

WAKE AND LIGHT THERAPY FOR DEPRESSION





Wake and Light Therapy for Depression

We are pleased to be able to offer a pioneering new treatment for depression at the Nightingale Hospital, which is known as Wake and Light Therapy. This approach is available in only a few treatment centres throughout the world. Nightingale Hospital is currently the only hospital in the UK where this innovative treatment method can be accessed.¹

With standard anti-depressant medication or a psychological therapy, it might take 4-6 weeks to see any benefit. However, Wake Therapy combined with Light Therapy can result in a rapid response within one week, and often within a few days. From our own and other's research about 50% of patients will improve.²

We do not yet know who may get better with these therapies or exactly why. We know that depression often has altered biological rhythms, for example when a person with depression awakes early in the morning. They may feel worse in the mornings or in the winter season. Some people with depression release the hormone melatonin at the wrong time of the day and this may contribute to the development of depression in vulnerable individuals. The theory is that if we can reset the system so that hormones like melatonin to be released at the right time of the evening then this can help control symptoms of depression. The positive effects of Wake and Light Therapy can be enhanced by ensuring routine in your activity and sleep.

Once there is some improvement in your mood over the first week, then you can tackle longer standing problems such as conflicts or losses in your life that may be contributing to your depressed mood. There are no known major side effects from Wake and Light Therapy, and they can be used with medication and other therapies.

Why might Wake and Light Therapy be of help?

We know that a hormone called melatonin is released at night by the pineal gland in the brain, which crucially helps regulate our sleep patterns, as well as other circadian rhythms. In some people affected by depression, the time at which melatonin is released becomes disrupted, which can often perpetuate the problem. It is thought that if the circadian rhythm and the release of melatonin can be reset to the correct time, this can help relieve depression.



What about Light Therapy alone? Can that still help?

Some people find they are more prone to depression in the winter. This form of depression is often referred to as Seasonal Affective Disorder (SAD). One of the most effective treatments for SAD is Light Therapy. This type of depression is rarely found in the tropics and is linked to symptoms such as increased sleep and appetite. We also generally admit more patients with depression in the winter months when there is less sunlight.

More recent research has shown that Light Therapy can have benefit in non-seasonal depression. There are many different types of depression and we don't yet know who best might respond to light therapy. Patients with non-seasonal depression should combine light therapy with standard treatments such as medication and psychological therapies.

Exposure to bright light in the morning is thought to suppress melatonin release and hence allow the process to be reset. The optimal time for Light Therapy to be administered varies from person to person. It is dependent on the individual's internal clock and whether they are an owl or a lark or something in between (known as a hummingbird); the optimum time of the Light Therapy can be established using Morningness-Eveningness Questionnaire (MEQ).

How do I use Light Therapy?

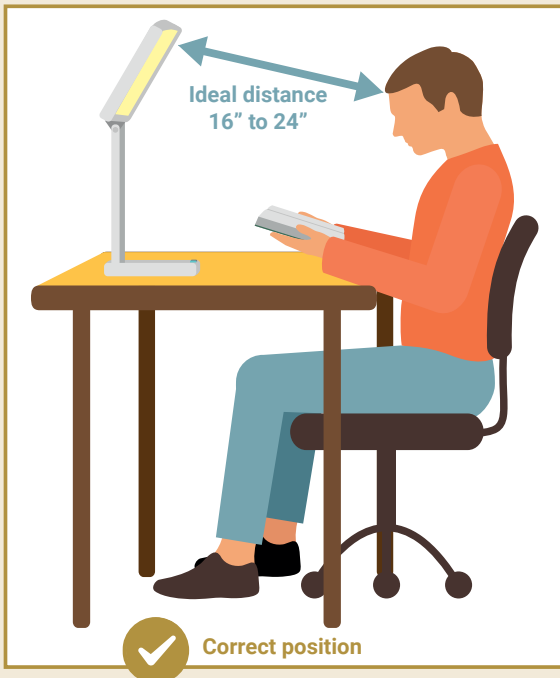
Before Light Therapy is prescribed, a doctor will need to confirm that you are not taking photo-sensitizing medication, nor currently suffering from mania. Based on results from the Morning-Eveningness Questionnaire for your normal pattern of sleeping and waking, Light Therapy will be recommended between 06:45 and 09:00 each morning. The duration of Light Therapy usually lasts for 30 minutes.

The Morning-Eveningness Questionnaire can be accessed using this QR code.



Figure 1 below shows the correct and incorrect positioning in front of the light when receiving Light Therapy. It is not crucial but if you can, the light should be set at around a 15° angle. The height should be adjusted so that your eyes are level with the centre of the light. A dose of 10,000 lux of light is required. You should sit about 30cm from the light. At this distance, you should be able to comfortably eat a meal, read a book or use a laptop. You should not stare into the light. You should maintain this distance from the light throughout the prescribed duration.

Figure 1



One-week Wake and Light Therapy programme

The positive effects of Wake and Light Therapy can be enhanced by ensuring routine in your activity and sleep. The following is a typical one-week programme for depression.

