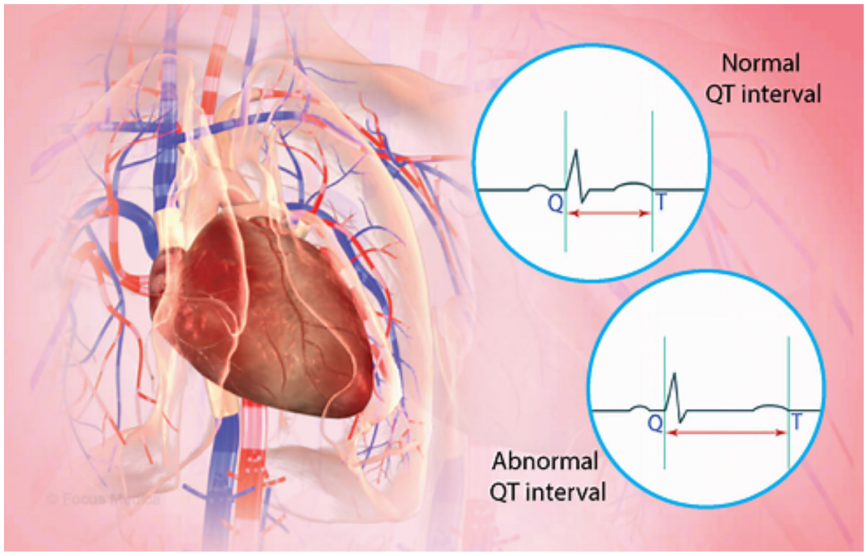
LONG QT SYNDROME

MultiCare Pulse™ Heart Institute

What is Long QT syndrome?

Long QT syndrome is a condition that affects the heart's electrical system. Data on an electrocardiogram (ECG) are mapped on a graph so your doctor can study your heart's electrical activity. Each heartbeat is marked by five distinct electrical waves: P, Q, R, S and T. The electrical activity that occurs between Q and T is called the QT interval and represents the electrical activity in the heart's lower chambers (ventricles). In Long QT syndrome, the QT interval is longer than normal. A long QT interval can upset the careful timing of the heartbeat and trigger dangerous heart rhythms.



There are 2 types of Long QT syndrome:

- ***Genetic:*** caused by an abnormal gene, this type patients are born with.
- ***Other:*** later in life, patients may develop Long QT as a result of certain medications or mineral imbalances such as too little potassium or magnesium

Symptoms

Many patients with Long QT never develop symptoms. They find out they have it after having an ECG. When it does cause symptoms, they may include:

- Heart palpitations
- Fainting or feeling like you might faint
- Seizures
- Sudden cardiac arrest: This is when the heart suddenly stops beating. It is a medical emergency that needs to be treated right away

Diagnosis

An ECG usually shows whether someone has long QT syndrome. Some patients will have other tests too. These may include:

- ***Longer term heart monitoring:*** There are different types of heart monitors. A Holter monitor can be worn for 24-48 hours. An event monitor can be worn for 7-30 days.
- ***Stress test:*** during this test, a nurse records your ECG while you exercise on a treadmill or get medicine to make your heart pump faster.
- ***Genetic testing:*** to check for the abnormal gene that causes Long QT syndrome

Treatment

Treatment depends on whether you were born with Long QT syndrome or developed it later in life.

For people born with Long QT:

- Medication called a beta blocker—these keep the heart from beating too fast
- Other types of medication may be prescribed such as sodium channel blocker
- ***Medical device:*** Implantable cardioverter defibrillator (ICD)-this is a device that gets implanted under the skin just below the collarbone that can sense abnormal heart rhythms. An ICD can treat a dangerous heart rhythm with a shock.

All patients with Long QT who have a cardiac arrest should be treated with an ICD

For people who develop Long QT syndrome later in life:

- Stopping any medication that could be causing the Long QT
- Fixing the mineral imbalance that is causing the Long QT
- Medicine that controls the speed or rhythm of the heartbeat

Other considerations:

- Follow all your doctor's instructions for follow-up so that he can monitor your condition
- Avoid taking any medication that is likely to cause Long QT syndrome. Your doctor can provide you with a list of these medications
- Let your family know. Because Long QT can run in families, they might need to be tested for the condition.
- Ask your doctor whether you need to make any lifestyle changes. With some types of Long QT syndrome that people are born with, abnormal heart rhythms are triggered by certain activities. These might include intense exercise, loud or sudden noises, or diving into cold water. If you have this type of Long QT syndrome, you will need to avoid these triggers as much as possible.