

Health Sciences Institute:

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Every year at this time, the number of prescriptions for antidepressant drugs goes up. More people are hospitalized for severe depression. There are more suicide attempts, more incidences of domestic violence, and an increase in alcohol and drug abuse. The average person gains 5 to 15 pounds.

Could an easily curable nutritional deficiency be to blame for all of this? The onset of these symptoms and many others corresponds to the beginning of the winter, with its shorter, darker days. Many leading researchers are beginning to consider sunlight to be a nutrient - as essential as any vitamin or mineral, and linked to a variety of deficiency-associated illnesses and conditions. Some have even proposed a *recommended daily requirement* for sunlight - approximately one to two hours a day of natural sunlight...every day, year round.

"SAD" is only the tip of the iceberg

Seasonal affective disorder (or SAD) is a clinically diagnosed condition in which the lack of sunlight in winter literally makes people ill. SAD affects 10 to 12 million people in the United States and millions more around the world.

SAD is also observed in people with cataracts, who have less natural light entering the eye and contacting the retina. In addition, for every person suffering from SAD, two or three more suffer from a less severe form of the "winter blues." And now, researchers are finding connections between a lack of sunlight and seemingly unrelated conditions like **PMS, insomnia, and obesity**.

The fact is that no matter where you live, unless you spend two or more daylight hours outside every day, you are likely to suffer some of the symptoms of light deficiency, or *malillumination syndrome* (MIS).

In the last 10 years, through the work of such pioneers as Dr. John Ott, Dr. Jacob Liberman, and Dr. Norman Rosenthal, light therapy - or *phototherapy* - has gained wider acceptance as a powerful, noninvasive healing method.

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How natural light affects your health

Just as a green plant requires sunlight to grow, your body requires sunlight for proper cellular functioning.

When light enters your eye, it passes through the retina to your pineal gland. The pineal gland produces *melatonin*, an important neurotransmitter, which in turn influences the hypothalamus gland. The hypothalamus is responsible for controlling the body's internal clock (sleep and wake cycles), appetite, metabolism, hormone production, reproductive function and mood.

In addition, the ultraviolet rays in sunlight are absorbed through your skin, triggering the production of vitamin D. Although it is possible to get vitamin D from fish or milk products, the form that you get from the sun is far more biologically active in your body. Vitamin D is crucial for the correct metabolism of calcium and phosphorus, which in turn keep the bones and teeth strong.

Those who spend too much time indoors, such as office workers, the homebound, and city dwellers, as well as those who live in the extreme North, frequently suffer from vitamin D deficiency. Among the elderly - especially those confined to hospitals or nursing homes - vitamin D deficiency is epidemic, contributing to the

high incidence of breaks and fractures.

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The problem with indoor lighting

Sunlight, unlike any other light source on the planet, is composed of the entire spectrum of visible light frequencies - all the colors of the rainbow from red to violet - plus invisible *ultraviolet* waves. All of these components - including ultraviolet rays - are required for maximum health.

Artificial indoor lighting is inferior to natural sunlight in two important ways. The brightest indoor lighting is equivalent to only 5 percent of the light you get outside on a sunny day, standing in the shade. In the course of an entire day indoors, you don't get as much light as you get in a single hour outside.

The other problem with most indoor lighting is that it lacks a full range and even distribution of all of the colors in the visible light spectrum. While sunlight provides a more or less equal distribution of all the color frequencies from red to violet, indoor lighting provides an extremely uneven distribution, with an unnatural emphasis on the yellow and orange parts of the spectrum.

Partial-spectrum lighting makes it harder to make out words and colors on the page of a book or newspaper, causing headaches and eyestrain. But even more importantly, the lack of high-intensity full-spectrum light can quickly lead to symptoms of SAD or MIS, signals that your body is literally starving for light.

Symptoms of light deficiency typically appear in the winter, when we rely more on artificial lighting. As our modern lifestyles lead us to spend more and more of our time indoors, MIS is becoming a year-round phenomenon.

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Tools for treating MIS and SAD

Mild cases of MIS can be alleviated simply by making an effort to spend at least one hour a day outside, without UV-blocking glasses or lenses.

If your symptoms are more severe, or if it is difficult for you to get outside because of work, disability, climate, or other reasons, you may want to consider phototherapy using a specially manufactured light box to provide high-intensity and/or full-spectrum light.

Light boxes are extremely effective in treating depression and other symptoms of malillumination. Most people feel a profound improvement in mood and energy in as little as two to three days. Even those without specific light-deficiency symptoms report waking earlier and easier and having better concentration and an increased sense of well-being when using light boxes.

