



LIGHT THERAPY FOR MAJOR DEPRESSION

A Game Changer for Physicians

An **ambitious 2016 study** in *JAMA Psychiatry* has compared SSRI and light treatment for Major Depressive Disorder (MDD). This brochure shows how you can use that research to enhance your treatment of MDD with three essential tips and a set of online resources for clinicians.

While light therapy for seasonal affective disorder has taken its place in clinical practice with endorsement by an **American Psychiatric Association task force**, only a few exploratory studies supported its efficacy for nonseasonal depression — until now.

The verdict came with the new **eight-week, randomized, placebo-controlled multicenter study** of 122 outpatients. Raymond W. Lam, MD, of the University of British Columbia, directed the trial in association with Toronto colleagues Anthony J. Levitt, MD, and Robert D. Levitan, MD. The investigators compared two treatments for MDD, tested against two placebos.



Ray Lam

The results were clear: Light therapy and the combination of light therapy with an antidepressant were superior to the antidepressant alone by a large margin.

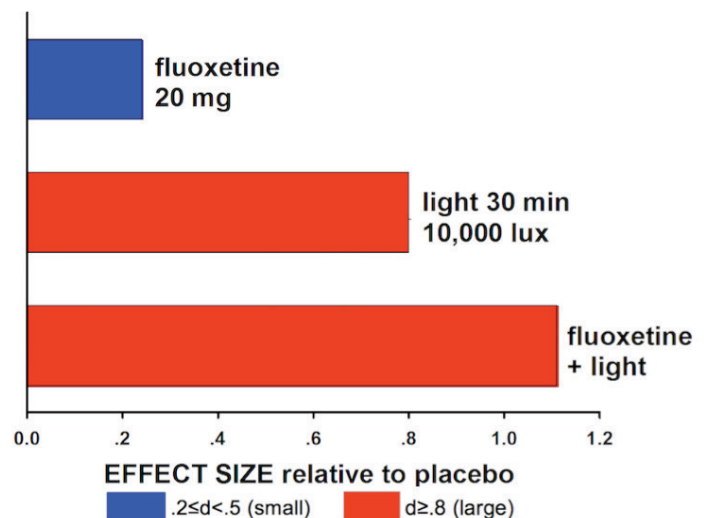
The patients were randomly assigned to one of four groups:

Light and antidepressant combination treatment: light therapy (10,000 lux fluorescent white light early in the morning for 30 minutes), plus fluoxetine 20 mg

Light only: light therapy plus “dummy” pills

Antidepressant only: fluoxetine 20 mg, plus an inactivated negative ion generator that hummed as if it were working

Placebos: dummy pills and the inactivated ion generator



GRAPHIC: CENTER FOR ENVIRONMENTAL THERAPEUTICS

Implications of the Lam Study for Clinicians

Michael Terman, PhD, a professor in the psychiatry department of Columbia University, and president of the Center for Environmental Therapeutics, commented on the study for *Medscape*: “This is the most impressive clinical trial of light therapy I have seen, whether for SAD or non-SAD.

“If light had proved ineffective, or only weakly effective by comparison with fluoxetine, it would have consigned light therapy to the dustbin. The dramatically opposite result turns the tables on the choice of somatic treatment for major depression. 10,000-lux light therapy upon awakening – or by implication, a walk outdoors if the sun is up – now can be recommended to patients with recurrent depression, many of whom will respond without recourse to drugs.”

More generally, this study confirms what Thomas R. Insel, MD, former director of NIMH, **concludes about antidepressants**. While they may help some patients achieve remission, the “bottom line is that these medications appear to have a relatively small effect in patients broadly classified as having depression.” Other, perhaps nonpharmacologic, tools are needed.

Many patients in your practice may not respond optimally to antidepressants. If so, you can use light therapy with them as an adjunct to medication, and even consider light therapy as monotherapy.

For new patients, you might consider light therapy as the treatment of choice — not just for Seasonal Affective Disorder, but also for the range of affective disorders with a depressive component. Then, if that is not sufficient for remission, you can add antidepressants.

Starting Light Therapy with a Patient: Three Practical Tips

1 Consider using a scale or score to measure depression, and track the effects of treatment. In addition, when patients see improvements in their scores, they sometimes feel hopeful about the possibility of getting better. CET offers an automated, self-administered scale, the **AutoSIGH**,* which integrates the Hamilton Rating Scale for Depression with items indicative of the atypical neurovegetative symptoms of depression. Your patient can complete the scale weekly, and print out the results for your review.

