Melatonin Deprescribing Guideline for Adults in Primary Care

Background & Rationale

Melatonin is a Green Plus drug (for sleep-wake disorders in ages 18y and over), or an Amber drug (for sleep-wake disorders in ages <18y) – in either case it should always be initiated by specialists. Where patients are subsequently discharged from specialist care, primary care clinicians may feel unsure of how to approach further melatonin review. This guideline aims to support primary care clinicians to intermittently review such cases of melatonin prescribing, with a view to evaluating the risks vs benefits of continued treatment, and discontinuing melatonin if clinically appropriate.

- Broad consensus exists that melatonin is safe to use for up to 13 weeks.[1] Long-term safety data is limited,[2] but some research has indicated that melatonin appears safe for up to two years in children and six months in adults.[3, 4]

- Adverse effects can include arthralgia, headache, increased infection risk, abdominal pain, dyspepsia, dry or ulcerated mouth, nausea, weight gain, hypertension, chest pain, malaise, dizziness, irritability, anxiety, abnormal dreams, proteinuria, glycosuria, pruritus, rash, and dry skin.[2, 5, 6] Recent data suggest melatonin may also increase risk of falls.[7]

- Patients with reduced elimination rates (e.g. hepatic impairment or elderly) may have extended supraphysiological plasma levels (>10h), which may increase the risk of daytime drowsiness.[5, 8]

- NICE recommends melatonin should be avoided in hepatic impairment, autoimmune disease, pregnancy or breastfeeding.[6]

- Multiple interactions exist with melatonin which may alter its safety by increasing plasma melatonin levels or producing additive adverse effects. Examples of agents known to interact include cigarette smoking, caffeine, oral contraceptives, phenytoin, carbamazepine, quinolones, fluvoxamine, alcohol, opiates and other hypnotics.[2, 6, 9]

- The efficacy of melatonin is generally sustained in long term use[10], but in some specific patient groups (e.g. haemodialysis patients) the benefits of melatonin may diminish after a 6 to 12 month period of continuous treatment.[11] The British Association of Psychopharmacology states that intermittent dosing may reduce the risk of tolerance with all hypnotics.[12]

- Adults on melatonin should be reviewed and considered for a trial withdrawal or stopping treatment after 13 weeks.[4]

Exclusions

Primary care clinicians should not deprescribe melatonin where it is being prescribed for the indication of Parkinson's, headache, or REM sleep behaviour disorder.

Additionally, primary care clinicians should not independently deprescribe melatonin (but this guideline may be used to help identify patients potentially suitable for deprescribing in liaison with their specialist) if patients meet any of the criteria below:

- Under active specialist review regarding; mental health, learning disabilities, autism, Smith-Magenis syndrome or a circadian rhythm disorder

- Aged under 18 years (should be managed as part of shared care agreement)

Step 1 - Education & Discussion

- Discuss the pros and cons of melatonin (as above) with patients, carers and family as appropriate, to encourage reflection on the appropriateness of continued treatment. Consider if the patient has mental capacity, and ensure discussions are held with the relevant person(s).

- Evaluate sleep quality by asking:

    - Did you sleep well last night?

    - How many nights have you slept well in the last week/month?

    - Do you have difficulty falling asleep, and/or staying asleep?
        - *The most convincing evidence for melatonin supports its use to reduce the time taken from shutting eyes until falling asleep (sleep onset latency).*[13]
        - *Evidence does not support using melatonin to induce feelings of relaxation or calm.*

