

The Carlat Psychiatry Report

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Light Therapy for Depression: Does It Work?

How convincing is the evidence that light therapy actually works?

The pace of research on bright light therapy has accelerated over the last few years, and recently, two meta-analyses of this research have been published, one in the *American Journal of Psychiatry* (2005;162(4):656-662), and the other in the web-based Cochrane Library (www.cochrane.org/reviews/en/ab004050.html). We'll look at the AJP study first and then point out a few differences in the Cochrane analysis.

The AJP reviewers began by noting that, unlike in pharmaceutical research, there is little funding available for light therapy research, resulting in relatively

small studies that often do not include adequate control groups or outcome criteria.

Creating a control group is particularly challenging in studies of light therapy. One option is to simply randomize patients to either light therapy or no treatment, but any differences between groups could be due to the placebo effect rather than a specific therapeutic effect of light. You need some type of double-blind, placebo control in order to prove that light therapy is effective. But how do you create a "dummy" light box?

Researchers have tried different techniques, including assigning placebo

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Seasonal Affective Disorder

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Norman Rosenthal, M.D., on Seasonal Affective Disorder

Blue Light: The Cutting Edge of Light Therapy?

If you haven't started hearing about the "benefits" of blue light therapy yet, you will soon. Blue light boosters argue that it may be more effective than white light, and that it is the therapeutic ingredient of standard white light that eases seasonal depression.

In order to understand this debate, you will have to refresh your memory about the physics of light.

The bright white light that you see when you gaze into a standard fluorescent light therapy lamp includes essentially all wavelengths of visible light that our eyes can see. However, these lamps are designed to emit *most* of their light close to a wavelength of 550 nanometers (nm). Why? Because vision

scientists have determined that this is the wavelength to which our eyes are most sensitive. However, recent studies indicate that this may not be the ideal wavelength for affecting our circadian rhythms, and by extension, our moods.

Recall from high school physics that light is a form of electromagnetic radiation (EMR), and that all things in the universe either emit, absorb, or reflect EMR. EMR comes in a very wide spectrum, ranging from gamma rays (very short wavelengths and high frequencies) to radio waves (very long wavelengths and low frequencies). Somewhere in the middle are those wavelengths that we can see – the "visible spectrum," ranging from about 400 to 700 nm.

In order to comprehend the literature on light therapy, it's helpful to recall an ancient mnemonic (Isaac Newton first devised it) for the wavelengths of specific colors of visible light: ROY G BIV. The letters stand for colors (Red, Orange, Yellow, Green, Blue, Indigo, Violet), and the wavelengths decrease as you go from red (700 nm) to violet (400 nm). The dreaded ultraviolet (UV) radiation is shorter than 400 nm, and causes sunburn and eye damage with excessive exposure.

Our eyes use rods and cones to distinguish different colors of light, and it has always been assumed that the therapeutic action of bright light is caused by activating these vision cells,

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Learning objectives for this issue: 1. Describe the evidence for the effectiveness of bright light therapy for seasonal affective disorder. 2. Explain the controversies with regard to blue light therapy. 3. Identify the qualities important in choosing a light box.

This CME activity is intended for psychiatrists, psychiatric nurses, and other health-care professionals with an interest in the diagnosis and treatment of psychiatric disorders.

Light Therapy for Depression: Does it Work?

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patients to red light or negative ion generators. The most popular technique is assigning control patients to a low-intensity lamp – usually no higher than 300 lux, as opposed to a range of 1,500 to 10,000 lux for treatment groups. The problem is that when these studies show no treatment-placebo differences, light therapy boosters can claim that the low-intensity light nonetheless may have been intense enough to have been an active treatment.

