

The information in this column is not intended as a definitive treatment strategy but as a suggested approach for clinicians treating patients with similar histories. Individual cases may vary and should be evaluated carefully before treatment is provided. The patient described in this column is a composite with characteristics of several real patients.

Treating delayed sleep–wake phase disorder in young adults

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A 27-year-old man reports severe insomnia. On weekdays, he goes to bed around midnight, but falls asleep past 3 am and has difficulty getting out of bed for school at 8 am despite several alarm clocks. He accumulates substantial sleep debt during weekdays, sleeping on average 2–5 hours per night. On weekends, he catches up and sleeps 9–14 hours, waking up past 2 pm on Saturdays and Sundays. He sleeps well when he follows his natural sleep tendency. The diagnosis of delayed sleep–wake phase disorder (DSWPD) was confirmed with 4 weeks of sleep–wake log and actigraphic recordings.¹ Delayed sleep–wake phase disorder is the most frequent circadian rhythm disorder, with an estimated prevalence of 7%–16% in adolescents and 0.13%–3.1% in the general adult population.^{1–4} It is often comorbid with depressive disorders.⁵

The patient was treated with low doses of melatonin (0.5 mg), taken 5 hours before bedtime in order to advance his circadian system and minimize its soporific effects in the evening.⁶ Had the goal been to pursue a hypnotic effect at bedtime, higher doses (e.g., ≥ 3 mg) would have been used. Very high doses (≥ 10 mg) should be avoided to prevent “spilling over” onto the delay portion of the melatonin phase response curve and thus reduce its resetting effects.⁷ The 2015 American Academy of Sleep Medicine (AASM) practice guidelines for the treatment of circadian rhythm sleep–wake disorders⁸ recommend strategically timed melatonin for the treatment of DSWPD in adults, children and adolescents with or without psychiatric comorbidities, although the

available evidence is weak (owing to the low number of high-quality studies).

The risks of exogenous melatonin have not been systematically investigated, especially for long-term administration, although no serious adverse effects have been reported. At high doses (≤ 10 mg), headaches, somnolence, hypotension, hypertension and alopecia have been reported.⁸ Impaired glucose tolerance was also recently linked to melatonin administration. Caution is recommended for the use of melatonin in children, adolescents, women of reproductive age, patients with depression or epilepsy and patients on warfarin treatment.

The patient was also asked to expose himself to bright light for 30–60 minutes each morning. The phototherapy was scheduled to avoid further delaying his circadian rhythms⁹ and worsening his condition. To do so, the patient was asked to, on a rest day, sleep as long as possible until he woke up naturally. He then started his first phototherapy session upon awakening at 1 pm. Then he advanced the timing of the light exposure by 30 minutes every 2 days until he woke up at 8 am. He was asked to remain in dim light levels between supper and bedtime, and to avoid using electronic tablets in bed.

The 2015 AASM practice guidelines found insufficient evidence to recommend bright light exposure, light avoidance strategies, or chronotherapy for the treatment of DSWPD. However, these guidelines are weakened by the paucity of high-quality studies available. In fact, clinicians generally combine these approaches to treat patients with DSWPD.^{4,7} Boxes of broad-spectrum white light are recommended, and there is actually no evidence that blue-enriched or blue lights are superior.⁷ No systematic study is available on the optimal duration of light exposure sessions. As pa-

tient compliance is better with 30–60 minutes of daily exposure, this was the duration suggested to the patient. In an open trial study, combined melatonin and bright light appeared important to maintain therapeutic gains after 3 months and to avoid relapse into the delayed sleep schedule.¹⁰ The patient was thus asked to pursue his combined treatment. Phototherapy is considered safe, and reported adverse effects include photophobia, migraine and the triggering of mania in susceptible patients with bipolar disorder. Ophthalmologic examination is recommended for those with ocular diseases.

In conclusion, DSWPD is a common circadian rhythm disorder affecting mostly adolescents and young adults. Family physicians can treat this condition and refer refractory cases to a sleep specialist. Effort should be made to enhance treatment compliance and reduce sleep time variability from one day to the next.

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