

MELATONIN Prolonged Release (Circadin®) Shared care guideline for the treatment of sleep disorders in children and young people under the age of 18

Introduction

General Statements

- *Prior to seeking shared care with the patient's GP:*
 - *The patient's clinical condition will be stable or predictable.*
 - *The patient will have been stabilised on the drug with time allowed for common adverse events and side-effects to have occurred.*
 - *Patients will receive prescriptions for supplies of medication from secondary care until shared care is agreed with the primary care doctor.*
 - *If a patient changes GP, then the new GP and the Secondary Care Prescriber will need to discuss setting up shared care for the patient.*
- ***The full prescribing details in the BNF www.bnf.org.uk and SmPC www.medicines.org.uk should be read before prescribing***
- There are no licensed products of Melatonin in the UK for the treatment of childhood insomnia.
- Circadin® is a prolonged release formulation of melatonin that is licensed in the UK for the treatment of primary insomnia in adults aged 55 years and over.
- A prescription written for "melatonin" can be met by any product of any price, at the discretion of the dispensing pharmacy. This can prove to be significantly more expensive. Prescribers are advised to **specify a brand** or a manufacturer.
- The MHRA advise that if there is a licensed product available it should be used, even if it is for an off label use. **For melatonin, this means Circadin® 2mg prolonged release tablets.**
- **Circadin 2mg prolonged release tablets should be the preparation of choice unless there are clear reasons why it will be inappropriate.**
- **Circadin 2mg prolonged release tablets may be crushed for an immediate release effect.**
- **Circadin 2mg prolonged release tablets may be halved to give a prolonged release dose of 1mg.**
- Melatonin 5mg in 5ml oral solution is listed in the Drug Tariff (section VIIIb) and is the most cost effective oral liquid preparation. No other liquid preparation strengths are therefore recommended.

Indication	<ul style="list-style-type: none"> • Melatonin and melatonin prolonged release are used to improve the onset and duration of sleep in infants, children and adolescents with neurological and/or behavioral problems who have severe sleep disturbance. It can also be used to improve onset and duration of sleep in children and adolescents with congenital or acquired neurological/neurodevelopmental problems including conditions such as learning difficulties, Autism Spectrum Disorders, Cerebral Palsy, visual impairment, epilepsy and neurodegenerative disorders. It is also known that some psychiatric disorders can be associated with sleep problems eg ADHD or depression • The treatment of choice for sleep disturbance is behavioral; a trial of melatonin should only be prescribed after a full trial of behavioral management and sleep hygiene has been tried and failed to achieve satisfactory results. Prescribers should confirm this has been conducted. • Sleep hygiene measures should continue alongside the administration of Melatonin. Written guidance on sleep hygiene measures should be provided to the carers. A useful leaflet can be found on the Research Autism website (http://www.researchautism.net/publicfiles/pdf/good_sleep_habits.pdf).
Additional information	<ul style="list-style-type: none"> • Further information is available on www.choiceandmedication.org/swyp • Medicines for children -information for parents and carers – Melatonin for sleep disorders http://www.medicinesforchildren.org.uk/search-for-a-leaflet/melatonin-for-sleep-disorders/ • Useful resources for parents and health care professionals can be found at www.autism.org.uk and www.early-years.org

Product Information	
Products	<p>Circadin® should be prescribed by brand name and written as below specifying the 2mg strength tablet</p> <p><u>For standard/immediate release effect</u> Prescriptions should be written as Circadin MR tablets 2mg <i>“Dose” (in tablets or mg) to be crushed and taken at night</i></p> <p><u>For prolonged release effect</u> Prescriptions should be written as Circadin MR tablets 2mg <i>“Dose” (in tablets or mg) to be taken at night</i></p> <p><u>Oral solution for enteral administration</u> Prescriptions should be written for Melatonin 5mg in 5ml oral solution <i>“Dose” (in tablets or mg) to be given at night</i></p>