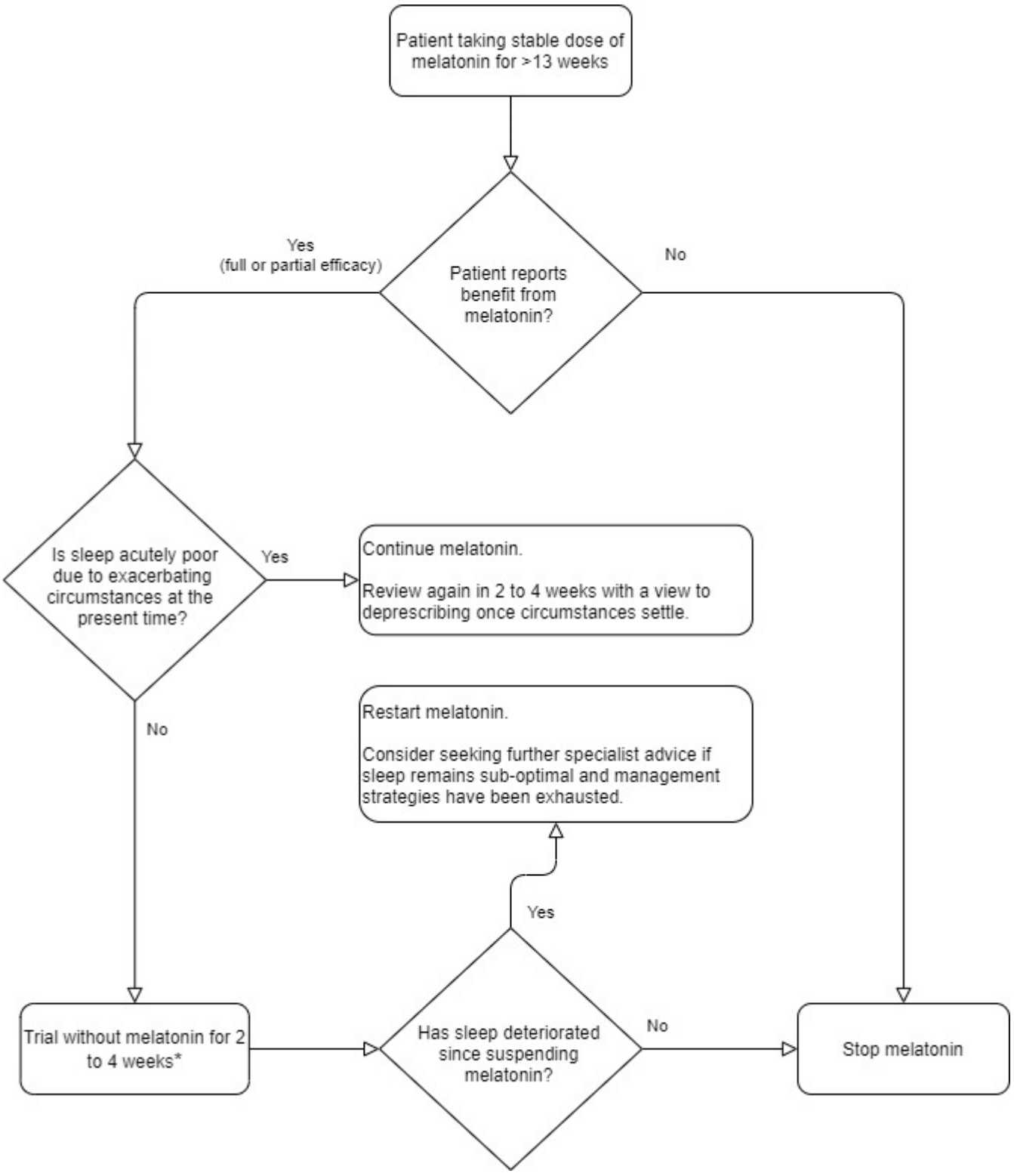
    - Do you feel refreshed when you wake up?

- If possible, aim to objectively measure sleep patterns using a sleep tracking chart (see example in appendix A), or making use of any data from wearable technology if available to the patient.

