

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

Reference:	130
Intervention:	Hydrocortisone (Alkindi®) granules in capsules for opening 0.5mg, 1mg and 2mg for replacement therapy of adrenal insufficiency in infants and children (neonates – 5 years old) (Hydrocortisone is a glucocorticoid steroid)
Date of Decision:	December 2021, updated April 2024 following report on outcomes data - time limit to the approval removed
Date of Issue:	February 2022, re-issued May 2024
Recommendation:	Amber 2 – initiation and first prescription from the specialist paediatric team
Further Information	<ul style="list-style-type: none"> Hydrocortisone granules in capsules* (Alkindi®) 0.5mg, 1mg and 2mg are accepted for use in South East London for the replacement therapy of adrenal insufficiency. Use is restricted to the following patient cohort: <ul style="list-style-type: none"> Infants and children (aged from neonates – 5 years old) who require a dose of hydrocortisone that is 2.5mg three times a day or less. The approval aims to support more accurate dose administration in younger infants and children who are unable to swallow tablets, or who require small doses. The use of Alkindi® in children over 5 years old is not supported by this recommendation. Once an infant or child reaches a dose of hydrocortisone above 2.5mg, it is recommended the infant or child is reviewed by their specialist team for switching from Alkindi® to hydrocortisone 10mg tablets. It is not recommended infants, children and adolescents are routinely switched from hydrocortisone 10mg tablets to Alkindi® unless their dose is 2.5mg three times a day or less. In such circumstances, specialist teams should ensure the recommendations from the MHRA drug safety alert regarding the risk of acute adrenal insufficiency when switching from crushed hydrocortisone tablets to Alkindi® are shared with parents and carers. The initial prescription and supply will come from the initiating specialist team. Prescribing can then be continued in primary care under “Amber 2” arrangements. Parents/carers must be counselled on the appropriate administration of Alkindi®, as described in the product information. The use of Alkindi® 5mg capsules is not supported by this recommendation. April 2024: In February 2022 the Committee approved the inclusion of hydrocortisone (Alkindi®) for a time limited period to enable experience of use. A report summarising outcomes with the use of Alkindi® in this setting was requested by the Committee after 12 months. It was reported by the acute Trusts that all patients were switched to Alkindi® from tablets to support administration and reduce the risk of dosing inaccuracies associated with crushing tablets. The majority of these patients experienced good control with Alkindi®. There were no safety issues reported by patients whilst using Alkindi®. The majority of patients stopped treatment with Alkindi® because they no longer required steroid treatment. <p>*Alkindi® is licensed for replacement therapy of adrenal insufficiency in infants, children, and adolescents (from birth to < 18 years old).</p>
Shared Care/ Transfer of care required:	N/A.
Cost Impact for agreed patient group	<ul style="list-style-type: none"> Local experts estimate there will be approximately 10-20 patients per year initiated on Alkindi®, of which ~75% (15 patients) will be from SEL. For SEL, this equates to ~£45,000 - £90,000k per year (~£2,400 – £4,750 per

	<p>100,000 population).</p> <ul style="list-style-type: none"> • A report presented in April 2024 found the numbers of patients treated over a 12-month period was in line with the original estimations.
<p>Usage Monitoring & Impact Assessment</p>	<p>Acute Trusts:</p> <ul style="list-style-type: none"> • Monitor and audit usage and outcomes from the use of Alkindi® in this setting (against this recommendation) and report back to the Committee if requested <p>SEL Borough Medicines Optimisation Teams:</p> <ul style="list-style-type: none"> • Monitor ePACT2 data and exception reports from GPs if inappropriate prescribing requests are made to primary care.
<p>Evidence reviewed</p>	<p>References (from evidence evaluation)</p> <ol style="list-style-type: none"> 1. Bornstein, S., Allolio, B., Arlt, W., Barthel, A., Don-Wauchope, A., Hammer, G., Husebye, E., Merke, D., Murad, M., Stratakis, C. and Torpy, D., 2016. Diagnosis and Treatment of Primary Adrenal Insufficiency: An Endocrine Society Clinical Practice Guideline. <i>The Journal of Clinical Endocrinology & Metabolism</i>, [online] 101(2), pp.364-389. Available at: here [Accessed 25/11/21]. 2. Speiser, P., Arlt, W., Auchus, R., Baskin, L., Conway, G., Merke, D., Meyer-Bahlburg, H., Miller, W., Murad, M., Oberfield, S. and White, P., 2018. Congenital Adrenal Hyperplasia Due to Steroid 21-Hydroxylase Deficiency: An Endocrine Society* Clinical Practice Guideline. <i>The Journal of Clinical Endocrinology & Metabolism</i>, [online] 103(11), pp.4043-4088. Available here < > [Accessed 25/11/21]. 3. Bnfc.nice.org.uk. 2021. <i>Corticosteroids, replacement therapy Treatment summary BNFC content published by NICE</i>. [online] Available here < [Accessed 25/11/21]. 4. Scottishmedicines.org.uk. 2021. <i>hydrocortisone 0.5mg, 1mg, 2mg and 5mg granules in capsules for opening (Alkindi®)</i>. [online] Available here: > [Accessed 25/11/21]. 5. CKS.nice.org.uk. 2021. <i>Scenario: Management Management Addison's disease CKS NICE</i>. [online] Available here [Accessed 25/11/21]. 6. Bsped.org.uk. 2021. BSPED Position Statements. [online] Available here. < [Accessed 7/12/21]. 7. Medicines.org.uk. 2021. <i>Alkindi 5 mg granules in capsules for opening - Summary of Product Characteristics (SmPC) - (emc)</i>. [online] [Accessed 25/11/21- link no longer available]. SmPC via manufacturer available here 8. Ema.europa.eu. 2021. <i>Assessment report Alkindi</i>. [online] Available here [Accessed 25/11/21]. 9. Neumann, U., Whitaker, M., Wiegand, S., Krude, H., Porter, J., Davies, M., Digweed, D., Voet, B., Ross, R. and Blankenstein, O., 2017. Absorption and tolerability of taste-masked hydrocortisone granules in neonates, infants and children under 6 years of age with adrenal insufficiency. <i>Clinical Endocrinology</i>, [online] 88(1), pp.21-29. Available here: [Accessed 25/11/21] 10. Neumann, U., Braune, K., Whitaker, M., Wiegand, S., Krude, H., Porter, J., Digweed, D., Voet, B., Ross, R. and Blankenstein, O., 2020. A Prospective Study of Children Aged 0–8 Years with CAH and Adrenal Insufficiency Treated with Hydrocortisone Granules. <i>The Journal of Clinical Endocrinology & Metabolism</i>, [online] 106(3), pp.e1433-e1440. Available here [Accessed 25/11/21] 11. GOV.UK. 2021. <i>Alkindi (hydrocortisone granules): risk of acute adrenal insufficiency in children when switching from hydrocortisone tablet formulations to granules</i>. [online] Available here [Accessed 25/11/21] 12. GOV.UK. 2021. <i>CMA finds drug companies overcharged NHS</i>. [online] Available here [Accessed 7/12/21]

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.**