At any rate, the AJP article set the methodologic bar very high in its meta-analysis, and ended up including only 20 studies out of 173 initially reviewed. Eight of these studies were of light therapy for seasonal affective disorder (SAD), five were of dawn simulation for SAD (an early-morning version of light therapy in which the intensity gradually increases), three were of bright light for nonseasonal depression (regular DSM-4 major depressive disorder), and five were of adjunctive bright light for nonseasonal depressed patients already on antidepressants.

valid. Statisticians have a neat formula to quantify the degree of variability, which I won't reproduce here because I don't have the heart to expose my readers to square roots. You can educate yourself more by reading the excellent lecture notes from the University of Colorado at <http://web.uccs.edu/lbecker/Psy590/es.htm>.

At any rate, if you take the raw difference between treatment group scores and placebo group scores, then divide by this measure of variability, you end up with the official effect size. Most researchers consider effect sizes of 0.2 to indicate a small effect, 0.5 a medium effect, and 0.8 or greater, a large effect. **Thus, the 0.84 effect size of light therapy for SAD implies a large, robust effect.** Light therapy works!

But does it work for regular, nonseasonal depression? The authors reviewed three studies of **light therapy for nonseasonal depression, reporting an average effect size of 0.53 – a medium effect**, which is similar to results seen in antidepressant medication trials. The implication is that you can expect bright

What we'd really like to hear is that light therapy works as an augmentor of antidepressants. We need this especially badly now, after we've all absorbed the disappointing results of NIMH's STAR-D trials. Recall the overarching conclusion of STAR-D: You can augment till the cows come home, but no more than about a third of the initially resistant patients will get better (*New Engl J Med* 2006;354(12):1243-1252; *Am J Psychiatry* 2006;163(6):1519-1530).

Unfortunately, adjunctive light therapy appears to be ineffective.

The authors reviewed five high quality studies of light therapy used as an adjunct to antidepressant treatment for regular depression. There was no indication that this was helpful (average effect size: -0.01).

But wait! Controversy is a-brewing here, as the AJP's lackluster take on adjunctive light therapy elicited a letter from the authors of the Cochrane Library's review (*Am J Psychiatry* 2006;163(1):162-163). **The Cochrane meta-analyzers concluded that adjunctive light therapy works rather well**, and complained that the AJP reviewers mistakenly counted the most negative study twice (which the AJP authors acknowledged in their response).

Unfortunately, the Cochrane review loses marks in our book for being potentially biased, as one of the three authors (Daniel Kripke) has built his illustrious career around researching and encouraging the use of light therapy and has received research funding from light box companies (see www.dankripke.org/ for more info). By contrast, none of the eight AJP authors are light therapy partisans.

Nonetheless, we are quite encouraged with the latest research on the use of bright light therapy in depression, and the treatment is now much more on our clinical radar screen than in the past. ❖

| Results of Meta-Analysis of Bright Light Studies for Depression | | |
|---|-------------|-----------------|
| Diagnosis and Treatment | Effect Size | Clinical Effect |
| Seasonal Affective Disorder | | |
| Bright light | 0.84 | Large |
| Dawn simulation | 0.73 | Large |
| Nonseasonal Depression | | |
| Bright light | 0.53 | Medium |
| Adjunctive bright light | -0.01 | None |

Source: *Am J Psychiatry* 2005;162:656-662

The researchers compiled their statistics and reported the average of the effect sizes for each category of light therapy research (see table). What do these numbers mean? "Effect size" is a statistical way of quantifying how much of a difference there is between the treatment group and the placebo group. Basically, you subtract the Hamilton depression (Ham-D) score of the control group from that of the treatment group. This number itself is not reliable, because there is often a great deal of variability in the patients' individual Ham-D scores, and the more extreme this variability, the less confidence we have that the average Ham-D scores are

light therapy to work as well as medication therapy in nonseasonal depression. However, this result is based only on an averaging of three studies, and there have been no published head-to-head trials comparing the two treatments for nonseasonal depression. The closest we've seen is a recent trial comparing bright light with fluoxetine in SAD; the results were encouraging for light therapy proponents, as there were no significant differences between the treatments in either remission or response rates, and light therapy worked more quickly than fluoxetine (*Am J Psychiatry* 2006; 163(5):805-812).

