

# Delayed sleep-wake phase disorder

Delayed sleep-wake phase disorder (DSWPD) is a circadian rhythm disorder. It consists of a typical sleep pattern that is “delayed” by two or more hours from societal norms. This delay occurs when the hormone melatonin is not being produced at the right time and your internal sleep clock (circadian rhythm) is shifted later at night and later in the morning. Once sleep occurs, the sleep is generally normal. But the delay leads to a pattern of sleep that is later than what is desired or considered socially acceptable. This pattern can be a problem when it interferes with work or social demands.

If you have DSWPD, you are likely to prefer late bedtimes and late wake-up times. When left to your own schedule, you are likely to have a normal amount and quality of sleep. It simply occurs at a later time.

## What are the signs of DSWPD?

One sign of DSWPD is difficulty falling asleep until late at night. Another sign is having a hard time getting out of bed in the morning for work or school. These signs can make DSWPD look like insomnia. Also, like insomnia, DSWPD can impair your alertness and performance during the day. It can lead to excessive sleepiness and fatigue.

## How does Delayed Sleep-Wake Phase Disorder affect people?

DSWPD can impact daytime alertness/concentration and mental health, but also has an impact on social, family and work life. If you have DSWPD, you have a higher chance of developing depression and insomnia. Also, many people must get up early in the morning for work or study, which can cause problems if DSWPD is present. People with DSWPD are often wrongly viewed as lazy or unmotivated because of the difficulty they have functioning early in the day.

## How common is Delayed Sleep-Wake Phase Disorder?

DSWPD is most common in teenagers. About 7% to 16% of adolescents and young adults may have DSWPD. It can occur at other ages, but it is less likely. People who tend to be “evening types” or “night owls” are likely to develop DSWPD. Because people with DSWPD have trouble falling asleep at more usual times at night it is also sometimes mistaken for insomnia. A family history of DSWPD is common in about 40% of people with the disorder and there is likely a genetic component. Some environmental factors may also be involved. Both a lack of exposure to morning sunlight and too much exposure to bright light in the evening may increase symptoms of DSWPD.

## Is it just bedtime procrastination?

DSWPD may be mistaken for bedtime procrastination - the deliberate delay of one’s bedtime in favour of other activities such as scrolling through social media, watching television, and other activities that keep the brain alert. While people with DSWPD may also procrastinate, they readily fall asleep once the stimuli keeping them up is removed. Individuals with DSWPD, on the other hand, are not able to sleep at socially conventional times, even under the best sleep conditions, because of circadian rhythm differences.

## **DSWPD diagnosis**

It is easy to confuse DSWPD with normal variations of sleep and other types of insomnia. Consulting a qualified sleep clinician is recommended to assess your sleep and develop a treatment plan to correct any problems. A sleep study, while not normally needed for someone who has DSWPD, may be recommended to determine if there are any other sleep disorders related to your sleep problem.

Discussing the history of your sleep and using a sleep diary to track your current sleep patterns is an important part of assessing your sleep problem. Sleep diaries document the time you get into bed, the time required to fall asleep, and the time you wake up in the morning. If you have DSWPD, your sleep diary will likely show a regular pattern of difficulty falling to sleep, few or no awakenings once asleep, and a sleep duration that is reduced during the work week and lengthy on the weekend.

## **DSWPD treatment**

**Melatonin Therapy.** Melatonin is a hormone that is naturally produced by the pineal gland in your brain and plays an important role in sleep. It helps regulate your sleep-wake cycle by signalling to your body when the time for sleep is approaching. Strategically timed, low-dose melatonin use has been shown to be an effective treatment for DSWPD. Melatonin dosage and timing should be discussed with a trained sleep clinician in consultation with your doctor to ensure the most effective treatment strategy for you – one size does not fit all.

**Bright light therapy.** Natural melatonin production is highly sensitive to changes in the timing of exposure to light. Bright light therapy involves to clock by exposing the eyes to safe levels of intense, bright light for brief durations at strategic times of day. For DSWPD, exposure to bright light should occur shortly after waking according to a specific schedule relative to the individual's **existing**, delayed sleep timing. The timing of light exposure is then gradually advanced until the target wake time is reached. Bright light in the evening hours should be avoided. Light therapy may be most effective when combined with melatonin and behavioural therapy.

**Chronotherapy** seeks to change your body clock by systematically delaying your sleep later and later according to a prescribed schedule (e.g. 3 hours per day). So rather than pulling your sleep timing back to the desired time, it is pushed around the clock until you are going to bed in the evening and waking up in the early morning.

**Cognitive behavioural therapy** helps you change actions or thoughts that keep you awake and develop habits that promote a healthy pattern of sleep.

## **How to prevent DSWPD happening again?**

Once you are at the right bedtime and wake-up time it is very important that you keep the time of getting up as constant as possible. This includes weekdays and weekends. It is also important that you get plenty of bright light in the morning to maintain lower melatonin levels at that time of your day. Open your curtains and have your breakfast next to a brightly lit window. It is also important to avoid bright light at night.