of Brugada syndrome?

Symptoms may include:

- › fainting
- › seizures
- › palpitations (feeling like your heart is jumping, racing, or fluttering)
- › blackouts

Most people with Brugada syndrome develop symptoms as young adults, but it can happen at any age.

**It is important to tell your health care provider if you had a relative who died suddenly at a young age. This could have been caused by Brugada syndrome.**

## How is Brugada syndrome diagnosed?

A number of tests are used to diagnose Brugada syndrome. Your health care provider may arrange for you to have some of these:  
**Electrocardiogram (ECG):** A recording of your heart rhythm for 10 to 20 seconds. If you have Brugada syndrome, you will have a Brugada

pattern on your ECG (see image).

**Exercise stress test:** A recording of your heart rhythm and blood pressure while you exercise on a treadmill.

**Procainamide challenge:** Procainamide is a medication used to treat heart rhythm disorders. In this test, procainamide is given through an intravenous (IV) line and an ECG is done before, during, and after to look for the Brugada pattern. This test is done in the hospital and usually takes about 2 to 3 hours.

*Your cardiologist (heart doctor) may also suggest other tests. They will talk with you about this, if needed.*

### **Genetic testing and family screening**

If your cardiologist suspects that a change in your DNA could have caused your Brugada syndrome, they may ask if you would like to talk with a genetic counsellor about genetic testing. Your cardiologist may also want to invite other members of your family to be tested for Brugada syndrome. They may ask you to help by passing letters on to your family.

### **How is Brugada syndrome treated?**

There is no cure for Brugada syndrome, but there are treatments available to control fast heart rhythms. Treatments include a special pacemaker called an internal defibrillator (ICD) (to identify and treat dangerous heart rhythms).



## **If you have Brugada syndrome:**

- **TREAT FEVER** with acetaminophen (e.g., Tylenol®).
- **AVOID and TREAT** dehydration (not having enough fluids in your body) and salt loss if you have an illness that causes diarrhea (loose, watery poop) and vomiting (throwing up).
- **AVOID** alcohol and recreational drug use.
- **KNOW** what medications can make the problem worse, including over-the-counter medications. See the list of drugs to avoid at:
  - › [www.brugadadrugs.org](http://www.brugadadrugs.org).
- **TELL** your family members members that you have Brugada syndrome. It runs in families, so they may need to be checked for this problem.
- **Make sure your family and friends are aware of your condition**, and that they know what to do if you have any symptoms.

## **For more info, visit:**

The Canadian Sudden Arrhythmia Death Syndromes (SADS) Foundation (includes booklet called “Cardiac Channelopathies” with info on Brugada syndrome that you can download)

› [www.sads.ca](http://www.sads.ca)

BrugadaDrugs.org (includes a list of drugs that can make Brugada syndrome worse)

› [www.brugadadrugs.org](http://www.brugadadrugs.org)

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<http://library.nshealth.ca/PatientGuides>

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Connect with a registered nurse in Nova Scotia any time:

Call 811 or visit <https://811.novascotia.ca>

Learn about other programs and services in your community:

Call 211 or visit <http://ns.211.ca>

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The information in this pamphlet is to be updated every 3 years or as needed.