**This instrument was devised by Janet B.W. Williams, DSW (also of Columbia), and Dr. Terman, based on the clinician-administered Structured Interview Guide for the Hamilton Depression Rating Scale, or SIGH-D.*

2 The best time for light therapy varies depending on the patient’s **circadian rhythm while depressed**. Patients can find the ideal time to initiate morning light therapy by taking CET’s *Automated Morningness-Eveningness Questionnaire (AutoMEQ)*. This self-assessment is free and confidential. You can adjust the timing based on the patient’s morning work schedule. More than a million website visitors have used the *AutoMEQ*.

3 Poorly constructed commercial light boxes may emit ultraviolet radiation, provide excessive glare at 10,000 lux, or be too small to be effective. Use **CET’s criteria** for light boxes so you and the patient can make an informed choice.

Difficulty adhering to light therapy?

“ I’ve adhered to light therapy in CCU & cardiac surgical units, etc. If you really want to be well — you will adhere. I’m a Petunia in a pot, I need my auxin. My goal has been & will always be function & mood; not the interpretations of subjective nature of labels, e.g. seasonal. If it works, it works. ”

— unsolicited note from a patient with chronic medical illness plus MDD

Demystifying Light Therapy



How long is a session of light therapy?

30 minutes of exposure to bright light in the morning can often cause depression to remit within a week, although the course of improvement is usually longer for patients with nonseasonal MDD. If the patient is not responding, session length can be increased in 15-minute steps up to an hour, stabilizing and assessing at each step. Patients should be urged not to skip daily sessions to maximize success, although once remitted, skipping one or more days is usually tolerated.

What time is best for therapy?

To find out the best time for treatment for a given patient, refer individuals to CET’s free, confidential automated *Morningness-Eveningness Questionnaire (AutoMEQ)*. This tool provides a printout they can share with you to optimize care.

How much illumination does a light box provide?

A light box should provide 10,000 lux at the level of the eyes to keep required session duration at a minimum. This level corresponds to full outdoor skylight about forty minutes after sunrise, well above the range of indoor lighting. Typical indoor home levels are 50 to 300 lux, while a well-lit office might reach 500 lux — all within the range of twilight. The sun rises over the horizon at about 800 lux.

Are the side effects the same as with antidepressants? How are they handled?

Like any treatment, light therapy sometimes has **side effects**. They tend to be infrequent and mild. Monitor patients for side effects such as nausea and headache, especially when they begin therapy. If necessary, you can tweak treatment dose. For example, you might decrease exposure time by 10 or 15 minutes, or have the patient sit farther from the light box for a lower lux level. For patients with bipolar disorder, emergence of hypomania, agitation or anxiety during light therapy is largely controlled by use of mood stabilizers. However, if the clinician is forced to discontinue treatment because of psychiatric side effects (just as might occur with antidepressants), light therapy might be resumed successfully at lower lux level, or later in the day, when the depression recurs.



The Case of Ms. C

Ms. C, 41 and single, had a history of dysthymia and four prior episodes of MDD. She experienced intense suicidal ideation, but had never attempted suicide.

Ms. C was unresponsive to multiple drug trials, psychotherapy, psychoanalysis, and cognitive behavior therapy. Under tranylcypromine 60 mg, she experienced initial insomnia and restless sleep. Although her Hamilton Depression Rating Scale (HAM-D) score did not change during hospitalization, clinically she felt she had deteriorated.

With a Morningness-Eveningness Questionnaire (MEQ) score of 29, she fell into a tail of the distribution as a “definite evening type,” possibly with delayed sleep phase syndrome. (See [“Your Circadian Rhythm Type” and the automated MEQ.](#))

Light therapy was begun at 08:00 h for 30 min, and later moved to 07:45 h. Sleep promptly phase advanced to 24:00-07:30 h, and morning awakening became spontaneous, although she maintained an alarm clock backup.

She showed gradual improvement to complete remission over 7 weeks (HAM-D = 3), when she was discharged. She continued with light + tranylcypromine at home, but was not compliant with light treatment. This led to temporary relapses when discontinuing light, and quick recovery after resumption.

