
Bright Light Therapy Fact Sheet

Bottom Line:

Light therapy is an effective treatment for seasonal affective disorder (SAD) and possibly for nonseasonal depression as well.

Main Uses:

SAD (not an FDA-approvable device).

Alternative Uses:

Nonseasonal depression.

Procedure:

- Establish the diagnosis of SAD, based on a clear lifelong pattern of mood worsening in the fall and winter, and improving in the spring and summer. Some clinicians use the Seasonal Pattern Assessment Questionnaire to aid with the diagnosis (free download at www.tinyurl.com/vy6ewcs2).
- Light boxes emit full-spectrum light with either fluorescent or LED bulbs (fluorescent is usually recommended). Light intensity is measured in lux, and the standard minimum intensity required is 10,000 lux (similar to light experienced if standing outside 30 minutes after sunrise).
- Light boxes should be large enough to deliver the required light intensity at a comfortable distance (usually about 24 inches away). Smaller fixtures are effective but produce more glare.
- Dawn simulator lamps are likely as effective as light boxes (Terman M and Terman JS, *Am J Psychiatry* 2006;163(12):2126–2133). These devices can be plugged into a standard lamp and cause the intensity of light to gradually increase over about an hour to mimic sunrise, with the brightness increasing to about 250 lux. Patients do not have to sit in front of these lamps after awakening.

Pre-Light Therapy Workup: No specific labs are required. No medical contraindications, but patients with ophthalmological conditions, such as glaucoma or cataracts, should be cleared by their ophthalmologist before starting the treatment.

Cost: \$\$; insurance coverage of light boxes is unpredictable and varies by company. Have patients contact their insurers directly; occasionally you will be asked to write a letter to support reimbursement.

Side Effects:

- Most common: Eye strain and headaches.
- Uncommon: Mania in patients with bipolar disorder, insomnia, anxiety.

Mechanism, Treatment Course, and Drug Interactions:

- Bright light apparently works by entering the eye and stimulating retinal cells, which connect to the optic nerve. The optic nerve projects to the hypothalamic suprachiasmatic nucleus, which communicates to the pineal gland, where melatonin is produced. Bright light suppresses melatonin production.
- Medications and light therapy: All psychiatric medications may be continued during light therapy.

Clinical Pearls:

- Bright light is likely most effective for patients with atypical depressive symptoms such as hypersomnia and hyperphagia.
- Meta-analyses of randomized controlled trials have reported robust response rates of bright light therapy in the range of 60% (Golden RN et al, *Am J Psychiatry* 2005;162(4):656–662). Patients who respond tend to do so in three to seven days.
- Patients should sit in front of the light box for about 30 minutes soon after awakening, preferably at the same time every morning. They can do any activity during exposure (such as reading, computer work, or running on a treadmill) as long as the light box is oriented appropriately to face them.
- While morning light is indicated for most patients, some do better with evening light. Patients can fill out the Automated Morningness-Eveningness Questionnaire to help them decide the optimal timing for their treatment. It's available free online (www.cet.org/assessments/).

Fun Fact:

According to Norman Rosenthal, the “father” of light treatment, the first person to receive the therapy was an engineer who had carefully mapped out the seasonal rhythms of his depression and suggested that the National Institute of Mental Health devise a way of giving increased periods of light every day. Rosenthal and colleagues gave him an early version of the treatment, and he recovered from his depression (*The Carlat Psychiatry Report*, October 2006).