

The Rotherham Area Prescribing Committee, Rotherham NHS Foundation Trust and Rotherham Primary Care Trust.

Summary of Shared Care Protocol For The Use Of Melatonin In The Treatment Of Sleep Disorders In Children

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Indication for use of Melatonin	
<ul style="list-style-type: none"> • Severe sleep disorders in neuro-developmental or psychiatric disorders ('off-label' indication). • Sleep difficulties in chronic fatigue syndrome/ myalgic encephalomyelitis (NICE CG53) • Behavioural strategies have had limited or no success • Significant adverse effects on the child / family prior to work by an appropriate agency. 	
Aims	
<ul style="list-style-type: none"> • Short term use • To aid work by health visitor, nursery nurse, school nurse, CAMHS on sleep hygiene 	
A small number of children may need Melatonin long term, reviewed every 12 months	
Preparations	
• Standard release	UL Medicines Melatonin 2mg, 3mg and 5 mg capsules (UK specials license) Swallowed whole or pulled apart and the contents mixed with clear fluids, juice or milk.
• Controlled/Modified release	Circadin® 2mg m/r tablet (licensed) Swallowed whole to maintain the sustained release effect.
Dose Child 1 mth – 18 yrs by mouth	Start at 2–3 mg given 30-60 minutes prior to bed. Increase if necessary after 1 -2 weeks by 2-3 mg to a maximum of 10 mg (4). Initiation and dose titration by consultant and continuing treatment prescribed by GP under shared care agreement.
Problem	
• Sleep initiation	Use standard release melatonin capsules (unlicensed)- prescribing remains with Consultant
• Sleep maintenance early morning wakening	Use Controlled/Modified release melatonin Circadin® -shared care. Children unable to take Circadin® whole may need to use the unlicensed imported Life extension 3mg product, prescribing then remains with Consultant
• Sleep initiation + sleep maintenance	Use Controlled/Modified release melatonin Circadin® -shared care Some children need a combination of standard release and modified release melatonin with maximum combined dose of 10mg
Adverse Effects	
Contra-indications	
Hypersensitivity to the active substance or excipients. Pregnancy /breast feeding. Monoamine oxidase inhibitors	
Cautions	
Epilepsy (altered seizure control), renal disorders, hepatic disorders (clearance reduced), asthma – possible exacerbation in short term (9), avoid in auto-immune conditions. Patients with rare hereditary problems of galactose intolerance, LAPP lactase deficiency or glucose-galactose malabsorption should not take melatonin.	
Side – effects	
Well tolerated. Mild headache, sedation, fatigue, skin disorders, restlessness, increased / decreased pulse, itching and nausea. Reduced body temperature in higher doses. Full list of side-effects is given in the Melatonin summary of product characteristics (SPC), available from www.emc.medicines.org.uk	
Monitoring	
Response to treatment. Growth and sexual development with long term use -this is primarily responsibility of the child's Consultant but GP should report any concerns. Long term effects not fully evaluated	
Interactions with melatonin	
Fluvoxamine, cimetidine (+ theoretically oestrogens, quinolones) may increase melatonin levels. CYP1A2 inducers e.g. carbamazepine, rifampicin may reduce melatonin levels. Alcohol reduces efficacy. Enhanced effects of sedatives and hypnotics (e.g. benzodiazepines). Interactions with anticoagulants, anti platelet drugs, anti-diabetic drugs, contraceptives, flumazenil, nifedepine, verapamil, immunosuppressants. If a patient is started on any of these medications GP should contact specialist for advice. The above details are not a complete list and the BNF and the SPC remain authoritative.	
Stopping Treatment	
Normally a Consultant decision and GP to be informed in writing. The GP should stop treatment immediately after a serious adverse drug reaction. If treatment is discontinued please notify patient's Consultant.	

