Melatonin Guidance

Background

Melatonin is a neurohormone produced by the pineal gland. Its primary function is to induce the physiological changes which prepare the body for sleep – drowsiness, lowered alertness and a fall in body temperature. It is normally produced in a circadian manner in response to falling light levels, starting in the evening with peak production occurring around 2am.

Synthetic melatonin is available and is used to enhance sleep in a variety of conditions. It is felt to be relatively free of the adverse effects associated with conventional hypnotic drugs.

The BNF for children states that melatonin may be of value for treating sleep onset insomnia and delayed sleep phase syndrome in children with conditions such as visual impairment, cerebral palsy, attention deficit hyperactivity disorder, autism and learning difficulties.

SIGN 145 (June 2016) recommends that in children and adults with ASD who have sleep difficulties which have not resolved following behavioural interventions, a trial of melatonin to improve sleep onset should be considered. Although no evidence was identified on the use of melatonin in adults with ASD to improve sleep problems, RCTs in children have shown improvements in sleep time and sleep-onset latency, particularly when used with CBT.

In addition a clinical review of melatonin and sleep disorders associated with intellectual disability concluded that melatonin was an effective sleep initiator for children and adolescents with intellectual disability and probably had a similar effect in adults.

SIGN 112 recognises that up to 50% of children with attention deficit and hyperkinetic disorders may present with sleep disorders. NICE Evidence summary ESUOM2 (Jan 2013) discusses the evidence for the efficacy of melatonin in sleep disorders in children and young people with attention deficit hyperactivity disorder. It concludes that melatonin may reduce sleep onset latency and increase sleep duration but evidence is limited.

Adequate baseline and ongoing sleep diaries should be obtained for a melatonin trial to facilitate the assessment of therapeutic effect. Melatonin prescriptions should be regularly reviewed in the context of possible emerging side effects and / or reduced therapeutic effect. Melatonin initiation should be initiated and supervised by a specialist. Continuing care may be with the GP under a shared care protocol.

<table>
<thead>
<tr>
<th>Indication</th>
<th>Sleep onset insomnia and delayed sleep phase syndrome</th>
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<tbody>
<tr>
<td>Treatment Population</td>
<td>Children, Adolescents, Adults with Learning Disabilities, Adults with ADHD</td>
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</tbody>
</table>

Responsibilities of the Specialist

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Authors: A Milne, L Dewar, L McAulay
- Assess the suitability of the patient for melatonin treatment
- Undertake baseline investigations / monitoring as required
- Inform the patient or welfare guardian of the unlicensed status of melatonin treatment
- Recommend initiation dose
- Assess and monitor patient’s response to treatment – treatment adjustment as required
- Undertake regular review / monitoring of patient
- Regular communication with the GP (after each medication review)
- Report any suspected adverse event to the CSM via the yellow card scheme

**Responsibilities of the GP**
- Continuation of prescribing (as per specialist dose recommendations)
- Report any concerns to the specialist service

** Responsibilities of the Patient / Parent / Carer**
- To attend clinic / GP appointments
- To order prescriptions in a timely manner to allow continual treatment
- To report any concerns to the GP / specialist service

**Prescribed Drugs**

<table>
<thead>
<tr>
<th>1st Line (&lt;55yrs)</th>
<th>Melatonin 3mg capsules*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Line:</td>
<td>Melatonin 2mg MR tablets</td>
</tr>
<tr>
<td>if a MR preparation is required either alone or in combination with the standard release preparation</td>
<td></td>
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<tr>
<td>for patients &gt;55 years (subject to the IPTR process)</td>
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</table>

*recommendation from the Effective Prescribing and Therapeutics Branch. NHS Scotland

**General Melatonin Information**

**Melatonin immediate release capsules are unlicensed.**

For patients with enteral tubes/swallowing difficulties the NEWT guidelines (2015) recommend:

**NEWT**

**Enteral tubes** - The standard capsules can be opened and the contents mixed with water for administration

**Swallowing difficulties** - The standard capsules can be opened and the contents mixed with water, milk, yogurt or fruit juice for administration

<table>
<thead>
<tr>
<th>Dose</th>
<th>3mg before bedtime increasing as required. Max 9mg. (max 10mg if MR and IR combination prescribed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usual response time</td>
<td>7 days (may be delayed to several weeks in some patients)</td>
</tr>
<tr>
<td>Treatment length</td>
<td>Not defined</td>
</tr>
<tr>
<td>Cautions</td>
<td>Pregnancy and lactation - avoid</td>
</tr>
<tr>
<td></td>
<td>Autoimmune disease - avoid</td>
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<tr>
<td></td>
<td>Hepatic impairment – avoid</td>
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<tr>
<td></td>
<td>Renal impairment – caution</td>
</tr>
<tr>
<td></td>
<td>Epilepsy – monitor seizure frequency</td>
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</tbody>
</table>

**Circadin® Prescribing Information**

Full information is available from the SPC [http://www.medicines.org.uk/emc/](http://www.medicines.org.uk/emc/)

Status - Licensed in the UK but not in the paediatric population or adults under 55yrs of age

Tablets should be swallowed whole. If crushed they become immediate release.

Give 1-2 hours before bedtime

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References

2. SIGN 145 Assessment, diagnosis and interventions for Autism Spectrum Disorders SIGN 145
4. NG11 Challenging behaviour and learning disabilities: prevention and interventions for people with learning disabilities whose behaviour challenges. NICE NG11
6. SIGN 122 Management of attention deficit and hyperkinetic disorders in children and young people SIGN 112
7. NICE Evidence summary ESUOM2 Sleep disorders in children and young people with attention deficit hyperactivity disorder: melatonin. NICE ESUOM2
8. Informed consent is required for all patients ≥16yrs. Children under 16yrs are covered by the Royal College of Paediatrics and Child Health guidance. http://www.rcpch.ac.uk/home
Dear Dr ……………………..

Your patient ………………………… attended the clinic today. I would like to start them on melatonin for sleep disorders as per the shared care protocol.

Please prescribe

☐ Melatonin 3mg capsules (1st line recommendation)

Dose……………………………………………………………………

☐ Melatonin 2mg MR tablets (2nd line recommendation – see below)

Dose……………………………………………………………………

Reason for recommending melatonin 2mg MR tablets:

☐ Patient over 55yrs (IPTR paperwork attached)

☐ Melatonin 3mg is not tolerated

☐ Melatonin 3mg is not suitable because ………………………………………

☐ Required for sustaining sleep

I will keep you updated on their treatment and communicate any dose changes.

Many thanks for your support.

Yours sincerely

…………………………..

Prescribing Clinician