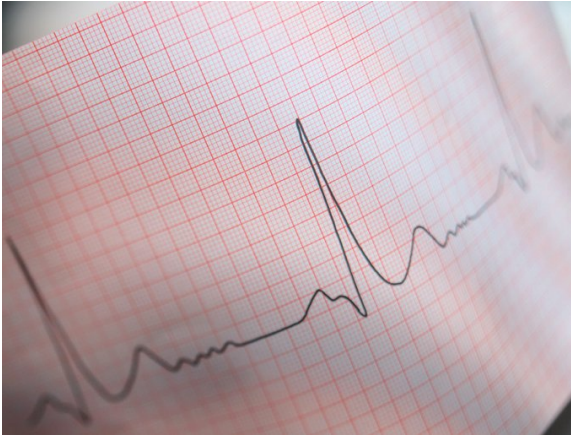


## Long Q-T Syndrome



Long Q-T Interval Syndrome is a disorder of the heart's electrical system. The heart is made up of 4 chambers. The upper two chambers, called atria, contract first, and the lower two chambers, called ventricles, contract after the atria. When the heart contracts and relaxes, each part of the heart emits an electrical signal. These signals can be recorded with an electrocardiogram (ECG), and each contraction and relaxation produces a

characteristic wave shape. The different parts of this wave are designated with letters (P, Q, R, S and T). The P wave represents the contraction of the atria. The Q, R and S waves represent the contraction of the ventricles. The T wave represents the ventricles' relaxation stage. The Q-T interval represents the time from the electrical activation at the start of the ventricular contraction to the end of the ventricle relaxation stage. A doctor can measure the time that the Q-T interval takes to occur and can tell you if it occurs at the time in which it should. If it takes longer than normal, it is called prolonged Q-T interval.

### Causes of Long Q-T Syndrome

Various genes associated with Long Q-T Syndrome have been identified. In addition, there are many medications that have been associated with a prolonged Q-T interval. People who have the prolonged Q-T syndrome could have an underlying predisposition to developing this problem due to unidentified genetic abnormalities.

### Symptoms of Long Q-T Syndrome

Many people with Long Q-T Syndrome do not have symptoms. Some people with this syndrome have a tendency to have an abnormally fast heart rhythm. When this occurs, the heart muscle cannot contract effectively, and the flow of blood to the body and to the brain is reduced. When this occurs, the person feels dizzy, light-headed or faint. If the heart does not recover its normal rhythm in a short time, it can progress to a fatal arrhythmia called ventricular fibrillation. Most of the people who have been diagnosed with Long Q-T Syndrome have symptoms of syncope in childhood.

### Diagnosis of Long Q-T Syndrome

The electrocardiogram may come out normal when done at rest, even in individuals with Long Q-T Syndrome. To diagnose the problem, it may be

necessary to do a stress test to see what happens with the Q-T interval during exercise. Other stressful factors, such as fright or surprise at a loud noise, can trigger the symptoms.

Most people with a prolonged Q-T interval have some family member with the same problem. When a healthy child or youth who has a family history of long Q-T faints without explanation, it must be investigated, especially if there was any case of premature sudden death in the family.

#### Treatment of Long Q-T Syndrome

The treatment of Long Q-T Syndrome may include medications to slow down the fast heartbeats associated with stress. The type of medications most used are beta-blockers. In patients in whom the medications have not managed to successfully control the symptoms or who have suffered arrhythmias that have been life-threatening, an implanted heart defibrillator or a pacemaker may be necessary to prevent a potentially fatal heart rhythm. Check with your doctor about these options.