Responsibilities of the GP	Responsibilities of the Consultant
<ul style="list-style-type: none"> • Refer appropriate patients to secondary care for assessment • Respond to the request for shared care as soon as possible. • In the event that the GP is not able to prescribe, or where the SCP is agreed but the consultant is still prescribing certain items the GP will provide the consultant with full details of existing therapy promptly by fax on request. • Report any adverse reaction to the MHRA and the referring consultant • Continue to prescribe for the patient as advised by the consultant • Inform the consultant if the patient discontinues treatment for any reason • Seek the advice of the consultant if any concerns with the patient's therapy • Conduct an annual medication review and if not seen by consultant in last 12 months refer back or consider appropriateness of continued prescribing. • Review need for medication 6-12 monthly 	<ul style="list-style-type: none"> • Discuss benefits and side effects of treatment and obtained informed consent. • Initiate Melatonin in appropriate patients and prescribe the first month's supply. • Arrange for an Information sheet on use of unlicensed and off label use of medication and a written patient information leaflet to be given by the hospital pharmacy with the first prescription. • Titrate to a suitable dose • Ensure the patient is monitored and reviewed by a member of the specialist team at least annually. • Ask if GP willing to prescribe under shared care, and send copy of the shared care protocol. • To advise the GP regarding duration of treatment, • To discuss any concerns with the GP regarding the patient's therapy • To ensure clear arrangements for GP back-up, advice and support • Report adverse reactions to MHRA. • Review need for medication 6-12 monthly
<p>Support, education and information</p> <p>Dr SK Dotse 01709 307596 Dr S El-Refee 01709 304577 Dr CJ Harrison 01709 304521 Dr S Hashmi 01709 307276 Dr E Nagmeldin 01709 307612 Dr PI Macfarlane 01709 304699 Dr R Talekar 01709 304561 Dr S Suri 01709 304578</p> <p>Out of hours and at weekends please contact the Paediatric Registrar on call on 01709 820000 Pharmacy Department: Medicines Information Pharmacist 01709 304126 Paediatric Pharmacist 01709 820000 ext 8151</p>	
<p>Supply of product</p> <ul style="list-style-type: none"> • Circadin is the only UK licensed product containing melatonin. It is a 2mg prolonged release tablet, licensed for the short-term treatment of primary insomnia in patients aged 55 or over. The MHRA would prefer an 'off-label' licensed product to be used if it can meet clinical need, than an unlicensed product. • If a different strength or immediate release melatonin product is required then a product such as UL Medicines melatonin capsules may be used. These are unlicensed products, produced by AAH Pharmaceuticals under a UK 'specials' license and their products are manufactured in GMP inspected facilities. A 'Proforma letter of Special Clinical Need' is not required to obtain a supply. • Most paediatric patients, esp. those with neuro-disability find the unlicensed preparations easier to take. <p>UL Medicines Melatonin capsules are a preparation manufactured in the UK (Special Manufacturing Legislation) and are available to order from: AAH Pharmaceuticals LTD</p> <p>Circadin tablets are available to order from most major wholesalers</p>	
<p>References</p> <ol style="list-style-type: none"> 1. Jan JE, Espezel H, Appleton RE. Dev Med Child Neurol 1994 Feb;36(2):97-107 2. Wiggs L. J R Soc Med 2001 Apr;94(4):177-9. 3. Quine L. J Ment Defic Res 1991 Aug;35 (Pt 4):269-90. 4. BNF for children. London: BMJ Publishing Group, RPS publishing, RCPCH publications, 2010 5. Smits MG, Nagtegaal EE, van der HJ, Coenen AM, Kerkhof GA. J Child Neurol 2001 Feb;16(2):86-92. 6. Smits MG, van Stel HF, van der HK, Meijer AM, Coenen AM, Kerkhof GA J Am Acad Child Adolesc Psychiatry 2003 Nov;42(11):1286-93. 7. Coppola G, Iervolino G, Mastro Simone M, La TG, Ruiu F, Pascotto A. Brain Dev 2004 Sep;26(6):373-6. 8. Gupta M, Aneja S, Kohli K. Add-on melatonin improves sleep behavior in children with epilepsy: randomized, double-blind, placebo-controlled trial. J Child Neurol 2005 Feb;20(2):112-5. 9. Harkness L, Erskine D. London New Drugs Group. APC/DTC Briefing January 2008. Available from: www.nelm.nhs.uk 10. Summary of Product Characteristics – Circadin. www.emc.medicines.org.uk (Accessed 11.08.2011) 11. Brzezinski A. New England Journal of Medicine 1997; 336(3): 186-95. 12. NICE CG53 Aug 2007 Chronic fatigue syndrome Myalgic/ encephalomyelitis (encephalopathy). 	