



LONG QT SYNDROME (LQTS)

Understanding, Safety & Long-Term Management

Early awareness. Smart choices. Lifelong protection.



WHAT IS LONG QT SYNDROME?

LQTS is a disorder of the heart's electrical system that causes delayed recovery (repolarization) after each beat. This appears as a prolonged QT interval on an ECG and may lead to dangerous arrhythmias, fainting, seizures, cardiac arrest, or sudden death.



Why it matters: LQTS can cause a life-threatening arrhythmia called Torsades de Pointes. Many people have no symptoms.

WHAT CAN CAUSE A PROLONGED QT INTERVAL?

1. Congenital (Inherited) LQTS

Genetic changes affect ion channels.

TYPE	COMMON GENE	TYPICAL TRIGGERS
LQT1	KCNQ1	Exercise, especially swimming
LQT2	KCNH2	Sudden noises, startling, stress
LQT3	SCN5A	Rest or sleep
Others	Various	Variable

More than 15 genetic types have been identified.

2. Acquired QT Prolongation

Often temporary and reversible.

- Certain medications
- Low potassium, magnesium, or calcium
- Bradycardia (slow heart rate)
- Vomiting or diarrhea
- Illness, starvation, eating disorders
- Drug interactions
- Other medical conditions

POSSIBLE SYMPTOMS

- Palpitations
- Dizziness or lightheadedness
- Fainting (syncope)
- Seizure-like episodes
- Sudden cardiac arrest

Many people have no symptoms. LQTS may be discovered on an ECG or during family screening.

GET MEDICAL HELP IF YOU:

- ✓ Faint unexpectedly
- ✓ Have palpitations or a skipped heartbeat
- ✓ Feel dizzy or near fainting
- ✓ Have a seizure with no known neurologic cause
- ✓ Have a family history of sudden unexplained death

! Chest pain, collapse, or unresponsiveness is an EMERGENCY. Call 911.

HOW IS LQTS EVALUATED?



ECG (EKG)

Measures the QT interval and looks for other electrical changes.



Holter Monitor

Worn for 24–48 hours (or longer) to check heart rhythm during daily activities.



Exercise Stress Test

Evaluates the heart's response to exercise and recovery.



Blood Tests

Check electrolytes (potassium, magnesium, calcium) and other important labs.



Genetic Testing

May be considered to confirm the diagnosis and help with family screening.

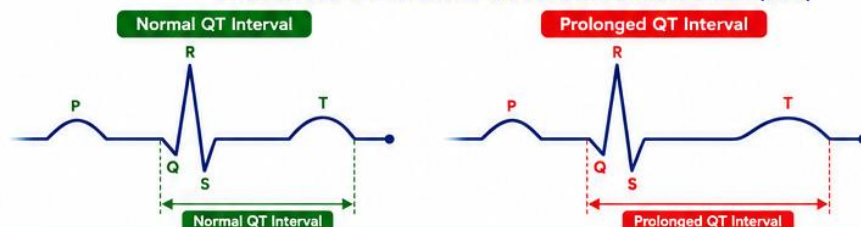
These tests help:

- ✓ Understand your risk
- ✓ Guide treatment
- ✓ Recommend safe activities
- ✓ Identify family members who may also be at risk



Your doctor will create a personalized plan based on your test results, symptoms, and family history.

PROLONGED QT INTERVAL ON ELECTROCARDIOGRAM (ECG)



A prolonged QT interval means the heart takes longer than normal to recharge between beats.

- Normal QTc:
 - ≤ 440 ms (men)
 - ≤ 460 ms (women)
- Prolonged QTc:
 - > 440 ms (men)
 - > 460 ms (women)



Important: QT interval should be interpreted using QTc (heart rate corrected) and in the context of symptoms, medications, electrolytes, and overall clinical picture.

LQTS RECOMMENDATIONS: LIFESTYLE & SAFETY



AVOID QT-PROLONGING MEDICATIONS
Check all new medicines with your doctor or pharmacist. Use www.sads.org or www.crediblemeds.org for up-to-date lists.



STAY WELL-HYDRATED
Drink plenty of fluids, especially during illnesses that cause vomiting, diarrhea, or fever.



MANAGE ILLNESS & FEVER
Treat fever and illness early. Seek medical care if you cannot keep fluids down.



REDUCE LOUD OR STARTLING NOISES
Avoid sudden alarms when possible. Silence alarm clocks and turn off phone alerts at night.



AVOID INTENSE EMOTIONS WHEN POSSIBLE
Try to reduce situations that could make you excited, angry, or stressed.



EAT POTASSIUM-RICH FOODS
Include fruits (bananas, oranges), vegetables, beans, potatoes, and leafy greens.



PREVENT LOW BLOOD SUGAR
Do not skip meals. Maintain adequate caloric intake.



AVOID KNOWN TRIGGERS
Learn your personal triggers and avoid situations that have caused symptoms in the past.



LISTEN TO YOUR BODY
Seek medical advice for palpitations, dizziness, skipped beats, or fainting.



EXERCISE SAFELY
Avoid strenuous exercise or contact sports unless cleared by your doctor. Aerobic exercises are recommended.



SWIM WITH SUPERVISION
It's okay to swim, but never alone. Always have someone present because of drowning risk if an event occurs.

TREATMENT: FIRST-LINE THERAPY



BETA-BLOCKERS are the cornerstone of treatment.

- Preferred: Nadolol, Propranolol
- These reduce the risk of fainting, arrhythmias, and sudden cardiac death.

Take your medication every day as prescribed. Do not stop without talking to your doctor.

ADVANCED OPTIONS (IF NEEDED)



ICD (Implantable Cardioverter-Defibrillator)
For high-risk patients or those with previous cardiac arrest or recurrent life-threatening arrhythmias.



Left Cardiac Sympathetic Denervation (LCSD)
A surgery that may reduce arrhythmias in selected high-risk patients.

These options are considered when medications alone are not enough or not tolerated.

LONG-TERM FOLLOW-UP



Regular visits every 6–12 months (or as directed)
ECG at each visit



Review medications and symptoms
Holter or exercise testing as needed



Growth, puberty, and lifestyle changes may require plan adjustments

LQTS is a lifelong condition that requires ongoing care and follow-up.

FAMILY SCREENING MATTERS



LQTS can run in families. First-degree relatives should have an ECG and evaluation. Genetic testing may help identify those at risk—even if they feel well.

Early detection can save lives.



Know your diagnosis and share it with caregivers, schools, and coaches.



Carry an updated list of your medications and show it to every healthcare provider.



Know how to respond in an emergency—CPR and AED access save lives.



Keep follow-up appointments and stay informed.



With knowledge, preparation, and proper care, most children and adults with LQTS can live long, active, and healthy lives.



Dr. Shabib Alhadheri, MD



1478 W Elliot Rd, Suite 102
Gilbert, AZ 85233



Phone: 480-855-1339

We're here for your heart.