In Dec. 2011, the MHRA issued the following advice due to the risk of dose-dependent QT prolongation with citalopram & escitalopram:

- **Citalopram**: maximum dose 40mg/day in adults, and 20mg/day in adults over 65 years and adults with hepatic impairment.
- **Escitalopram**: max. dose 20mg/day in adults, and 10mg/day in adults over 65 years and adults with hepatic impairment.
- Both drugs contra-indicated in patients with known QT prolongation, congenital long QT syndrome or taking other QT-prolonging medicines.
- Both drugs cautioned in patients with risk factors for QT prolongation, e.g. recent MI, particularly at higher doses.

If citalopram/escitalopram dose currently above maximum recommended:
Discuss with service user/patient. Consider continued need for citalopram/escitalopram and alternative therapies; switch if also taking other medicines likely to cause QTc prolongation (NB citalopram has few interactions and so has been a drug of choice where interactions are likely).

If all other options exhausted consider maintaining previously effective dose [document unlicensed dose and rationale in notes; evidence of informed consent from service user with capacity]. Reduce and monitor any risk factors. Monitor with regular ECG (e.g. initially, 6-monthly and after any medicine or dose changes) and tell service user to report any abnormal heart rate or rhythm. If significant QT prolongation detected, must seek specialist advice and/or switch.

**Medicine alternatives include:**
- **Sertraline** (optimum alternative as similar indications, low interaction propensity, good tolerability, generic, NICE approved)
- **Fluoxetine** (beware of P450 interactions)
- **Mirtazapine** (licensed for depression only)

There is no comparative data available on QTc prolongation between other antidepressants/doses. There is no single switch method; depending on citalopram dose, urgency, tolerability and other medicines then “drop, stop and switch” is safest. Abrupt switching is not recommended.

If in doubt, consult Medicines Information (0191 4415778, tewv.medicinesinformation@nhs.net).

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Citalopram & Escitalopram – to ECG or not to ECG?

Patient already taking citalopram/escitalopram

- Dose above recommended maximum (and unable to reduce to recommended max. dose or switch to alternative drug)
  - Baseline ECG, then every 6 months and after any dose change of relevant drug*
- Dose at or below recommended maximum
  - Concurrent drugs which prolong QT interval? (see below)
    - Yes (and unable to switch to alternative)
      - Unstable / high risk of arrhythmia
      - Stable / low risk of arrhythmia
- QT-prolongation? (normal QT interval in adults = 300-440 milliseconds)
  - No
  - Yes
    - Cardiac disease?
      - No
      - Further ECG monitoring not required unless change in CV status or condition which may affect metabolism (e.g. liver impairment)
      - Yes
        - Citalopram & escitalopram contra-indicated

Patient being considered for treatment with citalopram/escitalopram

- Contra-indicated with other drugs which prolong QT interval (see below)
  - Baseline ECG*
  - QT-prolongation? (normal QT interval in adults = 300-440 milliseconds)
    - No
    - Yes
      - Cardiac disease?
        - No
        - Further ECG monitoring not required unless change in CV status or condition which may affect metabolism (e.g. liver impairment)
        - Yes
          - Citalopram & escitalopram contra-indicated

Evidence of QT-prolongation / cardiac arrhythmia during treatment?

- Perform or repeat ECG*
  - If QT-interval >440msec (in men) or >470msec (in women), but <500msec – reduce dose or switch to a lower risk drug (citalopram & escitalopram contra-indicated)
  - If QT-interval >500msec – STOP citalopram/escitalopram and consider cardiology referral

* Record date and result of ECG in Paris

### Physical health drugs known to prolong QT interval (high risk)

https://www.crediblemeds.org

**Antiarhythmics:**
- Amiodarone*
- Disopyramide*
- Dronedarone*
- Flecaïnidé
- Procaniamide
- Quinidine
- Sotalol

**Antibiotics:**
- Azithromycin
- Clarithromycin
- Erythromycin (IV*)
- Levofloxacin
- Moxifloxacin

**Anti-emetics:**
- Droperidol
- Ondansetron

**Antifungals:**
- Fluconazole
- Ketoconazole
- Pentamidine*

**Others:**
- Anagrelide
- Chloroquine*
- Cilostazol
- Domperidone
- Mizolastine*
- Quinine*
- Vandetanib

**Known effect:**
- Trazodone
- Tricyclic antidepressants*

**Effect at high doses/overdose:**
- Bupropion
- Lofepramine
- Moclobemide
- Venlafaxine

**Isolated cases:**
- Agomelatine
- Duloxetine

**No effect:**
- MAOIs (may shorten)
- Mirtazapine
- Reboxetine
- SSRIs
- Vortioxetine (limited data)

**Others with known effect:**
- Donepezil
- Lithium
- Methadone

**Antipsychotics:**

**High effect:**
- Pimozide*
- Any drug or combination used above max. recommended dose

**Moderate effect:**
- Amisulpride
- Chlorpromazine*
- Haloperidol*
- Levomepromazine*
- Quetiapine

**Low effect:**
- Aripiprazole
- Clozapine
- Flupentixol
- Fluphenazine*
- Perphenazine*
- Prochlorperazine*
- Olanzapine
- Paliperidone
- Risperidone
- Sulpride

**No effect:**
- Asenapine
- Cataplero
- Levomepromazine

**Unknown effect:**
- Trifluoperazine*
- Zuclopenthixol

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**Title:** Citalopram / Escitalopram – dose reduction & ECG algorithm

**Approved by:** Drug & Therapeutics Committee

**Date of Approval:** 27th July 2017 (amended 25th Jan 2018)

**Protocol Number:** PHARM-0043-V4.1

**Date of Review:** 27th July 2020

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* Concurrent use of drugs marked * is contra-indicated in the product information for citalopram & escitalopram

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* Evidence of QT-prolongation: see below