

# Questions and Answers

## About the Use of Light Therapy

### 1. What is light therapy?

Light therapy involves daily, scheduled exposure to intense levels of artificial light in order to regulate seasonal mood swings, improve sleeping patterns, and produce a general sense of well-being. According to medical researchers, the fluorescent light box is the preferred device for light therapy, with a recommended starting dose of 10,000 lux for 30 minutes per day. (Lux is the unit of measuring the illumination intensity of light.)

### 2. What is light therapy used for?

Light therapy was originally tested and developed by medical experts in the early 1980's for treating Seasonal Affective Disorder (SAD) – a type of recurrent, major depression regularly experienced by some people during the fall and winter months. Those with SAD are often quite incapacitated by depressive episodes and require medical treatment. However, during the spring and summer, their symptoms usually disappear.

Researchers have explored the benefits of using bright light therapy on people with “subsyndromal” SAD – commonly known as the “Winter Blues,” and studies indicate a good response rate. Light therapy also has benefits for PMS, Bulimia Nervosa, and Nonseasonal Depression. Doctors who use lights with pregnant women to avoid pre- and post-natal depression have reported encouraging results. Other studies show light therapy useful in certain disorders of the circadian system (i.e., the internal biological clock) including circadian sleep phase disorders, shift work, and jet lag.

### 3. What is the difference between Seasonal Affective Disorder (SAD) and the Winter Blues?

Many people, especially in northern latitudes where winter hours of daylight are fewer, complain of feeling down, having less energy, putting on weight and having a hard time getting up in the morning. This is what we refer to as “having the Winter Blues.”

Although there are variations among individuals, most people with SAD experience all of these symptoms, but to a much greater degree. They are often chronically depressed and fatigued, and want to withdraw from the world. They may increase their sleep by as much as four or more hours per day, or have greatly increased appetites – sometimes accompanied by extreme cravings for sweet and starchy foods. Women frequently report worsening of premenstrual symptoms. In short, people with SAD suffer in the extreme the kinds of changes most of us experience in wintertime, and require medical treatment – either light therapy or antidepressants.

### 4. How prevalent is SAD?

According to light therapy experts, SAD is conservatively estimated to occur in up to 3% of the North American population, and 1.3 to 3% of the European population. For recent population figures, that means as many as 8.9 million Americans, almost 1 million Canadians, and close to 46 million Europeans suffer from SAD.

The number of people, however, who experience the Winter Blues is much greater. A recent estimate suggests that 15% of the North American population suffer from the Winter Blues. Based on recent population figures, almost 5 million Canadians and more than 44 million Americans experience some degree of winter doldrums. Women are at least twice as likely to have SAD as men.

### 5. How do I know if I could benefit from using a bright light system?

You could benefit from using a bright light system if you experience any combination of the following symptoms during the winter months: feeling down, moodiness, loss of energy, fatigue, lethargy, difficulty getting up in the morning, excessive sleeping, loss of sex drive, social withdrawal, cravings for carbohydrates, weight gain. You may also benefit from using a light throughout the entire year if you suffer from a Sleep Disorder, are a

frequent traveler, suffer from PMS or Antepartum Blues, or Nonseasonal Depression.

If you suspect you have SAD or another condition that can be treated with light therapy, consult your physician for treatment guidelines. Individuals respond differently to various treatments and need to be supervised by a medical professional.

#### 6. Have bright light systems been proven to work?

Yes. Since the first controlled light therapy study in 1984, there have been more than 60 controlled studies published by researchers around the world. Experts are now confident that bright lights work for the majority of people with SAD. (Response rates of 60% to 90% have been shown). Accordingly, a report called the *Canadian Consensus Guidelines for the Treatment of Seasonal Affective Disorder* (published in 1999 and partially funded by Pfizer) recommends light therapy as an effective first-line treatment for SAD.

Several controlled studies have also found light therapy beneficial for those with subsyndromal SAD (Winter Blues), and its effects on human body rhythms, independent of any effects on mood, are recognized (e.g., for shift work or jet lag). Although medical researchers are hesitant to make treatment recommendations without further research in these areas, the Canadian Consensus Group considers existing studies “encouraging.”

