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Light Therapy

Light therapy is clearly effective for seasonal affective disorder (SAD), defined as depression that follows a predictable pattern of starting in the fall or winter and remitting in the spring (Rosenthal NE et al., *Arch Gen Psych* 1984;41(1):72–80). Is this treatment effective for non-seasonal depression as well? It's unclear, since the largest recent meta-analysis of light therapy for this indication was inconclusive (Tuunainen A et al., *Light therapy for non-seasonal depression*. Cochrane Database of Systematic Reviews 2004, Issue 2).

Meanwhile, light therapy has been tested for myriad other disorders, such as treatment resistant depression, bipolar depression, ADHD, and dementia. One review of this literature found some positive results, but sample sizes were small and it was not clear how well the studies maintained the double blind (Terman, *Sleep Med Rev* 2007;11:497–507).

An intriguing off-shoot of light therapy is called “triple chronotherapeutic intervention” and is a combination of light therapy, partial sleep deprivation (so-called “wake therapy”), and sleep phase advance therapy (a process of resetting a patient's sleep and wake times progressively over many days).

For more information about this method, see the website for the Center for Environmental Therapeutics at www.chronotherapeutics.org. This is a nonprofit center founded by prominent researchers in the field, and the website offers free downloads of many relevant articles.

In a personal communication with us, Dr. Norman Rosenthal, considered by many to be the “father” of light therapy (see his book *Winter Blues: Everything You Need to Know to Beat Seasonal Affective Disorder* rev 2006; Guilford Publications, Inc: New York, NY), said that in his practice he has had success with light therapy for the common situation of patients who have nonseasonal depression, successfully treated with medication, but whose symptoms nonetheless worsen in the winter or during a period of dark weather.

Broad spectrum white fluorescent light has been used in light therapy studies for almost three decades and is considered effective and relatively safe. Dr. Rosenthal tells us that he personally recommends Verilux Happy Light, Day Light by Uplift, and SunBox, all of which are convenient for most patients and are comparatively priced. (Dr. Rosenthal has no financial relationships with any light box company.) Light boxes are not regulated by the FDA, so efficacy and safety may vary depending on the product. (See the October 2006 issue of *TCPR* for our test drives of some popular light boxes.)

While light-emitting diode (LED) and blue light therapy were found to be effective for SAD when compared to red light in three studies, there have been no studies comparing LED or blue light therapy with white light (Desan PH, *BMC Psychiatry* 2007;7(38):883–889; Glickman G et al., *Biol Psychiatry* 2006;59(6):502–507; Strong, RE et al., *Depression Anxiety* 2009;26(3):273–278).

We recommend that most patients with SAD start light therapy toward the end of August or early September, which is when those most sensitive to light will notice shorter days. Most light boxes are 10,000 lux and patients should sit in front of them immediately after awakening for 30 minutes. The length of exposure can be titrated up or down according to response. Dr. Rosenthal cautions that bipolar depressed patients should be started at much lower durations (eg, five to ten minutes) to minimize risk of a switch into mania. Potential side effects of light therapy include headache, nausea, eyestrain, irritability, fatigue, and insomnia.

TCPR's Take: Prescribe light therapy for patients with SAD as a matter of course, since it has established efficacy and the side effects are minimal. Consider the treatment (noting the smaller evidence base) in the following situations, as well: 1) As an adjunct for nonseasonal depression that worsens during the winter, and 2) As an adjunct for either drug- or ECT-resistant depression, regardless of seasonality of mood.