Table 3. Examples of QT prolonging medications (refer to www.crediblemeds.org for a complete list)

Class of medication	Name of medication
Antibiotics	Erythromycin
	Clarithromycin
	Azithromycin
	Trimethoprim/sulfamethoxazole
	Ciprofloxacin
	Moxifloxacin
Antifungals	Fluconazole
Antiarrhythmics (classes I and III)	Flecainide
	Propafenone
	Mexiletine
	Quinidine
	Amiodarone
	Sotalol
Antipsychotics/antidepressants	Haloperidol
	Olanzapine
	Quetiapine
	Risperidone
	Fluoxetine
	Citalopram
	Escitalopram
	Trazodone
	Venlafaxine
	Desvenlafaxine
	Lithium
	Ziprasidone
	Amisulpride
Antiemetics	Domperidone
	Metoclopramide
	Ondansetron
	Palonosetron
Analgesics	Methadone
	Triptans
Miscellaneous	Chloroquine
	Hydroxychloroquine
	Loperamide (high-dose)

TdP related to administration of QT-prolonging medications such as quinidine or sulfamethoxazole/trimethoprim.[52,53]

When should you order an ECG with a potential QTc-prolonging medication?

Although certain medications such as sotalol and dofetilide require an ECG before initiation, a requirement for doing an ECG is not routine for most medications with QT-prolonging potential. In clinical practice, it is impractical and low-yield to do an ECG on every patient who commences a drug that could possibly prolong the QT interval, so risk stratification and clinical judgement are required, taking into consideration the drug, the dose, and the coexistence of other factors that might influence the risk for QT prolongation. In a low-risk setting, for example, an otherwise healthy person taking or about to start taking a low-risk selective serotonin reuptake inhibitor, like sertraline, and with no other drug- or disease-related reason for QTc prolongation, then routine ECG monitoring is rarely needed. Conversely, if you plan to initiate or increase the dose of a higher-risk QTc-prolonging drug, for example, methadone, especially in a patient with borderline QTc prolongation, then an ECG should be performed after each dose change. In a patient who is already taking a QTc-prolonging drug, and you wish to add another drug that also prolongs the QTc, such as a quinolone antibiotic, it is often preferable to consider an alternate drug that does not affect the QTc, such as an antibiotic like penicillin or cephalosporin if appropriate, rather than just monitoring the ECG. When a patient is taking a QTc-prolonging medication, electrolytes and renal function should be monitored, especially if the patient is taking a diuretic or if there is impaired renal function because of an acute or chronic illness.

Practical tips: Management of aLQTS

1. aLQTS is classically due to QT-prolonging medications or electrolyte disturbances. Common drugs include antidepressants/antipsychotics, antibiotics, and antiarrhythmics. Remember the "anti's"—antibiotics (macrolides and fluoroquinilones), antifungals, antiarrthymics, antipsychotics/ antidepressants, antiemetics, analgesics, (including methadone and triptans), and miscellaneous (including chloroquine). Check for complex drug interactions or potential QT prolongation before administration (www.crediblemeds.org and related smartphone app).
2. There are important intraclass differences among QT-prolonging drugs in the risk of causing an arrhythmia (eg, risk among macrolide antibiotics is highest with erythromycin and lowest with azithromycin), and with selective serotonin reuptake inhibitor antidepressants, risk is highest with citalopram and escitalopram and negligible with paroxetine and sertraline. Conversely, there are safe alternatives among antibiotics such as penicillins and cephalosporins, and among CNS medications; stimulants for attention deficit hyperactivity disorder are generally safe.
3. Increased risk for TdP occurs when the QTc exceeds 500 ms or when a drug increases the QTc by $>$ 60-70 ms, particularly when this increase develops rapidly.
4. Women are at higher risk of aLQTS, along with elderly people and those with underlying structural heart disease.
5. Consider an ECG before initiation of a QT-prolonging drug if an electrolyte disturbance is present, if already receiving a QT-prolonging drug, or when initiating a high-risk QT-prolonging drug.
6. Be cautious in patients with multiple risk factors for QT prolongation (eg, when a diuretic is used with sotalol, be mindful of the potential for hypokalemia and hypomagnesemia).
7. If the QTc does not normalize after removal or correction of the inciting cause, underlying cLQTS should be ruled out.

Pediatric Considerations

Fetal and infant presentation

The first presentation of cLQTS can be in utero. Approximately 50% of fetuses affected by cLQTS will have a lower resting heart rate.[54] Although screening for cLQTS can be initiated prenatally if there is a known pathogenic mutation that segregates with disease in the family, it is much more common to assess the child postnatally. It is important to obtain an ECG after birth when there is a fetal indication or family history of cLQTS.

Although the ECG, especially in the first week of life, can show a transiently prolonged QT interval, even in healthy