TCPR
VERDICT:

*Light therapy:
It's a contender!*

EDITORIAL INFORMATION

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Light Boxes: An Unscientific Test Drive

Since I had never actually seen a light box in the flesh, I asked some of the larger companies to send me samples for a “review”—not for efficacy but for such qualities as convenience, aesthetics, pleasantness, etc....

A word on brightness and distances. Many of the bright light studies recommend 10,000 lux of exposure for 20 to 30 minutes a day. Lower intensity will work, but requires exposure for up to 2 hours/day. Most companies report how far away you can sit from the source and still obtain 10,000 lux of brightness.

What do these distances mean? Well, currently my eyes are about 22" from my laptop computer screen. When I lean back in my chair to consider my next sentence, I'm about 28" away. When I pick up one of the lightbox brochures with the very small font, I have to zoom it in to about 12" in order to comfortably read it. Keep these benchmarks in mind when you look at the following lightbox specs.

Large

Norman Rosenthal, the “guru” of light therapy, says in this month’s interview that “bigger is better” when it comes to light boxes. Because I didn’t have enough room in my office for storage, I didn’t request samples of the mega-boxes, such as Sun Box’s “SunSquare +” (2 feet x 2 feet, \$475). The largest box I sampled was Apollo’s **Bright Lite IV** (www.apollolight.com; price: \$279; size: 12" x 22"; weight: 7.5 lbs.; 10,000 lux distance: 28"). For a larger box, it’s pretty portable, like carrying a large briefcase. It’s not

terribly attractive, being a big white box with two bright fluorescent bulbs, covered with a corrugated translucent plastic screen. There’s not as much glare as with the smaller light boxes, but still it was not particularly pleasant to sit in front of for a long period of time. The company’s website claims that this particular box has been used in more clinical trials than any other light box. If true, this is either an endorsement of the box or of the company’s promotional prowess.

Northern Lights’ SAdelite (www.northernlighttechnologies.com; price: \$195; size: 19" x 18" x 11"; weight: 8 lbs.; 10,000 lux distance: 20") looks like a large desk lamp with an adjustable arm, and is particularly convenient if you are planning to do your light-bathing while reading or paying the bills. Its adjustability allows you to minimize the glare.

Medium

Sun Box’s SunLight Jr. (www.sunbox.com; price: \$200; size: 14" x 6"; weight: 4 lbs.; 10,000 lux distance: 14") is about the size of breadbox. It’s got that corrugated plastic covering favored by many companies (good if you like the industrial look) and was fairly easy for my eyes to tolerate. **Northern Light’s TRAVelite** (www.northernlighttechnologies.com; price: \$180; size: 13" x 7"; weight: 2.5 lbs.; 10,000 lux distance: 10–12") is a little sleeker and has a smooth plastic cover; but when I turned it on, a harsh yellowish glare sent me scurrying for cover.

Small

I reviewed two very small and convenient boxes, both of them about the size of a CD Walkman and rechargeable. The **Apollo Golite P2** (www.apollolight.com; price: \$299; size: 6" x 6"; weight: 11 oz.; optimal distance: 20" – since it is blue light, the intensity is not measured in luxes) emits blue light at a lower intensity than white light products, and thus it does not appear harsh. The effect is even a little magical, like walking into a jazz club on a sultry night. Unfortunately, there are still significant efficacy and safety questions about blue light. If these questions are ever resolved, then Golite would be the ideal combination of portability and brightness. **Litebook Company’s Litebook Elite** (www.litebook.com; price: \$199; size: 5" x 5"; weight: 8 oz.; optimal distance: 12"–24") is an unusually attractive box, since it has an oval screen with a futuristic honeycomb pattern on the plastic. However, I found it quite harsh, since a lot of intensity is packed into a small package. The light appears white but is actually composed of a combination of blue light and green light; the company told me the green light was added to prevent any potentially harmful effects of blue light. ❖

