South East London Area Prescribing Committee
Formulary recommendation

Reference:	**110**
Intervention:	**Glycopyrronium bromide oral solution (licensed preparations) for the treatment of severe sialorrhoea in adults with chronic neurological disorders** (Glycopyrronium bromide is an antimuscarinic agent)
Date of Decision:	**August 2019**
Date of Issue:	**September 2019**
Recommendation:	**Amber 2 – initiation and first prescription from the hospital**
Further Information	• Glycopyrronium bromide oral solution is accepted for use in South East London for the symptomatic treatment of severe sialorrhoea (chronic pathological drooling) in adults with chronic neurological disorders. • Use is accepted in line with local guidance for managing hypersalivation in adults with neurological conditions. Use is restricted as a 2nd line option where first line antimuscarinics have failed to manage the sialorrhoea or where there are concerns of cognitive adverse effects with other antimuscarinic agents. • This recommendation covers the two licensed preparations of glycopyrronium bromide liquid, which have different strengths: (i) Glycopyrronium 320 micrograms/mL oral solution (Sialanar®). **Note:** For Sialanar®, the dose is usually expressed as the salt glycopyrronium bromide therefore glycopyrronium 320micrograms/mL is equivalent to glycopyrronium bromide 400micrograms/mL. (ii) Glycopyrronium Bromide 1 mg/5 ml oral solution (Colonis Pharma Ltd) • Both preparations are **not licensed*** for use in the adult setting. Informed consent should be gained from the patient before treatment is started. • **To minimise the risk of dosing and prescribing errors, the strength, dose and volume must clearly be stated when prescribing**. • This recommendation also covers use in the paediatric setting, in line with the licence for the two available products* and the criteria outlined above. • The initial prescription and supply will come from the initiating specialist team. Prescribing can then be continued in primary care by the GP. * Both preparations are licensed for the symptomatic treatment of severe sialorrhoea (chronic pathological drooling) in children and adolescents aged 3 years and older with chronic neurological disorders.
Shared Care/ Transfer of care required:	N/A.
Cost Impact for agreed patient group	• The formulary application estimates approximately 40 patients per year in SEL might be treated. The cost of treating these patients at a dose range of 1mg (2.5ml) to 3mg (7.5ml) three times a day for one year is between £138K to £415K for the Sialanar® product and between £131K to £393K for the Colonis product. • This compares to £31,317 for hyoscine patches every 3 days, or between £336,588 to £1,009,765 for glycopyrronium bromide tablets. • Use of the oral solution could result in savings vs. the tablet formulation of approximately between £200K to £600K through reduced use of special order products. Use of the oral solution vs. the patches could increase costs by approximately between £100K to £390K. • The current price per mg of each licensed product is: i. Sialanar® (400mcg/mL) - £3.20 per mg. ii. Colonis Pharma Ltd (1mg/5mL) - £3.03 per mg
Usage Monitoring & Impact Assessment	**Acute Trusts:** • Monitor use and submit usage data and audit reports against this recommendation and the pathway upon request to the APC.

