



## Seasonal Affective Disorder (SAD)

### Introduction

Historically we only ever worked outdoors; two hundred years ago 75% of the population worked outdoors now less than 10% of the population work in natural outdoor light. Whilst this is fine in the summer months when there are longer daylight hours, in the winter months, people tend to go to work in the dark and go home in the dark and don't get to enough natural daylight.

This modern way of living has dramatically altered nature's cues. A modern day no longer starts at the break of dawn and ends at sunset. Workdays are getting longer and many people face shift work schedules. Additionally, the advent of electric lighting allows social gatherings and personal activities to extend well into the night. These factors have diminished the body's natural ability to regulate the body clock and this work/life change has resulted in a dramatic increase in light deficiency symptoms.

In the UK and Ireland we are more susceptible to SAD as we are situated in the higher latitudes of the northern hemisphere. As a result, we experience large changes in light levels between the summer and winter. We also experience periods of dark, gloomy weather which can reduce the amount of light we receive and therefore have a profound effect on our body clocks.

A combination of a change in seasonal light, our hectic lifestyles and the periods of darker days and poorer weather, can result in dramatic effects on our circadian rhythms. As a direct consequence of these environmental and lifestyle factors more people than ever before are suffering from Seasonal Affective Disorder

### What is SAD?

SAD (Seasonal Affective Disorder) is a type of winter depression that affects an estimated 7% of the UK population every winter between September and April, in particular during December, January and February.

It is caused by a biochemical imbalance in the hypothalamus which controls mood, eating and sleep, due to the shortening of daylight hours and the lack of sunlight in winter.

The problem stems from the lack of bright light in winter. Researchers have proved that bright light makes a difference to the brain chemistry but why some people suffer and others don't is not clear.

Nerve centres in our brain controlling our daily rhythms and moods are stimulated by the amount of light entering the eyes. As night falls, the pineal gland starts to produce a substance called melatonin that tells our body clock it's night time; bright light at daybreak is the signal for the gland to stop producing this melatonin. But on dull winter days, especially indoors, not enough light is received to trigger this waking up process.

Light is also linked to serotonin, a neurotransmitter in the brain. This makes sense because low serotonin levels can cause depression and if you're depressed it can be difficult to concentrate and complete what would normally be simple tasks. Evidence has shown that serotonin levels increase with exposure to bright light - SSRI drugs such as Prozac have the same effect.

For many people SAD is a seriously disabling illness, preventing them from functioning normally without continuous medical treatment.

For others, it is a mild but debilitating condition causing discomfort but not severe suffering. We call this subsyndromal SAD or 'winter blues.' It is estimated that a further 17% of the UK population have this milder form of condition.

The symptoms are seasonal and cyclical, so it will not be until a pattern of suffering can be recognised from 2-3 winters of symptoms that a diagnosis of SAD can be made by a GP. However it is still often misdiagnosed or overlooked.

## **Symptoms**

The symptoms of SAD usually recur regularly each winter, starting between September and November and continuing until March or April. A diagnosis can be made after three or more consecutive winters of symptoms, which may include a number of the following:

### **Depression**

Low mood, worse than and different from normal sadness  
Negative thoughts and feelings  
Guilt and loss of self-esteem  
Sometimes hopelessness and despair  
Sometimes apathy and inability to feel

### **Sleep Problems**

The need to sleep more  
A tendency to oversleep  
Difficulty staying awake during the day and/or disturbed sleep with very early morning waking

### **Lethargy**

Fatigue, often incapacitating, making it very difficult or impossible to carry out normal routines

### **Over Eating**

Craving for carbohydrates and sweet foods leading to an increase in weight

### **Cognitive Function**

Difficulty with concentration and memory  
The brain does not work as well, or as quickly

### **Social Problems**

Irritability  
Finding it harder to be with people

### **Anxiety**

Tension  
Stress is harder to deal with

### **Loss of Libido**

Less interest in sex and physical contact

### **Sudden Mood Changes in Spring**

Sharp change in mood  
Some experience agitation and restlessness and/or a short period of hypomania (over activity)  
No dramatic mood change but a gradual loss of winter symptoms

Most sufferers show signs of a weakened immune system during the winter, and are more vulnerable to infections and other illnesses.