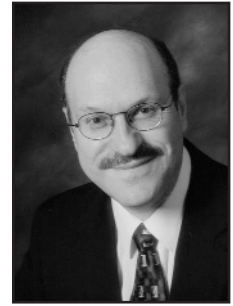
TCPR
VERDICT:

*There’s a light box
for every taste!*



This Month's Expert:
**Norman Rosenthal, M.D., on
Seasonal Affective Disorder**

*Clinical Professor of Psychiatry
Georgetown University School of Medicine
Author, Winter Blues (Revised edition, Guilford Press, 1998)*



Dr. Rosenthal has disclosed that he is a consultant and member of the speaker's bureau for GlaxoSmithKline, and has spoken about the use of Wellbutrin XL for preventing SAD. In order to prevent the possibility of commercial bias, we have not included any material on medication management of SAD in this interview.

TCPR: Dr. Rosenthal, as the “father” of light therapy, how did you get interested in doing research on seasonal affective disorder?

Dr. Rosenthal: Well, I came to this country from South Africa in 1976. I started my psychiatry residency at Columbia, and I had always been interested in the mood disorders. In New York City, which is at 40 degrees north latitude, as opposed to Johannesburg, which is 23 degrees south, I personally encountered cycles of changes in mood and energy with the seasons that I had never encountered in South Africa. I noticed that in the long days of summer I would take on all these projects, and then I would slow down in the winter, and I would think, “What had got into my head to take on all these projects?” I felt tired and slowed down, and I would just hunker down and keep plodding through the winter. And then came the spring, and I would feel like myself and everything became right. I watched this cycle happen for three years in a row, and it was really a curious experience.

TCPR: And when did you start researching this problem?

Dr. Rosenthal: After residency, I went to do research at NIMH and I got into Fred Goodwin's group. They were doing work with biological rhythms, and Al Lewy had just done his original work showing that melatonin could be suppressed in humans by bright light. This was the first suggestion that light had nonvisual effects in humans, and they even had mapped out the pathway by which this occurred – through the retina to the hypothalamus. Given the symptoms of seasonal depression – changes in eating, sleeping, energy, and rhythms – a hypothalamic pathway made sense.

TCPR: And when did you make the leap to using bright lights as a treatment?

Dr. Rosenthal: One of our patients at NIMH was an engineer who had seasonal mood changes and who had already mapped out his own seasonal rhythms. Based on the ways his moods paralleled the changes in daylight and changes in duration of the day, he suggested that we devise a way of giving an increased period of light everyday. We gave him this treatment, and it brought him out of his depression.

TCPR: So he was the first light therapy patient?

Dr. Rosenthal: Yes. And at that point I decided to look for similar patients in order to do a study. This was in 1981 or so, and we persuaded a journalist to run an article in *The Washington Post*, expecting to get a handful of patients. But in fact we got in excess of 3,000 responses from all over the country. I sent the responders questionnaires about their symptoms; and as I read through them, I got excited because there was a uniformity to their answers, and the syndrome just kind of fell out of these responses. That became the basis for the syndrome of seasonal affective disorder.

TCPR: Did you actually name the syndrome?

Dr. Rosenthal: I did. At that point, the current iteration of the DSM referred frequently to “affective disorders” rather than mood disorders, and it was clearly *seasonal* affective disorder, and the acronym of “SAD” seemed appealing and apt.

TCPR: And then you began to study it in earnest.

“There hasn't been a rigorous study comparing small and large light boxes, but I can tell you from 25 years of clinical experience, bigger is better, because it bathes a larger area of your retina. And if you have to sit right up close to a small box, the glare will dazzle you.”

– Norman Rosenthal, M.D.