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A note on St. John's wort

Many who suffer from depression have found the herb St. John's wort to be an extremely effective and side-effect-free alternative to prescription antidepressants like Prozac.

In her book *St. John's Wort, Nature's Blues Buster* (Avery Publishing, 1997), HSI panelist Dr. Hyla Cass notes important research indicating that St. John's wort can also be helpful in the treatment of SAD. Even more

effective is the combination of phototherapy and St. John's wort.

One study showed that the combination of two hours of bright light therapy per day and 900 mg of St. John's wort extract was 20 percent more effective than St. John's wort alone.

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Choosing a light box for home use

Light boxes come in a variety of shapes and sizes, with tabletop models generally the most convenient. One factor to consider is brightness, which is denoted by a unit of measurement called a *lux*. The sun has a brightness of 93,000 lux while standard household lighting is about 1,100 lux. Ultrabright light boxes designed to counter SAD generally deliver 10,000 lux.

With this type of light box, begin with 30 to 60 minutes a day in the mornings, preferably between 6 and 8 in the morning. Position yourself 2 or 3 feet away from the light box and continue with your normal routine - reading the newspaper, preparing breakfast, or watching television. You can set up a light box next to the breakfast table, in the bathroom, or even in front of your exercise cycle or treadmill.

If you do not see an improvement in your symptoms, you can increase your exposure time to a maximum of two hours. (Longer exposure or exposure in the late evening can disrupt your sleep cycle.) Although phototherapy is completely safe, people occasionally experience minor side effects such as redness or eye irritation. If this occurs, simply decrease your exposure time.

There are also appliances that provide full-spectrum light, generally with a brightness of around 2,500 lux. Full-spectrum lighting at this moderate brightness can be enjoyed throughout the day, for 10 to 12 hours at a stretch. In this type of light box, the quality of the spectrum is described by the Color Rendering Index, or C.R.I.. Natural sunlight has a C.R.I. of 100. A standard fluorescent bulb measures 67. A good full-spectrum unit will have a C.R.I. of 90 or better.

In our review of the light boxes on the market, we found one unit that delivered the best of both worlds. The Sun-A-Lux Combo Light Box, manufactured by American Environmental Products, has three light settings, letting you choose 10,000 lux brightness, full-spectrum (98C.R.I.) or both.

The price on this unit is quite competitive, offering the advantages of full-spectrum *and* 10,000 lux settings for around the same price as you might pay for only one or the other. The unit retails for \$499. However, as is often the case, we were able to negotiate a substantial discount for our members, due to the size of our group. HSI members can purchase this unit for \$389 plus shipping and handling.

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Symptoms of malillumination syndrome (MIS):

- decrease in energy levels
- cravings for carbohydrates, sugar, and caffeine
- insatiable appetite, leading to pronounced weight gain
- sleep disturbances, including insomnia and/or difficulty in waking up
- reduced sex drive
- decreased cognitive abilities, such as attention and concentration
- decreased immunity
- mood disturbances, ranging from mild to severe

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Aren't UV rays unhealthy?

The matter of UV exposure is one of some controversy. Although many therapeutic benefits have been attributed to UV exposure - including decreased blood pressure, lower cholesterol, and improved thyroid function, UV light has taken a bad rap in recent years as the primary cause of wrinkles, skin cancer, and cataracts.

If you are going to be exposed to strong sunlight for long periods of time, you should use sunscreen to protect your skin from burning and UV-blocking sunglasses to protect your eyes. A small daily dose of sunlight on unprotected skin (and eyes) is a good idea, ensuring adequate vitamin D production and stimulating immunity. (Several studies have demonstrated that 10 minutes of unprotected exposure to natural sunlight three times a week results in fewer colds and respiratory infections.)

By getting your daily dose of sunlight in the morning or late-afternoon hours, avoiding unprotected midday exposure, you can enjoy the positive benefits of UV light while minimizing the potential risk to skin and eyes.

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The PMS connection

Several health practitioners have noted that many women with severe pre-menstrual syndrome (PMS) also suffer from SAD, and vice versa. Sunlight has a profound effect on the body's hormonal production and regulation, which could explain why PMS or menopausal symptoms are often worse in the winter than in the longer days of spring and summer.

Many women have found that a daily session with a full-spectrum light box provides a quick, drug-free relief from menopausal hot flashes, as well as PMS symptoms like depression, irritability, and food cravings.

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