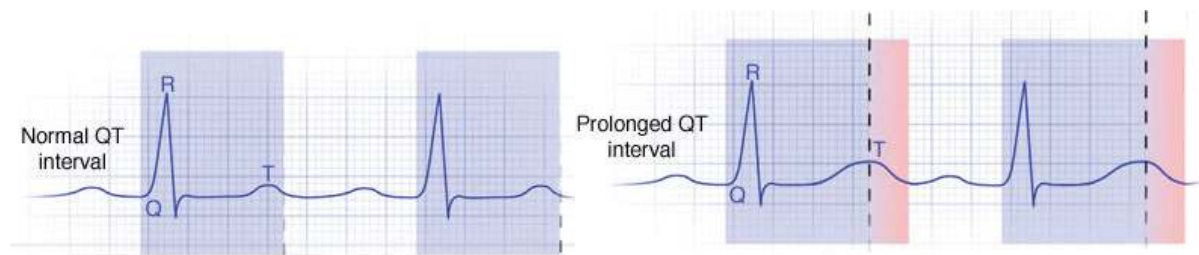


## Medications and QT Prolongation

◆ What is QT Prolongation and why is it harmful?

◆ QT prolongation is characterized by a prolonged QT interval on the ECG



◆ QT prolongation can cause palpitations, syncope, seizures, and can put patients at an increased risk of developing the life-threatening cardiac arrhythmia, Torsades de Pointes. Sudden cardiac death is a possibility if the patient develops this condition.

Risk factors for QT Prolongation:

- Bradycardia, heart failure, MI, congenital long QT syndrome
- Electrolyte disturbances (low potassium, magnesium, and/or calcium)
- Age >65
- Female sex
- Concomitant medications that increase the QT interval or affect electrolytes (i.e. diuretics)
- Disease states that prolong QT interval (i.e. renal dysfunction)

Several medications carry a possible risk for QT prolongation or can cause QT prolongation under the right conditions (i.e. conditional risk: hypokalemia, hypomagnesemia, excessive doses, interacting drugs). Below is a list of medications commonly seen in long term care, with a known risk of QT Prolongation; unless otherwise noted:

- Antiarrhythmic drugs: quinidine, procainamide, flecainide, amiodarone, dronedarone, sotalol
- Analgesics: methadone
- Antiemetics: ondansetron
- Antifungals: fluconazole, ketoconazole (systemic)
- Antibiotics: ciprofloxacin, levofloxacin, moxifloxacin, azithromycin, erythromycin, clarithromycin
- Dementia: donepezil
- Antidepressants:
  - Known risk: citalopram, escitalopram
  - Conditional risk: amitriptyline, trazodone
- Antipsychotics:
  - Known risk: chlorpromazine, haloperidol, thioridazine
  - Possible or conditional risk: aripiprazole, clozapine, olanzapine, paliperidone, perphenazine, quetiapine, risperidone, ziprasidone

**\*\*Note:** List is not all-inclusive and includes those medications with a KNOWN risk, unless otherwise indicated. Several medications carry a possible risk or a conditional risk as mentioned above and are not all included in this table. List only includes those medications commonly seen in LTC.

- When adding an interacting medication that carries a possible risk or known risk for QT prolongation, it is important to closely monitor the patient. Several of the medications listed above recommend checking for QT prolongation before initiation and monitoring ECG during administration of the medication. To monitor a patient's QT interval, an initial baseline ECG and electrolyte panels are recommended with periodic monitoring to follow.
- For a complete list of medications that carry a known risk, possible risk or conditional risk for QT Prolongation, please visit: <https://www.crediblemeds.org/>

References:

1. <https://www.crediblemeds.org/>. Accessed 8/8/18.
2. Trinkley KE, Page RL II, Lien H, et al. QT interval prolongation and the risk of torsades de pointes: essentials for clinicians. *Curr Med Res Opin.* 2013;29: 1719-1726.
3. Passman R, Kadish A. Polymorphic ventricular tachycardia, long Q-T syndrome, and torsades de pointes. *Med Clin North Am* 2001; 85:321.