

**South East London Area Prescribing Committee
Formulary recommendation**

Reference	032
Intervention:	Midodrine (2.5mg and 5mg tablets) for the treatment of Postural Orthostatic Tachycardia Syndrome (POTS)/Inappropriate Sinus Tachycardia (IST) (Midodrine is a vasopressor/antihypotensive agent).
Date of Decision	May 2015, reviewed November 2017 – re-categorisation from red to amber 3
Date of Issue:	June 2015, revised version issued January 2018
Recommendation:	AMBER 3 – initiation and first 3 months supplied by the specialist cardiology clinic
Further Information	<ul style="list-style-type: none"> • 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. • Inappropriate Sinus Tachycardia (IST) is a condition in which an individual's resting heart rate is abnormally high – greater than 100 beats per minute or rapidly accelerates to over 100 beats per minute without an identifiable cause; although small amounts of exercise, emotional or physical stress are triggering factors. • Midodrine is accepted for use in the treatment of POTS and IST and must be initiated by the specialist cardiology clinic at either KCHfT or GSTfT. • In line with the SEL Transfer of Care process • , the specialist clinic will supply treatment for the first 3 months. Details on consultant and GP responsibilities can be found in the guidance document • Midodrine is not licensed* for the treatment of POTS or IST. • Midodrine may be considered where: <ul style="list-style-type: none"> – the predominant presenting symptom is hypotension AND – the patient has failed simple measures such as increased fluids, exercise and compression clothing AND – Fludrocortisone is considered inappropriate for the patient or has failed to control symptoms • Prior to treatment with midodrine the sub-type of POTS should be determined to avoid possible treatment failure in hyperadrenergic POTS. • The dose of midodrine should be started at 2.5mg three times a day and should be up-titrated to a maximum 10mg three times a day as tolerated. • Midodrine should be prescribed in accordance with the Trust's care pathway for patients with POTS/IST. • In some cases where tachycardia is also present as part of the condition's symptomology, midodrine may be co-prescribed with ivabradine (see APC Recommendation 033). • SEL wide guidance and a Transfer of Care process have been developed to support implementation of this recommendation. <p style="font-size: small;">*Midodrine (Bramox[®]) is licensed for orthostatic hypotension in the UK.</p>
Shared Care/ Transfer of care required:	Yes, guidance and Transfer of Care process to be followed.

Cost Impact for agreed patient group	<p>It is estimated that there will be approximately 50 patients eligible for treatment with midodrine per year in SEL.</p> <p>If it is assumed that treatment is at maximum dose (10mg three times a day) and a cost of £1643 per patient per year (exc. VAT), this will have a total cost implication of around £82,000 per year (exc. VAT).</p>
Usage Monitoring & Impact Assessment	<p>Acute Trusts:</p> <ul style="list-style-type: none"> • Monitor usage on a 6-monthly basis and report back to APC. Audit use upon request to ensure use is in line with this recommendation. <p>CCGs:</p> <ul style="list-style-type: none"> • Monitor E pact data • Exception reports from GPs if inappropriate transfer of prescribing to primary care is requested
Evidence reviewed	<p>References (from evidence evaluation)</p> <ol style="list-style-type: none"> 1. http://www.stars.org.uk/patient-info/conditions/pots accessed on 16.12.14 2. http://www.potsuk.org/medication_overview accessed on 16.12.14 3. A double-blind placebo-controlled cross-over study of the vascular effects of midodrine in neuropathic compared with hyperadrenergic postural tachycardia syndrome. Clinical Science, February 2014, vol./is. 126/4(289-96), (2014 Feb) Ross AJ; Ocon AJ; Medow MS; Stewart JM 4. Therapies for postural tachycardia syndrome in children Zhonghua er ke za zhi. Chinese journal of pediatrics, June 2011, vol./is. 49/6(428-432), (Jun 2011) Zhang FW.; Liao Y.; Li XY; Chen L.; Jin HF.; DU J.B. Language: 5. Effect of selective alpha1 receptor agonist in the treatment of children with postural orthostatic tachycardia syndrome, Zhonghua er ke za zhi. Chinese journal of pediatrics, September 2008, vol./is. 46/9(688-691), (Sep 2008) Chen L.; DU J.B.; Jin H.F.; Zhang QY; Li WZ; Wang L; Wang YL. 6. Midodrine hydrochloride is effective in the treatment of children with postural orthostatic tachycardia syndrome. Circulation Journal, April 2011, vol./is. 75/4(927-931), 1346-9843;1347-4820 (April 2011) Chen L; Wang L; Sun J; Qin J; Tang C; Jin H; Du J. 7. Outcomes in adolescents with postural orthostatic tachycardia syndrome treated with midodrine and beta-blockers PACE - Pacing and Clinical Electrophysiology, February 2009, vol./is. 32/2(234-238), (February 2009) Lai CC.; Fischer PR.; Brands CK.; Fisher JL.; Porter C.-BJ.; Driscoll SW.; Graner KK. 8. Jacob G, Shannon JR, Black B, Biaggioni I, Mosqueda-Garcia R, Robertson RM et al.Effects of volume loading and pressor agents in idiopathic orthostatic tachycardia.Circulation 1997;96:575–80 9. Summary of Product Characteristics (SPC) for Midon (midodrine) 2.5mg tablets in the Ireland produced by Takeda (Ireland) accessed on 16.12.14 10. Postural hypotension in adults: midodrine, NICE advice [ESUOM5] Published date: February 2013 accessed on 16.12.14 11. Cost of midodrine tablets via Ascribe Live V10.10 accessed on 16.12.14 12. http://www.heartrhythmcharity.org.uk/www/79/0/Inappropriate_sinus_tachycardia/ accessed on 16.12.14

NOTES:

- a) Area Prescribing Committee recommendations and minutes are available publicly on member CCG websites.
- b) This Area Prescribing Committee 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.**