Dr. Rosenthal: Yes, and we did the early studies, which were so remarkable. It was like seeing the sunrise for the first time. These people, about half a dozen of them initially, just emerged from their depression. You don't see those kinds of transformations very often; as a researcher, it felt like such a privilege.

TCPR: That must have been very gratifying. Moving on to diagnosis, what do you ask your patients about?

Dr. Rosenthal: I begin, quite simply, by asking, "Have you noticed any change in your mood or energy or behavior with the changing seasons?" I also often ask, "Do you notice a real difference in your mood when Thanksgiving comes and when Christmas comes?" People often peg their memories to the holiday season. I also use a very simple questionnaire, called the Seasonal Pattern Assessment Questionnaire. It is in the public domain, so it is free. [Readers can download a copy of the questionnaire from our website, www.TheCarlatReport.com].

TCPR: I have often recommended light boxes to patients but a high percentage of them never follow through. Maybe I'm not convincing enough! What do you tell patients to convince them?

Dr. Rosenthal: I say things like, "Why don't you get yourself a light box? According to regulations, the companies have to take the box back within 30 days if you are not satisfied, no questions asked. And since the light therapy usually works in two weeks, why don't you try it?" Or sometimes I frame it this way: "Why don't you be scientific about this? Don't take my opinion. Don't take anybody's opinion – check it out for yourself. But you have got to do it right – you need to track some symptoms before and during the treatment. If you don't find any change, you can send the box back within a month and they have to refund your money."

TCPR: When a patient asks, "What are the chances that I am going to get better, doc?" what do you say?

Dr. Rosenthal: I say, "If you do have seasonal affective disorder, there is a 60% to 80% chance that you will feel significantly better. You may not feel as good as you do in the summertime, but you are very likely to feel well enough that you will want to keep the light box."

TCPR: In terms of the actual equipment, what type of box do you recommend?

Dr. Rosenthal: Patients often will prefer the small light boxes because they are cheaper, handy, and inconspicuous. People are concerned about being stigmatized, so they don't want a large funny-looking appliance in their homes. There hasn't been a rigorous study comparing small and large light boxes, but I can tell you from 25 years of clinical experience, bigger *is* better, because it bathes a larger area of your retina. And if you have to sit right up close to a small box, the glare will dazzle you.

TCPR: So the light has to shine into your eyes to work?

Dr. Rosenthal: Yes, and we did various studies to prove that. We shined it on the eyes and covered the skin, and conversely we tried shining it on the skin and giving patients dark glasses. Shining it on the eyes worked better. As you move your head, there is a great fall-off in the amount of light entering the eye, so the smaller the box, the more your eyes are going to move outside of the illuminated area.

TCPR: So spending a little bit of extra money for a larger light box may well be worth the investment. And when should patients sit in front of the light?

Dr. Rosenthal: The morning is the best time for light therapy. Michael Terman at Columbia has done some interesting work looking at whether being a morning or an evening person predicts the optimal time for light therapy. He learned that morning people benefit from the light earlier than night owls. His website, www.cet.org, is worth checking out because patients can answer a series of questions and then receive suggestions including the best time for their light therapy.

TCPR: Can you tell me a bit about the dawn simulators?

Dr. Rosenthal: A dawn simulator is a bedroom light that gradually increases to full strength and simulates a summer dawn. It is not a light box, and it does not go up to 10,000 lux, but it is still effective, probably because the eyes are extremely sensitive early in the morning.

TCPR: What about the light visor?

Dr. Rosenthal: The light visor is a visor with small lights attached to it that shine into your eyes. I consider it to be a specialty item. It allows people to have some sort of light therapy away from home, but the data are not as strong as for the light box.

TCPR: Do you have any specific product recommendations for clinicians and patients?

Dr. Rosenthal: On my website (www.normanrosenthal.com), I have a list of links to reputable companies that have been in business for more than a decade.



Blue Light: The Cutting Edge of Light Therapy?