Usage Monitoring & Impact Assessment	**CCGs:** • Monitor EPACT 2 data and exception reports from GPs if inappropriate prescribing requests are made to primary care.
Evidence reviewed	**References (from evidence evaluation)** 1. NICE Guidance 62: Cerebral palsy in under 25s: assessment and management. 25 January 2017. Accessed via https://nice.org.uk/guidance/ng62 2. NICE Guidance 42: Motor neurone disease: assessment and management. Feb 2016. Accessed here 3. NICE Guidance 71: Parkinson's disease in adults. July 2017. Accessed via here 4. NICE Evidence Summary (ES5): Severe sialorrhoea (drooling) in children and young people with chronic neurological disorders: oral glycopyrronium bromide; Feb 2017. Accessed 08.05.17 via here 5. NICE. Evidence Summary: unlicensed or off-label medicine [ESUOM15]: Hypersalivation: oral glycopyrronium bromide; July 2013. Accessed 08.05.17 via here 6. Mier RJ, et al. Treatment of sialorrhea with glycopyrrolate: a double-blind, dose-ranging study. Arch Pediatr Adolesc Med 2000;154:1214-1218. 7. (a) Zeller RS et al. Randomized phase III evaluation of the efficacy and safety of a novel glycopyrrolate oral solution for the management of chronic severe drooling in children with cerebral palsy or other neurologic conditions. Therapeutics and Clinical Risk Management 2012;8:15-23. 8. (b) Zeller RS et al. Safety and efficacy of glycopyrrolate oral solution for management of pathologic drooling in pediatric patients with cerebral palsy and other neurologic conditions. Therapeutics and Clinical Risk Management 2012; (8): 25-32. 9. Anon. Glycopyrronium for severe drooling in children. DTB August 2017; 55 (8): p 93 – 96. 10. Arbouw MEL et al. Glycopyrrolate for sialorrhea in Parkinson disease: a randomized, double-blind, crossover trial. Neurology 2010; 74: 1203-1207. 11. European Medicines Agency. Public Assessment Report for Sialanar, glycopyrronium bromide oral solution. Published 29/09/2016. Available online here (accessed 07/01/2018) 12. Summary of Product Characteristics. Scopaderm 1.5mg Patch by Glaxo Smith Kline. Date of revision of text 22/04/2016. Accessed 2.5.18. 13. UKMi Q& A Hypersalivation - can glycopyrronium be used to treat it? 8th May 2017. Accessed via here 14. Walshe M et al. Interventions for drooling in children with cerebral palsy. Cochrane Database Syst Rev2012;11:CD008624 15. Summary of Product Characteristics. Clozaril. By Mylan. Date of revision of text March 2018. Accessed 2.5.18. 16. Blissit KT et al. Glycopyrrolate for treatment of clozapine-induced sialorrhea in adults. American journal of health-system pharmacy Aug 2014; vol. 71 (no. 15); p. 1282-1287 17. Parr JR et al. The drooling reduction intervention trial (DRI): a single blind trial comparing the efficacy of glycopyrronium and hyoscine on drooling in children with neurodisability. Trials 2014, 15:60. 18. Summary of Product Characteristics. Sialanar 320 micrograms/ml. By Proveca Ltd. Date of revision of text 03/2017. Accessed 2.5.18. 19. Parr J.R et al. Drooling Reduction Intervention randomised trial (DRI): Comparing the efficacy and acceptability of hyoscine patches and glycopyrronium liquid on drooling in children with neurodisability. Archives of Disease in Childhood; Apr 2018; vol. 103 (no. 4); p. 371-376. 20. Liang, C-S et al. Comparison of the efficacy and impact on cognition of glycopyrrolate and biperiden for clozapine-induced sialorrhea in schizophrenic patients: A randomized, double-blind, crossover study. Schizophrenia Research June 2010; 119 (1): p138 – 144. 21. Man, W H et al. The Effect of Glycopyrrolate on Nocturnal Sialorrhea in Patients Using Clozapine: A Randomized, Crossover, Double-Blind, Placebo-Controlled Trial. Journal of clinical psychopharmacology; Apr 2017; vol. 37 (no. 2); p. 155-161 22. Duggal HS. Glycopyrrolate for clozapine-induced sialorrhea. Prog Neuropsychopharmacol Biol Psychiatry. 2007;31:1546Y1547. (letter) 23. Praharaj et al. Low-dose glycopyrrolate for clozapine-associated sialorrhea. Journal of clinical psychopharmacology; Jun 2014; vol. 34 (no. 3); p. 392 (letter) 24. Robb AS et al. Glycopyrrolate for treatment of clozapine-induced sialorrhea in three adolescents. J Child Adolesc Psychopharmacol. Feb 2008; 18 (1): 99-107. (abstract) 25. H. Rashid. Management of secretions in esophageal cancer patients with glycopyrrolate. Annals of Oncology 8: 198-199, 1997. 26. Olsen AK et al. Oral Glycopyrrolate Alleviates Drooling in a Patient with Tongue Cancer. Journal of Pain and Symptom Management October 1999; 18 (4): p300 – 302.

NOTES:

a) Area Prescribing Committee recommendations and minutes are available publicly on the APC website.

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.