South East London Integrated Medicines Optimisation Committee
Formulary recommendation

Reference	**163**
Intervention:	**Pyridostigmine 60mg tablets for the treatment of Postural Orthostatic Tachycardia Syndrome (POTS)** (Pyridostigmine is an anticholinergic that acts by prolonging the action of acetylcholine by inhibiting the action of the enzyme acetylcholinesterase. In POTS this increases parasympathetic nervous system activity and decreases the heart rate)
Date of Decision	**July 2025**
Date of Issue:	**October 2025**
Recommendation:	**AMBER 3 – initiation and first 3 months supplied by the specialist cardiology clinic at King's College Hospital NHS Foundation Trust (KCHfT)**
Further Information	• Postural Orthostatic Tachycardia Syndrome (POTS) is an abnormal increase in heart rate on becoming upright due to an abnormality of functioning of the autonomic (involuntary) nervous system. • Pyridostigmine is accepted for use in the treatment of POTS and must be initiated by the specialist cardiology clinic at KCHfT. • Pyridostigmine should be prescribed in accordance with local guidance • In line with the transfer of prescribing responsibility guidance the specialist clinic will supply and titrate treatment over the first 3 months. Details on consultant and GP responsibilities can be found in the transfer of prescribing responsibility guidance. • Pyridostigmine is not licensed* for the treatment of POTS. As the use of pyridostigmine in this setting is off-label, the off-label nature should be explained to the patient/carer and informed consent gained. • Pyridostigmine may be considered where: ○ the predominant presenting symptom is tachycardia **AND** ○ the patient has failed simple measures such as fluids, exercise and compression clothing **AND** ○ Propranolol or fludrocortisone has failed to control the heart rate or is not appropriate for the patient e.g. due to a contraindication or poor tolerability • If symptoms persist or pyridostigmine is not tolerated, treatment with midodrine (see IMOC recommendation 032 or ivabradine (see IMOC recommendation 033) may be considered • The dose of pyridostigmine used to treat POTS will not exceed 180mg daily. • SEL wide guidance and a transfer of prescribing process have been developed to support this recommendation. *Pyridostigmine is licensed for the treatment of myasthenia gravis, paralytic ileus and post-operative urinary retention.
Shared Care/ Transfer of care required:	Yes, guidance and transfer of prescribing process to be followed.
Cost Impact for agreed patient group	• It is estimated that there could be approximately 40 patients eligible for treatment with pyridostigmine in POTS per year in SEL. • If it is assumed that treatment will be at the maximum dose of 60mg three times daily and a cost of between £84 per patient per year for generic brands of pyridostigmine *(drug tariff June 2024)* - £250 per patient per year for the originator, the overall cost for SEL is approximately £5,000 - £15,000 (~£250 - £750 per 100,000 population) per year.

Usage Monitoring & Impact Assessment	**Acute Trusts:** • Monitor and audit usage and outcomes from the use of pyridostigmine in this setting (against this recommendation) and report back to the Committee if requested.
	SEL Borough Medicines Optimisation Teams: • Monitor ePACT2 data and exception reports from GPs if inappropriate prescribing requests are made to primary care.
Evidence reviewed	**References (from evidence evaluation)** 1. Godbole G, Aggarwal B. Review of management strategies for orthostatic hypotension in older people. Journal of Pharmacy Practice & Research, 2018 48, p483–491. 2. Clinical Knowledge Summaries, Blackouts and syncope. Available online at: https://cks.nice.org.uk/topics/blackouts-syncope/ (accessed 25/06/2024). 3. Saedon, N., Pin Tan, M. and Frith, J. (2020) The prevalence of orthostatic hypotension: a systematic review and meta-analysis. Journals of Gerontology 75(1), 117-122 4. Brignole M, Moya A, de Lange F et al. 2018 ESC Guidelines for the diagnosis and management of syncope. Eur Heart J 2018; 39: 1883–948. 5. Raj S. Levine B. Postural Tachycardia Syndrome (POTS) Diagnosis and Treatment: Basics and New Developments. American College of Cardiology 2013. Available online at: https://www.acc.org/Latest-in-Cardiology/Articles/2016/01/25/14/01/Postural-Tachycardia-Syndrome-POTS-Diagnosis-and-Treatment-Basics-and-New-Developments (accessed 25/06/2024). 6. UptoDate; Postural Orthostatic Tachycardia Syndrome. Available online at: https://www.uptodate.com/contents/postural-tachycardia-syndrome (accessed 25/06/2024). 7. Sheldon R, Grubb B, Olshansky B, et al. 2015 heart rhythm society expert consensus statement on the diagnosis and treatment of postural tachycardia syndrome, inappropriate sinus tachycardia, and vasovagal syncope. Heart Rhythm. 2015;12:e41–e63. 8. Raj S, Guzman J, Harvey P et al. Canadian Cardiovascular Society Position Statement on Postural Orthostatic Tachycardia Syndrome (POTS) and Related Disorders of Chronic Orthostatic Intolerance. Canadian Journal of Cardiology 2020 36 (3) p357-372 9. Pyridostigmine, Summary of Product Charactertistics. Available online at: https://www.medicines.org.uk/emc/product/14797/smpc (accessed 25/06/2024). 10. Singer W, Sandroni P, Opfer-Gehrking T et al. Pyridostigmine treatment trial in neurogenic orthostatic hypotension. JAMA Neurology 2006; 63: 513–18 11. Schreglmann S, Buchele F, Sommerauer M et al. Pyridostigmine bromide versus fludrocortisone in the treatment of orthostatic hypotension in Parkinson's disease–a randomized controlled trial. Eur J Neurol 2017; 24: 545–51. 12. Byun J, Moon J, Kim D et al. Efficacy of single or combined midodrine and pyridostigmine in orthostatic hypotension. Neurology 2017 89 (10) p1078-1086. 13. Raj S, Black B, Biaggioni I et al. Acetylcholinesterase inhibition improves tachycardia in postural tachycardia syndrome. Circulation. 2005; 111 p2734–2740 14. Kanjwal K, Karabin B, Sheikh M et al. Pyridostigmine in the treatment of postural orthostatic tachycardia: a single-center experience. Pacing Clin Electrophysiol. 2011; 34 p750–755 15. Drug Tariff, July 2025.

NOTES:

a) SEL IMOC recommendations and minutes are available publicly via the website

b) 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.

c) **Not to be used for commercial or marketing purposes. Strictly for use within the NHS.**