#### 7. How do bright lights work?

The exact cause of Seasonal Affective Disorder has yet to be scientifically proven, and so the mechanism by which bright lights work remains hypothetical. However, light therapy has been statistically proven effective in the treatment of SAD, which puts the role that daylight plays in regulating our daily body rhythms at the forefront of research.

Two main hypotheses are postulated:

- Bright lights work because they reset the daily body clock (i.e., circadian rhythms) which, for people with SAD, tends to get out of balance during the winter; or
- Bright lights work because they help increase the level of the serotonin (a neurotransmitter

that positively affects moods) which would otherwise decrease in the fall and winter.

#### 8. How long does it take to experience the benefits of using bright light therapy?

Response to light therapy is usually very quick, and most people will notice a marked improvement within one week. Similarly, a rapid recurrence of symptoms is experienced by most if they stop using their bright light system.

Longer trials have also shown increasing response to light therapy after two weeks, with still more incremental improvements after three or four weeks. Therefore, it is recommended that you continue to use a bright light system for at least a month before concluding it will not help you.

#### 9. Could I get the same benefits by increasing the lighting in my home and office?

If you are particularly light-sensitive, you may feel more uplifted with increased exposure to normal room lighting. However, research studies show that much higher light intensities are required in order to produce the desired therapeutic effects, and it is just not possible using regular fixtures to get ambient lighting above 600 lux.

Note also that medical experts caution against constructing your own bright light apparatus because of possible electrical hazards, as well as the difficulty in determining adequate light intensity and ensuring ultraviolet (UV) light rays are properly filtered.

#### 10. What about spending more time outdoors -- would that work?

You should be able to satisfy your need for light by spending more time outdoors during the fall and winter days, as long as you can be outdoors regularly and for extended periods of time if conditions are cloudy. Most people find that difficult to do if they work indoors and have to keep an office schedule. The use of a 10,000 lux bright light system is therefore the most convenient way to get the light you need.

#### 11. Are there any side-effects from using bright light systems?

Using a properly constructed bright light system as recommended is considered very safe, and few

people have to desist use because of side effects. A few temporary side effects, such as slight nausea, tend to pass quickly as you get used to the high intensity of light. The majority of side effects, such as headache, eye strain, agitation, insomnia or difficulty getting to sleep, are caused by overdoing light therapy sessions. (In this case, it is possible to get “too much of a good thing.”) Such symptoms usually disappear when you decrease the “dosage” of light to your optimal level (usually in the 20 to 30 minute range).

If you have clinically diagnosed SAD, you may experience other personal variances which should be assessed and monitored by your doctor.

#### 12. What if I'm on antidepressants, can I use lights?

That depends. If your depressive episodes are not seasonally triggered, it is unlikely that a bright light system alone will alleviate your symptoms. However, a bright light might help uplift your mood, and, if your doctor recommends it, can be used in conjunction with your medication.

For treating SAD, bright light systems are recommended as the first-line, “gold standard” treatment. Many people enjoy remission of symptoms simply by using light therapy. Others may not respond at all, though they are in the minority. Still others may be prescribed anti-depressants in conjunction with light treatment. Because individual needs can vary widely, your treatment regime should be supervised by your doctor.

#### 13. When is the use of a bright light system not recommended?

There are no absolute contraindications to light therapy. However, if you have any eye problems (e.g., glaucoma, cataracts, retinal detachment, retinopathy) or have predisposing factors for eye complications (e.g., diabetes, lupus), or if you are taking medications that have photosensitizing effects in humans (e.g., lithium, melatonin), you should not use a bright light system without first consulting your physician. Your doctor will need to assess your individual risk-benefit ratio of using bright lights.

#### 14. Are bright lights medically approved?

At this point in time, bright light systems have not been approved as “medical devices” by government regulatory agencies in either the US or Canada. However, in so far as researchers have proven the effectiveness of light therapy and recommend it as a first-line treatment for SAD, bright light systems have gained the approval of the respected medical community. It will take time for regulatory bodies to catch up with research.

#### 15. Are lights covered under my medical insurance, and do I require a prescription?

Many private insurance companies recognize the benefits of light therapy and its cost advantages over antidepressant medication, and will cover the purchase of a light system with a prescription from your doctor. You should phone your insurance company before making the purchase to discuss coverage and specific documentation requirements.

Bright lights are properly coded under E0203, however, as Medicare does not have a benefit category for this product, there is no reimbursement for the Day-Light. They are available widely for purchase without a prescription.

