

## Seasonal Affective Disorder

If you notice periods of depression that seem to accompany seasonal changes during the year, you may suffer from seasonal affective disorder (SAD). This condition is characterized by recurrent episodes of depression – usually in late fall and winter – alternating with periods of normal or high mood the rest of the year.

Most people with SAD are women whose illness typically begins in their twenties, although men also report SAD of similar severity and have increasingly sought treatment. SAD can also occur in children and adolescents, in which case the syndrome is first suspected by parents and teachers. Many people with SAD report at least one close relative with a psychiatric condition, most frequently a severe depressive disorder (55 percent) or alcohol abuse (34 percent).

### What are the patterns of SAD?

Symptoms of winter SAD usually begin in October or November and subside in March or April. Some patients begin to slump as early as August, while others remain well until January. Regardless of the time of onset, most patients don't feel fully back to normal until early May. Depressions are usually mild to moderate, but they can be severe. Very few patients with SAD have required hospitalization, and even fewer have been treated with electroconvulsive therapy.

The usual characteristics of recurrent winter depression include oversleeping, daytime fatigue, carbohydrate craving and weight gain, although a patient does not necessarily show these symptoms. Additionally, there are the usual features of depression, especially decreased sexual interest, lethargy, hopelessness, suicidal thoughts, lack of interest in normal activities, and social withdrawal.

Light therapy, described below, is now considered the first-line treatment intervention, and if properly dosed can produce relief within days. Antidepressants may also help, and if necessary can be used in conjunction with light.

In about 1/10th of cases, annual relapse occurs in the summer rather than winter, possibly in response to high heat and humidity. During that period, the depression is more likely to be characterized by insomnia, decreased appetite, weight loss, and agitation or anxiety. Patients with such "reverse SAD" often find relief with summer trips to cooler climates in

the north. Generally, normal air conditioning is not sufficient to relieve this depression, and an antidepressant may be needed.

In still fewer cases, a patient may experience both winter and summer depressions, while feeling fine each fall and spring, around the equinoxes.

The most common characteristic of people with winter SAD is their reaction to changes in environmental light. Patients living at different latitudes note that their winter depressions are longer and more profound the farther north they live. Patients with SAD also report that their depression worsens or reappears whenever the weather is overcast at any time of the year, or if their indoor lighting is decreased.

SAD is often misdiagnosed as hypothyroidism, hypoglycemia, infectious mononucleosis, and other viral infections.

### **How is winter SAD treated with light?**

Bright white fluorescent light has been shown to reverse the winter depressive symptoms of SAD. Early studies used expensive "full-spectrum" bulbs, but these are not especially advantageous. Bulbs with color temperatures between 3000 and 6500 degrees Kelvin all have been shown to be effective. The lower color temperatures produce "softer" white light with less visual glare, while the higher color temperatures produce a "colder" skylight hue. The lamps are encased in a box with a diffusing lens, which also filters out ultraviolet radiation. The box sits on a tabletop, preferably on a stand that raises it to eye level and above. Such an arrangement further reduces glare sensations at high intensity, and preferentially illuminates the lower half of the retina, which is rich in photoreceptors that are thought to mediate the antidepressant response. Studies show between 50% and 80% of users showing essentially complete remission of symptoms, although the treatment needs to continue throughout the difficult season in order to maintain this benefit.

There are three major dosing dimensions of light therapy, and optimum effect requires that the dose be individualized, just as for medications.

- Light intensity. The treatment uses an artificial equivalent of early morning full daylight (2500 to 10,000 lux), higher than projected by normal home light fixtures (50 to 300 lux). A light box should be capable of delivering 10,000 lux at eye level, which allows downward adjustments if necessary.
- Light duration. Daily sessions of 20 to 60 minutes may be needed. Since light intensity and duration interact, longer sessions will be needed at lower intensities. At 10,000 lux – the current standard – 30-minute sessions are most typical.
- Time of Day of exposure. The antidepressant effect, many investigators think, is mediated by light's action on the internal circadian rhythm clock. Most patients with winter depression benefit by resetting this clock earlier, which is achieved

specifically with morning light exposure. Since different people have different clock phases (early types, neutral types, late types), the optimum time of light exposure can differ greatly. The Center for Environmental Therapeutics, a professional nonprofit agency, offers an on-line questionnaire on its website, [www.cet.org](http://www.cet.org), which can be used to calculate a recommended treatment time individually, which is then adjusted depending on response. Long sleepers may need to wake up earlier for best effect, while short sleepers can maintain their habitual sleep-wake schedule.

Side effects of light therapy are uncommon. Some patients complain of irritability, eyestrain, headaches, or nausea. Those who have histories of hypomania in spring or summer are at risk for switching states under light therapy, in which case light dose needs to be reduced. There is no evidence for long-term adverse effects, however, and disturbances experienced during the first few exposures often disappear spontaneously. As an important precaution, patients with Bipolar I disorder – who are at risk for switching into full-blown manic episodes – need to be on a mood-stabilizing drug while using light therapy.

### **What should I do if I think I have SAD?**

If your symptoms are mild – that is, if they don't interfere too much with your daily living, you may want to try light therapy as described above or experiment with adjusting the light in your surroundings with bright lamps and scheduling more time outdoors in winter.

If your depressive symptoms are severe enough to significantly affect your daily living, consult a mental health professional qualified to treat SAD. He or she can help you find the most appropriate treatment for you. To help you decide whether a clinical consultation is necessary, you can use the feedback on the Personalized Inventory for Depression and SAD at [www.cet.org](http://www.cet.org).

*Reviewed by Michael Terman, Ph.D., Director, Winter Depression Program, New York State Psychiatric Institute at Columbia University Medical Center (February, 2004)*