

How is Your Emotional Weather? by Heather Hoehn

Do environmental changes such as light and cooler temperatures really have an effect on your mood and if so, can exercise help? As fall approaches, the seasonal transition does, in fact, have a significant effect on many people. Research indicates that as many as 10-25 million people in the United States are affected by a condition known as Seasonal Affective Disorder (SAD) (Laskowski, 2001). The symptoms, which are sometimes referred to as the “winter blues”, are actually quite specific and are a recognized condition by the health profession.

According to the American Psychiatric Association, the primary symptoms of SAD are as follows:

- Symptoms of depression that occur regularly during the fall and winter months (changes in sleep patterns and/or eating habits; empty mood, loss of pleasure in things once enjoyed.)
- Depression subsides in the spring and summer months
- Seasonal episodes substantially outnumber non seasonal depression episodes.
- The individual craves sugary and/ or starchy foods

While young people and women are at the highest risk for the disorder, SAD can affect anyone. Additionally, those who reside in northern geographies tend to be more significantly affected.

Researchers are currently doing studies to determine the specific causes of SAD; however, attempts to isolate a specific cause remain unsuccessful. One proposed theory relates to the amount of melatonin, a sleep related hormone, that is released by the pineal gland in the brain (Singh, 1997). Under normal circumstances, melatonin levels are low in the daytime, and rise gradually at night. The levels peak at 2 or 3 am and slowly decrease by morning. It appears that for this cycle to work properly, a certain amount of light is required. Thus, it has been proposed that since we are exposed to limited daylight in the fall and winter, some individuals may experience a disruption in this melatonin process. This disruption in turn, results in the onset of SAD. Some studies do in fact, support this theory. The studies have shown that when the melatonin cycle is disrupted by lower levels of light, the body responds by producing higher levels of melatonin which in turn produces measurable mood changes (Singh, 1997). Additionally, these same studies also showed that when these light deprived subjects are exposed to bright light, symptoms alleviate (Syvalahti, 1998). However, no satisfactory physiological or biochemical mechanisms have been identified to explain the effectiveness of bright light (Syvalahti, 1998).

With this being said, current treatments for SAD rely heavily on light therapy. In addition, interestingly, all treatment plans include some form of exercise. Physiologically, exercise stimulates the brain to release hormones called endorphins. Endorphins are chemicals released by the brain which are normally credited for suppressing the sensation of pain and producing a sense of well-being (Dunn, 1999). Researchers at Indiana University found a significant decrease in depression for at least two hours after exercise (Carr, 2001).

Moreover, psychologically, exercise enhances one's sense of mastery and provides a therapeutic distraction that diverts a person's attention from areas of worry, concern, and guilt. In addition improving one's health, physique, flexibility and weight may all enhance mood. Another benefit is that large muscle activity may help discharge feelings of frustration, anger and hostility (Artal, 1998).

Finally, if the depression is severe, physicians may also prescribe antidepressants. In some cases, all three therapies are used in conjunction.

In conclusion, Seasonal Affective Disorder is a real and recognized condition. Your "winter blues" may be more than a feeling of drudgery from the changes in season. You may have a biochemical dysfunction that can be addressed. Exposure to bright light, particularly sunlight, exercise, and in some cases, antidepressants are all viable treatment options. Take ownership of your body and your health by consulting a physician if you are experiencing the aforementioned symptoms. Bundle up and get your body moving to help alleviate your symptoms. The staff at Vertex Fitness can help you with your exercise program to keep you active. Most importantly, communicate these feelings to a health professional and create an action plan that you can implement to overcome this condition.

Artal, M.: Exercise against depression, *The Physician and Sports Medicine Journal*, 26, (10), 1998:1-9.

Carr, DB: Physical conditioning facilitates the exercise induced secretion of beta-endorphine and beta lipotropin in women. *New England Journal of Medicine*, 2001; 305 (10): 560-563.

Dunn,AL: Exercise and the neurobiology of depression. *Exercise Sport Science Review* 1999;19:41-98.

Laskowski, E: Seasonal Affective Disorder- An Overview. *Sports Medicine Clinic, Mayo Clinic, Rochester, MN*, 2001.

Singh, NA: A randomized controlled trial of the effect of exercise on sleep. *Sleep* 1997; 20 (2): 95-101.

Syvalahti, EK: Biological aspects of depression. *APA Supplement*. 1998; 377:11-15.