Continued from Page 1

which then send electrical messages to various parts of our brains. But in 2001 researchers discovered an entirely new mechanism of light perception – essentially, a new way of seeing (*J Neurosci* 2001;21(16):6405-6412). **As it turns out, in addition to rods and cones, our eyes contain special ganglion cells coated with a chemical called melanopsin.** Like rods and cones, melanopsin is activated by light, but it is choosy, responding preferentially to light in the wavelength range of 446 to 477 nm – that is, blue light. Melanopsin sends signals to the suprachiasmatic nucleus in the hypothalamus, which ultimately leads to decreases in melatonin levels. Decreasing melatonin, in turn, signals the circadian system to make a shift toward daytime.

Armed with this intriguing finding, light therapy researchers wondered if, since blue light is responsible for changes in melatonin and since light therapy effectiveness is often correlated with

design, in which 18 patients were randomly assigned to two out of three possible conditions: white light, blue light, and red light. White light was more effective for depressive symptoms than either blue or red (*J Affect Disord* 1990;20(4):209-216), a result that refutes the value of blue light. The second, more recent study, used a more rigorous methodology in that 26 patients with SAD were randomly assigned to either blue light treatment (wavelength of 468 nm) or dim-red light treatment, which was used as a placebo control (wavelength 654 nm). In order to test the adequacy of the placebo, all subjects completed an “expectation” scale; there were no differences in positive expectancy between the two treatments (*Biol Psychiatry* 2006;59(6):502-507).

Patients brought the light panels home and were instructed to sit in front of them for 45 minutes between 6 AM and 8 AM every morning for three weeks. At the end of each week, patients were rated blindly with the Hamilton

not statistically significant, presumably because the sample was too small to detect such a difference.

As you can see, research on the efficacy of blue light is in its infancy, although this hasn’t prevented manufacturers of the technology from making fairly exorbitant claims in its support. For example, Apollo Light Systems, a leading maker of blue lights, proclaims on its website that its new blue wave technology is “clinically tested and published as an effective antidepressant treatment for Seasonal Affective Disorder” (www.apollolight.com). While the evidence base is clearly too weak and preliminary to support such a claim, the FDA, which regulates these matters, has thus far taken a hands-off attitude.

The evidence for blue light’s efficacy needs to be particularly strong for most clinicians to recommend it. Why? Because **some concerns have been raised about blue light’s safety.** Recall that blue light’s wavelength, around 460 nm, is not too far from the wavelength of UV radiation (<400 nm). Some authorities are concerned that even well-calibrated blue spectrum light might increase the risk of macular degeneration. The researchers who tested blue light therapy in the *Biological Psychiatry* article reported that their device (which was manufactured by Apollo Lighting Systems) was well within international guidelines for photobiological safety, but they also acknowledged that we have no information about the hazards of long-term exposure to blue light, or to high intensity *white light* for that matter.

It’s clear that the jury is still out on blue light’s efficacy and long-term safety, but hopefully you are now better informed about the background issues involved. ❖

| White Light versus Blue Light for SAD | | |
|---------------------------------------|-----------------------------|---|
| | White Light | Blue Light |
| Wavelengths emitted | 400–700 nm; peaks at 550 nm | 440–480 nm |
| Brightness needed for clinical effect | 3000-10000 lux | 3000 lux |
| Efficacy | Well-established | Only two trials, with conflicting results |
| Safety | Well-established | Controversial; macular degeneration risk? |
| Advantages | Long track record | Lower intensity required for efficacy |

Sources: See references in article.

melatonin changes, perhaps blue light therapy would be especially effective for seasonal affective disorder (SAD).

Thus far, only two studies have been published testing this theory, one with positive and one with negative results. The first study was published in 1990 and used a crossover

Depression Rating Scale – SAD Version (SIGH-SAD). The results? **Blue light treatment was significantly more effective than red light, with statistically greater reductions in the SIGH-SAD.** The blue light remission rate was 55%, compared with the red light rate of 31%, but this difference was



Blue light: The jury is definitely out!