SAD symptoms disappear in spring, either suddenly with a short period (e.g. four weeks) of hypomania or hyperactivity, or gradually, depending on the intensity of sunlight in the spring and early summer.

In sub-syndromal SAD, symptoms such as tiredness, lethargy, sleep and eating problems occur, but depression and anxiety are absent or mild.

SAD may begin at any age but the main age of onset is between 18 and 30 years.

SAD occurs throughout the northern and southern hemispheres but is extremely rare in those living within 30 degrees of the Equator, where daylight hours are long, constant and extremely bright.

## **Can it be Treated?**

### **Light Therapy**

Light therapy has been shown to be effective in up to 85 % of diagnosed cases. That is, exposure, for up to four hours per day (average 1-2 hours) to very bright light, at least ten times the intensity of ordinary domestic lighting.

Ordinary light bulbs and fittings are not strong enough. Average domestic or office lighting emits an intensity of 200-500 lux but the minimum dose necessary to treat SAD is 2500 lux, the intensity of a bright summer day can be 100,000 lux.

Light treatment should be used daily in winter (and dull periods in summer) starting in early autumn when the first symptoms appear. It consists of sitting two to three feet away from a specially designed light box, usually on a table, allowing the light to shine directly through the eyes.

The user can carry out normal activity such as reading, working, eating and knitting while stationary in front of the box. It is not necessary to stare at the light although it has been proved safe.

Treatment is usually effective within three or four days and the effect continues provided it is used every day. Tinted lenses, or any device that blocks the light to the retina of the eye, should not be worn.

Some light boxes emit higher intensity of light, up to 10,000 lux, which can cut treatment time down to half an hour a day.

Light boxes are not available on the NHS and have to be bought from specialist retailers; they are free of VAT when used for medical purposes.

### **Anti-Depressant Drugs**

Traditional antidepressant drugs such as tricyclics are not usually helpful for SAD as they exacerbate the sleepiness and lethargy that are symptoms of the illness. The non-sedative SSRI drugs such as sertraline (Lustral), paroxetine (Seroxat) and fluoxetine (Prozac) are effective in alleviating the depressive symptoms of SAD and combine well with light therapy.

Other psychotropic drugs e.g. lithium, benzodiazepines have not proved widely useful in the treatment of SAD.

### **Additional Therapies**

Psychotherapy, counselling or any complementary therapy which helps the sufferer to relax, accept their illness and cope with its limitations are extremely useful.

### **Self Help**

There are a number of steps an individual can take that may help reduce the effects of SAD. Wherever possible, they should:

- try to find time each day to get outside
- sit near windows when they are inside
- take regular, moderate exercise or physical activity
- eat a well-balanced diet
- decorate the home in light colours

- leave any major projects until summer and plan ahead for winter
- try not to put themselves under stress and learn relaxation techniques

Telling family and friends about the condition and its effects allows them to understand, help and support the individual. They may find it helpful to join a support group. Knowing that they are not alone and that help is available can be a great comfort.

### **References:**

[www.sada.org.uk](http://www.sada.org.uk) The Seasonal Affective Disorder Association is a small national voluntary organisation and registered charity which can offer advice to the public, health professionals and sufferers.

[www.SAD.org.uk](http://www.SAD.org.uk) This is a small national voluntary organisation who offer support, advice and information on the purchase and usage of light boxes.

[www.mind.org.uk](http://www.mind.org.uk) Has a wealth of information on all mental health subjects including information for the family of sufferers. Look under "information and advice" for diagnoses and conditions on the "How we can help you" page.

[www.sad.co.uk](http://www.sad.co.uk) Suppliers of light boxes