#### 16. Why do research experts and medical doctors recommend the Day-Light system for light therapy?

Day-Light technology, manufactured by Uplift Technologies Inc., has been used in clinical trials across North America since 1989. These systems have been proven safe and effective. Day-Light technology was selected by Dr. Raymond Lam, Medical Director for the Mood Disorders Program at the University of British Columbia Hospital, for use in a three-year, 200-person controlled study of light therapy for treating SAD. Dr. Lam says he selected Day-Lights because “they use the latest technology, are of excellent quality, durability and aesthetics, and meet all recommended safety standards. The company also has a track record of dependability.”

#### 17. What is the correct way to use Day-Lights for therapy sessions?

For light therapy sessions, you would use your Day-Light each morning for 20-30 minutes or as

directed by your physician. To receive 10,000 lux, you would need to sit approximately 12 to 15 inches from the light with your eyes directed toward the center of the screen and the screen tilted at a 15° angle. During the session, you should NOT look directly into the light, but read, eat breakfast or do some paperwork.

#### 18. Why do I need 10,000 lux?

10,000 lux for 30 minutes in the morning is what the experts recommend as a starting dosage for light therapy. Individuals may need to adjust the duration up or down from the 30 minute starting time, or use the light at a different time of day, depending on personal response to treatment. You can also get the appropriate dosage of light using a 2,500 lux system for two hours per day, but obviously this is far less convenient for most people. The Day-light provides 10,000 lux at 12 to 15 inches.

#### 19. Can the Day-Light be used in other ways?

The quality of the light emitted by the Day-Light is very pleasant, and is enjoyed by many outside the context of light therapy. Positioned at arms length (i.e., farther than the 12-15" distance for light therapy), or directed away from the face, they make excellent ambient, reading and work lights. Light weight and portable, the Day-Light can be used with the height adjustable legs or the built-in stand. It can also be hung on a wall for use as an ambient light source. For correct light therapy positioning, we recommend using the height adjustable legs.

#### 20. Does the Day-Light cause tanning?

The Day-Light does not cause tanning because the ultraviolet (UV) rays that cause tanning are filtered out. Medical experts caution that exposure to unfiltered bright lights for extended periods of time may eventually cause ocular damage. It is the intensity of light that provides the therapeutic advantage, not the light spectrum. Be wary of "full spectrum" lights unless they are UV filtered.

#### 21. Is the Day-Light expensive to buy and maintain?

The retail price for quality-made, name-brand bright light systems is between \$200 and \$500. The Day-Light is very competitively priced at the low end of

this range. The Day-Light conforms to all technical design guidelines recommended by medical experts for light therapy equipment:

- The Day-Light meets all safety standards (i.e., they are UL & C-UL Listed, and UV filtered).
- The Day-Light emits the optimal "dosage" of light for 20-30 minute daily light therapy sessions (i.e., 10,000 lux).
- Day-Light technology has been used in clinical studies since 1989 and has been proven effective.
- The Day-Light has a diffusing filter and a high efficiency ballast to eliminate glare and light flicker, which ensures the user's comfort during light therapy sessions.

The Day-Light is warranted for five years (excluding light tubes) during normal use. Light tubes can last many years, but to maintain 10,000 lux intensity we recommend replacing them every two years. Replacement tubes are available from your dealer or from specialty lighting stores.

#### 22. What if the Day-Light doesn't work for me?

You will need a one to four week trial period to see if the Day-Light system works for you. Look for vendors who offer either a 30-day money-back guarantee, or a short-term rental program with rent applied to purchase price. Ask vendor for details before purchasing.

Copyright © 2007 Uplift Technologies Inc.

#### References & Further Reading

1. **Canadian Consensus Guidelines for the Treatment of Seasonal Affective Disorder**  
Lam, Raymond W. and Levitt, Anthony J., Editors, Clinical and Academic Publishing, Canada, 1999
2. **Winter Blues: Seasonal Affective Disorder: What It Is And How To Overcome It**  
Rosenthal, Norman E, Guilford Press, New York, 1998
3. **Seasonal Affective Disorder and Beyond: Light Treatment for SAD and Non-SAD Conditions**  
Lam, Raymond W., Editor, American Psychiatric Press, Washington DC, 1998