CME Post-Test

To earn CME credit, you must read the articles and complete the quiz below, answering at least four of the questions correctly. Mail a photocopy or fax the completed page (no cover sheet required) to **Clearview CME Institute, P.O. Box 626, Newburyport, MA 01950; fax: (978) 499-2278**. For customer service, please call (978) 499-0583. Only the first entry will be considered for credit and must be received by Clearview CME Institute by September 30, 2007. Acknowledgment will be sent to you within six to eight weeks of participation.

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Please identify your answer by placing a checkmark or an "X" in the box accompanying the appropriate letter.

1. According to a recent meta-analysis in the *American Journal of Psychiatry*,
 - a. White light therapy works better than blue light therapy.
 - b. White light therapy is highly effective for seasonal affective disorder.
 - c. White light therapy is effective primarily as an adjunct to medication.
 - d. White light therapy works no better than placebo.

2. The typical recommendation for use of light therapy is
 - a. 10,000 lux for 2 hours per day.
 - b. 2,000 lux for 30 minutes per day.
 - c. 10,000 lux for 30 minutes per day.
 - d. 10,000 lux for 1 hour weekly.

3. The FDA has approved blue light therapy for seasonal affective disorder.
 - a. True b. False

4. Blue light therapy:
 - a. Is less harsh on the eyes but its efficacy is still unproven.
 - b. Is used only in the treatment of psoriasis.
 - c. Is banned because of toxicity to the retina.
 - d. Is commonly used in Europe but not in the United States.

5. According to Dr. Rosenthal, the size of a light box is *not* important in choosing which one to purchase.
 - a. True b. False

Because of the recent change in CME providers, many subscribers have asked where to send each post-test. **Please send (or fax) your answers to the organization and address printed in bold that is listed above the specific month's test that you have taken.**

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1. Did the content of this activity meet the stated learning objectives? Yes No
2. On a scale of 1 to 5, with 5 being the highest, how do you rank the overall quality of this educational activity? 5 4 3 2 1
3. As a result of meeting the learning objectives of this educational activity, will you be changing your practice behavior in a manner that improves your patient care? Please explain. Yes No

4. Did you perceive any evidence of bias for or against any commercial products? Please explain. Yes No

5. How long did it take you to complete this CME activity? ___ hour(s) ___ minutes

6. **Important for our planning:** Please state one or two topics that you would like to see addressed in future issues.

Seasonal Affective Disorder: Two Quick Takes

- Wellbutrin XL was approved for the prevention of Seasonal Affective Disorder (SAD), based on the results three studies in which over 1,000 patients with SAD (but who were well at study entry) were randomly assigned to either Wellbutrin XL 150 to 300 mg QD or placebo. Patients began treatment in the fall and were observed for depressive relapse. Patients on placebo relapsed at a rate of 28% vs. 16% on Wellbutrin XL. The difference was statistically significant, though not terribly impressive clinically; a less dramatic way to present the data is that 84% of Wellbutrin XL patients stayed well vs. 72% of placebo patients (*Biol Psychiatry* 2005;58(8):658-667).
- Do insurance companies pay for light boxes? Many of them do ... or at least they say they do! Among the insurance companies that publish statements authorizing coverage of light boxes are Cigna, Aetna, Harvard Pilgrim, and Tufts Health Plan. Blue Cross plans vary from state to state – for example, BCBS of California covers it, but BCBS of Massachusetts does not. Sun Box, one of the major light box companies, posts some very helpful tips on how to win coverage, including sample appeal letters and suggestions on which diagnostic codes yield the best chances for success (www.sunbox.com/Products/BuyersGuide.asp).

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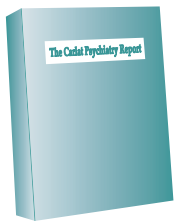
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