= Awake
 = Amber glasses
 = Sleep
 = Bright light

	08.00 to 09.00	09.00 to 10.00	10.00 to 11.00	11.00 to 12.00	12.00 to 13.00	13.00 to 14.00	14.00 to 15.00	15.00 to 16.00	16.00 to 17.00	17.00 to 18.00	18.00 to 19.00	19.00 to 20.00	20.00 to 21.00	21.00 to 22.00	22.00 to 23.00	23.00 to 24.00	24.00 to 01.00	01.00 to 02.00	02.00 to 03.00	03.00 to 04.00	04.00 to 05.00	05.00 to 06.00	06.00 to 07.00	07.00 to 08.00
Day 1	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake
Day 2	Awake	Awake	Awake	Awake	Amber glasses	Amber glasses	Amber glasses	Amber glasses	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Awake	Awake	Awake	Awake	Awake	Awake	Bright light
Day 3	Awake	Awake	Awake	Awake	Awake	Amber glasses	Amber glasses	Amber glasses	Amber glasses	Amber glasses	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Awake	Awake	Awake	Awake
Day 4	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Amber glasses	Amber glasses	Amber glasses	Amber glasses	Amber glasses	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Awake	Awake	Awake
Day 5	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Amber glasses	Amber glasses	Amber glasses	Amber glasses	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep
Day 6	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep
Day 7 onwards	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Awake	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep	Sleep

▶ Day 1

On the first night, you should stay awake with no naps or it ruins the treatment. This can be done with other patients. It is best to have planned activities for the night e.g. watching a film, a short walk outside. You need access to coffee, tea and snacks.

▶ Day 2

Today, you should not drive or operate machinery after staying up all night.

You may get an immediate improvement in your mood but unless you continue with the programme in the way we describe, you are very likely to relapse. You will receive Light Therapy for 30 minutes in your room sometime between 06:45 and 09:00. The exact timing will depend on the results of the Morningness-Eveningness Questionnaire. You should sit about a foot (30cm) from the light with your eyes open. You should not stare at the light but you may read, work, eat, etc. while receiving the light therapy. An alternative to Light Therapy is to go outdoors first thing in the morning for natural sunlight especially in the summer months. Don't close your eyes or wear sunglasses as the light must reach the back of your eyes. If light is not helping then the duration can be increased at 15 minutes intervals up to one hour. You should stay awake during the day and structure your activities as planned.

Try not to have any naps. If you cannot resist a nap, it should last no more than ten minutes. Wear amber (blue blocking glasses) from about 14:00 to encourage the release of melatonin. You should go to bed 17:00 and wake by 01:00 (i.e. up to eight hours sleep). We will discuss with you whether you'd like a coffee and snack when you get up at 01:00.

► Day 3

You should probably not drive or operate machinery again today. Use the amber glasses from about 16:00. You should stay awake during the day and go to bed at 19:00 and wake by 03:00. Again, you need you need more activity after you have got up and had a light snack.

Light Therapy will be provided as described with the same timing as on Day 2. There will be a planned activity schedule and treatment as usual on the ward.

► Day 4

Use the amber glasses from about 16:00 and go to bed at 21:00 and wake by 05:00. Light Therapy will be provided as described with the same timing as on Day 2. There will be a planned activity schedule and treatment as usual on the ward.

► Day 5 onwards

Today, you should go to bed at a normal time, by 23:00 and wake by 07:00. Light Therapy will be provided as described with the same timing as on Day 2. Your doctor will discuss how long this needs to be continued for.

Are there any reported side effects of Light Therapy?

Side effects are generally uncommon but include decreased sleep, dry mouth, nausea headache, weakness and fatigue. These symptoms are transitory and can be usually be managed by reducing the duration of the light therapy to 15-20 minutes or sitting further back from the light box. In rare cases, if you have bipolar disorder you might switch from depression to mania. However, this is no different to the risk of taking an anti-depressant.

Is Wake Therapy unsuitable for anyone?

We will administer medical screening for suitability. If you have a history of epilepsy, then wake therapy may induce a seizure. You should not therefore have sleep deprivation but may still have Light Therapy.

Is Light Therapy unsuitable for anyone?

1. If you have severe eye disease or injury affecting sight in both eyes, the advice of an ophthalmologist may be required.
2. If you are currently on night-shift work – you need to return to a normal sleep pattern before starting the program.
3. If you are suffering from mania or have rapid cycling which is occurring daily
4. If you are taking photo-sensitizing medication that commonly causes burns with bright light.

What lights can I use when I am discharged?

We look for a light box that emits 10,000 lux at the required distance (usually when you are sitting 30cm away but follow the manufacturer's instructions for a particular light). It should have a smooth diffusing screen that filters out ultra-violet radiation (UVR).

We do not advise a full spectrum light or blue enhanced light as these have no added therapeutic benefit and may be more unpleasant. Ideally, it should be possible to project the light source downwards (i.e. slightly above the line of sight). Compact boxes are easier for travelling but must be used 20cm away. You can search on the internet for SAD Lights. Suitable lights from the UK include:

1. Lumie Brazil SAD light
2. Lumie Vitamin L SAD light: this is a compact light so it must be used 20cm away

References:

- 1 Current as of April 2024.
- 2 Veale, D., Serfaty, M., Humpston, C., Papageorgiou, A., Markham, S., Hodsoll, J., & Young, A. H. (2021). Out-patient triple chronotherapy for the rapid treatment and maintenance of response in depression: feasibility and pilot randomised controlled trial. *BJPsych Open*, 7(6), e220. doi:10.1192/bjo.2021.1044; Humpston, C., Benedetti, F., Serfaty, M., Markham, S., Hodsoll, J., Young, A. H., & Veale, D. (2020). Chronotherapy for the rapid treatment of depression: A meta-analysis. *Journal of affective disorders*, 261, 91–102. <https://doi.org/10.1016/j.jad.2019.09.078>.



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