- Before proceeding to step 2 - identify (and attempt to resolve as far as possible) factors which may contribute to sleep disturbance such as:
    - Stress
    - Anxiety
    - Sleep apnoea / Snoring
    - Nightmares / Night terrors / Sleepwalking
    - Poor sleep hygiene – see appendix B

Step 2 - Determine if it is appropriate to trial stopping melatonin

The flow chart below can be used to guide decisions about deprescribing melatonin during patient reviews:



*Exercise caution and consider if specialist advice is warranted where patients:

- have severe learning disabilities or autism (may be more sensitive to medication routine changes)
- have mental health conditions which are currently unstable
- have Smith-Magenis syndrome, or a circadian rhythm disorder (sleep cycle can be highly disturbed)
- are taking concomitant medication which may cause sleep disturbance, e.g. SSRI's
- other significant medication changes have occurred recently or are ongoing
- have been taking melatonin for >2 years.

Step 3 – How to stop Melatonin

- Seek and document consent for any change to melatonin from the patient, or from the relevant person(s) where the patient does not have mental capacity.

- Ensure time is available to educate the patient/carer to fully understand the reasons behind medication changes. Emphasise a flexible approach to deprescribing, to ensure the patient feels comfortable.

- Discuss the speed of reduction with the patient, and taper the dose down at an increment and interval which the patient feels comfortable with. Melatonin is not known to cause dependency but little guidance exists to reflect how to safely deprescribe. An example regimen could be reducing by 2mg every month.

- Reinforce the importance of good sleep hygiene to reduce sleep disturbance, see appendix B for example patient information.

- Review patients, ideally with reference to data from a sleep chart to assess the impact of the change.

- If sleep disturbance recurs upon discontinuation, consider reinstating melatonin at the previously prescribed dose, and/or seeking specialist advice if clinically appropriate.

References

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Appendix A – Sleep tracking chart

Forename _____ Surname _____

Date of Birth _____ NHS Number _____

Indicate periods of unbroken sleep using a vertical line: 

Indicate events using labels:
B – in bed **U** – out of bed **S** – sleeping pill **T** – toilet use during sleep time
E – Exercise **C** – caffeinated drink **M** – meal

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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Appendix B – Sleep hygiene information

Adapted from: www.nhs.uk/live-well/sleep-and-tiredness/10-tips-to-beat-insomnia/

10 tips for better sleep

1. Keep regular sleep hours

Going to bed and getting up at roughly the same time every day will programme your body to sleep better. Choose a time when you're likely to feel tired and sleepy.

2. Create a restful sleeping environment

Your bedroom should be a peaceful place. Control temperature, lighting and noise so that your environment helps you to sleep. Consider keeping pets out of the bedroom if they often disturb you in the night.

3. Make sure your bed is comfortable

It's difficult to sleep well on a mattress that's too soft or hard, or a bed that's too small or old.

4. Exercise regularly

Moderate exercise on a regular basis, such as swimming or walking, can help relieve tension built up over the day. But avoid doing vigorous exercise such as running, too close to bedtime, as it may keep you awake.

5. Reduce technology use

Technology use has a stimulant effect which interferes with the process of falling asleep and prevents deep sleep. Aim to turn off all electronic devices for the night two hours, one hour or 30 minutes before bed — the earlier the better, but whatever feels realistic. Instead, read an old-fashioned paper book under lamplight before bed.

6. Moderate food, alcohol and caffeine

Too much food, alcohol or caffeine especially late at night, can disturb your sleep patterns. Alcohol may help you fall asleep initially, but will disrupt your sleep during the night. Instead, have a warm, milky drink or herbal tea.

7. Do not smoke

Nicotine is a stimulant. People who smoke take longer to fall asleep, wake up more frequently, and often have more disrupted sleep.

8. Relax before going to bed

Have a warm bath, listen to music, practice meditation, or do some gentle yoga to relax your mind and body.

9. Write away your worries

If you tend to lie in bed thinking about everything you have to do tomorrow, set aside time before bedtime to make plans for the next day.

10. If you cannot sleep, get up

If you cannot sleep, do not lie there worrying about it. Get up and do something you find relaxing until you feel sleepy again, then go back to bed.