

**South East London Integrated Medicines Optimisation Committee
Formulary recommendation**

Reference:	144
Intervention:	Bisoprolol tablets for the management of Long QT syndrome in paediatric patients aged 1 year old and over (Bisoprolol is a beta blocker)
Date of Decision:	April 2023
Date of Issue:	June 2023
Recommendation:	Amber 2 – initiation and first prescription from the specialist team
Further Information	<ul style="list-style-type: none"> • Bisoprolol tablets are accepted for use in South East London for the management of Long QT syndrome (LQTS) in paediatric patients aged 1 year old and over • LQTS is a cardiac electrophysiologic disorder, characterized by QT prolongation and T-wave abnormalities on the ECG that are associated with tachyarrhythmias • Beta-blockers are the first line treatment for LQTS, and children commenced on beta-blockers for LQTS are likely to need lifelong treatment • The choice of beta-blocker will be identified by the specialist team in line with the following: <ul style="list-style-type: none"> - Propranolol (<i>licensed in children</i>) is first choice treatment in young children due to its shorter half-life and availability of a liquid preparation - Atenolol (<i>licensed in children over the age of 12 years old</i>) is preferred in school-aged children where once or twice daily dosing is beneficial - Nadolol and bisoprolol (<i>both unlicensed in children</i>) are preferred in older children/ adolescents, where once or twice daily dosing is convenient (increased half-life) • Bisoprolol for the treatment of LQTS in paediatrics should be prescribed in line with the LQTS in Children GP factsheet. • The recommended dose of bisoprolol for the management of LQTS is dose dependent based on the age of patient and the extent of symptoms. The usual starting dose is 1.25 – 2.5mg once daily, titrated to response • The initial prescription and on-going supply will come from the initiating specialist team until the patients dose is stable, which as a minimum will be established after the first follow up. . Prescribing can then be continued in primary care under “Amber 2”arrangements • Informed consent should be gained from parents/carers before off-label treatment with bisoprolol is initiated • All monitoring (such as Holter monitoring and ECG) will be performed by the specialist team, see the LQTS in Children GP factsheet for further information.
Shared Care/ Transfer of care required:	N/A Practices should be signposted to the LQTS in Children GP factsheet
Cost Impact for agreed patient group	<ul style="list-style-type: none"> • It is estimated there will be approximately 12 patients across SEL per annum eligible for treatment with bisoprolol in this setting • This equates to a cost impact of approximately £117 per annum (£6 per 100,000 population) based on bisoprolol 2.5mg tablets taken once daily • Owing to low patient numbers and low drug treatment costs, the financial impact for SEL is minimal

Usage Monitoring & Impact Assessment	<p>Acute Trusts:</p> <ul style="list-style-type: none"> Monitor and audit usage of bisoprolol as agreed and report back to the Committee (against this recommendation) upon request of the Committee <p>SEL Borough Medicines Teams</p> <ul style="list-style-type: none"> Monitor ePACT2 prescribing data. Exception reports from GPs if inappropriate prescribing requests are made to primary care.
Evidence reviewed	<p>References (from evidence evaluation)</p> <ol style="list-style-type: none"> Alders et al (2018). Gene Reviews. Long QT syndrome. Available here NHS Long QT syndrome. Available here European Society of Cardiology (2015). Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death. Available here American College of Cardiology (2017). Guideline for Management of Patients With Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death. Available here The South East London Joint Medicines Formulary. Available here The South East London paediatric formulary. Available here Summaries of product characteristics. Bisoprolol 2.5mg film coated tablets Sandoz Limited Available here Steinberg et al (2016). Experience with bisoprolol in long-QT1 and long-QT2 syndrome. Journal of Interventional Cardiac Electrophysiology 47:163–170. Fazio et al (2013). Role of Bisoprolol in Patients with Long QT Syndrome. Annals of Non-invasive Electrocardiology 18(5): 467-470. Bennett et al (2014). Effect of beta-blockers on QT dynamics in the long QT syndrome: measuring the benefit. Europace 16:1847–1851. Villian et al (2004). Low incidence of cardiac events with b-blocking therapy in children with long QT syndrome. European Heart Journal 25:1405–1411. Chockalingam et al (2012). Not All Beta-Blockers Are Equal in the Management of Long QT Syndrome Types 1 and 2 - Higher Recurrence of Events Under Metoprolol. Journal of the American College of Cardiology 60(20):2092–2099. Ackerman et al (2017). Beta-blocker therapy for long QT syndrome and catecholaminergic polymorphic ventricular tachycardia: Are all beta-blockers equivalent? Heart Rhythm14(1):e41-e44

NOTES:

- SEL IMOC recommendations and minutes are available via the [website](#)
- This SEL IMOC recommendation has been made on the cost effectiveness, patient outcome and safety data available at the time. The recommendation will be subject to review if new data becomes available, costs are higher than expected or new NICE guidelines or technology appraisals are issued.
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