—from Dr. Terman’s [“Evolving Applications of Light Therapy”](#)



Francesco Benedetti

Free Guidance at the Clinicians’ Forum

Are you thinking of trying light therapy with a patient for the first time? Do you want feedback from peers about a difficult case? Are you interested in learning about coding and reimbursement for treatments based on circadian rhythms? Or would you like to find out how circadian rhythms might be related to disorders ranging from ADHD to dementia?

CET hosts an online Clinicians’ Forum where you can get advice on patient care from experienced colleagues. Francesco Benedetti, MD, Moderator, directs a clinical research unit in Milan, and has conducted pace-setting research on chronotherapeutics — the integration of circadian rhythm principles with therapeutics for bipolar disorder. He invites you to [meet your colleagues](#) at the Forum.

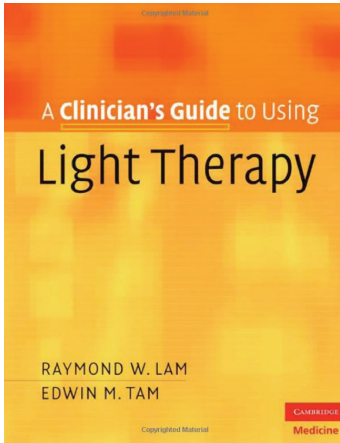
The Forum is small enough to be intimate, but large enough to serve as a resource for your specific needs. The level of experience in the group varies widely, and includes clinicians who are curious about treatments, people who are getting their feet wet supervising light therapy, wake therapy, or combinations, and academicians who have devoted their lives to the study of the circadian timing system and its implications for clinical management.

The Forum is also privacy-protected, and cannot be googled. It is free from commercial bias or interference.

[Find out more — we hope you join!](#)
Newcomers are most welcome.

Recommended Reading

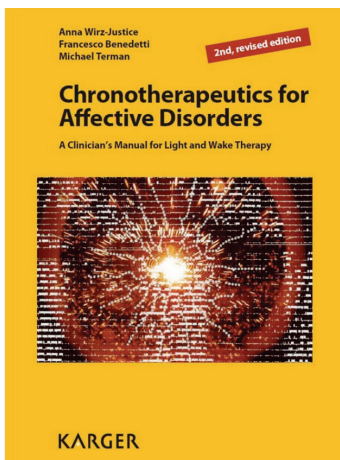
The Center for Environmental Therapeutics recommends the two manuals here, written for professionals. We also recommend books for interested **patients and the public**, most recently, the one shown below.



A Clinician's Guide to Using Light Therapy

Raymond W. Lam and Edwin M. Tam. New York: Cambridge University Press, 2009

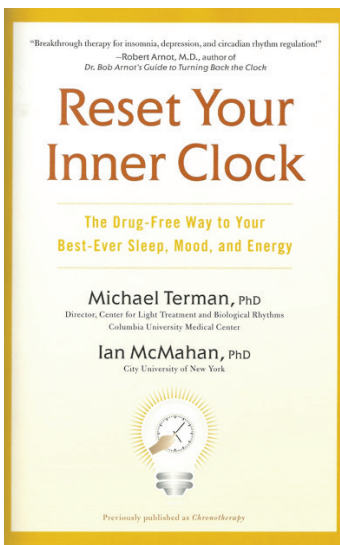
This step-by-step guide helps busy mental health clinicians and other health professionals better diagnose seasonal affective disorder (SAD) and incorporate light therapy into their everyday clinical practice. It includes educational handouts for patients, lists of frequently asked questions, and other resources.



Chronotherapeutics for Affective Disorders: A Clinician's Manual for Light and Wake Therapy

Anna Wirz-Justice, Francesco Benedetti, Michael Terman. Basel: S. Karger, 2013

As the professional's guide for setting up chronotherapy in hospital and clinical practice, this book includes a systematic exposition of basic circadian and sleep science and its translation to clinical trials and application.



Reset Your Inner Clock: The Drug-Free Way to Your Best-Ever Sleep, Mood and Energy

Michael Terman and Ian McMahan. New York: Avery, 2013

A clear overview of the science of circadian rhythms and related forces shows how sleep, light, travel across time zones, shift work, and other factors affect our mood and our lives across the lifespan. This guide can also reveal the breath of circadian phenomena to health professionals.