Individuals' Responsibilities	
Secondary care Specialist's Responsibilities	<ul style="list-style-type: none"> To assess the suitability of the patient for treatment and confirm that a full trial of behavioral management and sleep hygiene has been attempted and failed to achieve satisfactory results. Assess the nature and severity of the sleep disorder, where possible, by review of the patient's sleep diary. To discuss the benefits and side effects of treatment with the patient/carer and the need for health monitoring before initiating treatment. To discuss with the patient/carer that treatment of sleep disorders with melatonin should be a short term measure and continued treatment will need to be reviewed. To obtain consent from the patient/parents/carer as applicable including discussion of the unlicensed nature of the treatment. To conduct baseline monitoring to include height, weight and puberty To initiate treatment and adjust according to patient response. Prescribing until treatment is stable. To review the patient in clinic, regularly until optimum dose is established and then at 6 and 12 monthly reviews. To initiate a trial reduction/discontinuation in medication if considered appropriate. This is usually after a period of stability for the child and their environment of about six months and should be agreed with the patient and carer at the beginning of treatment To adjust the dose and formulation of the drug as required and communicate this information to the GP. Communicate the agreed review period and treatment reduction/discontinuation trial date to GP. To monitor the patient for adverse events and report to the GP and where appropriate Commission on Human Medicines/MHRA (Yellow card scheme). <p>Information to be received by the GP from the Consultant</p> <ul style="list-style-type: none"> Diagnosis <u>Dose, timing of dose, formulation and preparation of melatonin prescribed</u>
General Practitioner's Responsibilities	<ul style="list-style-type: none"> Continued discussion of risks and benefits of medication with patients and carers as required. Prescribing once maintenance doses established. To respond to adverse reactions and advise on concomitant medication. <p>Information to be received by the Consultant from the GP</p> <ul style="list-style-type: none"> Details of any concurrent medication. Details of any identified problems e.g. compliance with treatment.
Monitoring Required	Monitoring of height and weight is required annually; this would usually be conducted at secondary care reviews.
When and How to Discontinue Treatment	A trial period without medication should be considered after 6 to 12 months of treatment to determine if the patients sleep pattern is maintained without medication. Melatonin is not known to cause discontinuation or withdrawal symptoms.

Information given to the patient	<ul style="list-style-type: none"> Verbal and written information will be given to the patient/carer about melatonin and where appropriate advice on crushing tablets. Leaflets can be obtained from www.choiceandmedication.org/swyp or http://www.medicinesforchildren.org.uk/search-for-a-leaflet/melatonin-for-sleep-disorders/ The patient and carer must be advised that this is an off-label use of a licensed product or use of an unlicensed product which limits the information that is available about effectiveness and safety. Obtaining some preparations of melatonin may take up to 14 days. Therefore patients/carers should request repeat prescription from their GP in advance
---	---

Contact Details	Including telephone, bleep, email and fax numbers, out of hours and contact details of the hospital medicines information department to be included in the specialist's letter
------------------------	--

Product Information	
The information in this Shared Care Guideline should be used in conjunction with the latest edition of the BNF for children and Summary of Product Characteristics	
Adverse Effects	<ul style="list-style-type: none"> • Melatonin is generally well tolerated with some reports of headache and sedation. • The adverse effects of prolonged release melatonin are not expected to differ to those from the immediate release preparations. • Melatonin may affect the reproductive system by inhibiting the hypothalamic-pituitary-gonadal axis. Therefore growth and sexual development should be monitored, especially with long term melatonin use. • The effect of melatonin on seizure activity is unclear. According to one study it may have an increase the likelihood of seizures. However this adverse effect is difficult to prove considering a large number of the patients receiving melatonin have a pre-existing seizure disorder.
Precautions and Contra-indications	<ul style="list-style-type: none"> • Epilepsy - When using melatonin in patients with epilepsy, seizure frequency should be monitored • The manufacturers of Circadin® state that it should not be taken in patients with rare hereditary problems of galactose intolerance, the LAPP lactase deficiency or glucose-galactose malabsorption. • It is not recommended in patients with autoimmune diseases. • Pregnancy – In view of the lack of clinical data, use in pregnant women or women intending to become pregnant is not recommended. It is recommended that you contact the medicines information department at the local hospital for the most up to date information and advice. • Breast feeding – As it is likely melatonin is excreted in breast milk, use of melatonin during breast feeding is not recommended.
Clinically relevant Drug Interactions and their management	<p>There is a paucity of clinical data in this regard. Bioavailability may be increased with fluvoxamine. Blood pressure control may be affected on patients controlled with nifedipine.</p> <p>Circadin®: manufacturer advises avoid use with fluvoxamine as concomitant use results in large increases of melatonin plasma concentration. Manufacturer also advises caution with cimetidine, cigarette smoking, oestrogens, quinolones, carbamazepine, rifampicin, benzodiazepines and z-hypnotics such as zopiclone and zolpidem. For full details refer to product SPC.</p> <p>On initiation of melatonin the specialist will be responsible for checking interactions and making necessary alterations in treatment. If a patient is started on any of these medications contact the specialist for advice.</p>

Flowchart for the Use of Melatonin in Children and Young People

