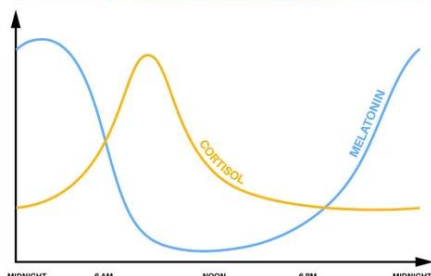


Seasonal Affective Disorder

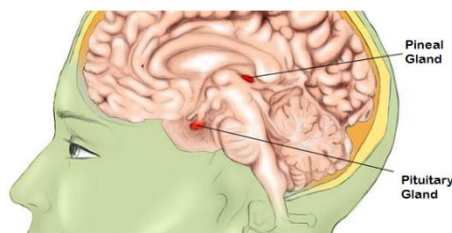
The concept of Blue Monday (Third Monday in January each year) is actually a myth and was coined in 2004 by a travel company to promote their winter deals. Including things like the wet and cold weather, the come-down from Christmas and the demands of the Inland Revenue, January is not the most popular month of the year.



It is widely accepted that climate and season affect our mood. For a long time, it has been suspected that the pineal gland, situated in the central part of the brain, between the two hemispheres, influences our sleep patterns through the production of a hormone called melatonin (the circadian rhythm). It also has other activity in the regulation of other glands such as the pituitary gland and possibly even bone formation indirectly.



The volume of the pineal gland, which is around the size of a grain of rice in normal individuals, has been linked to mood problems, depressive disorders and possibly our cognitive abilities.



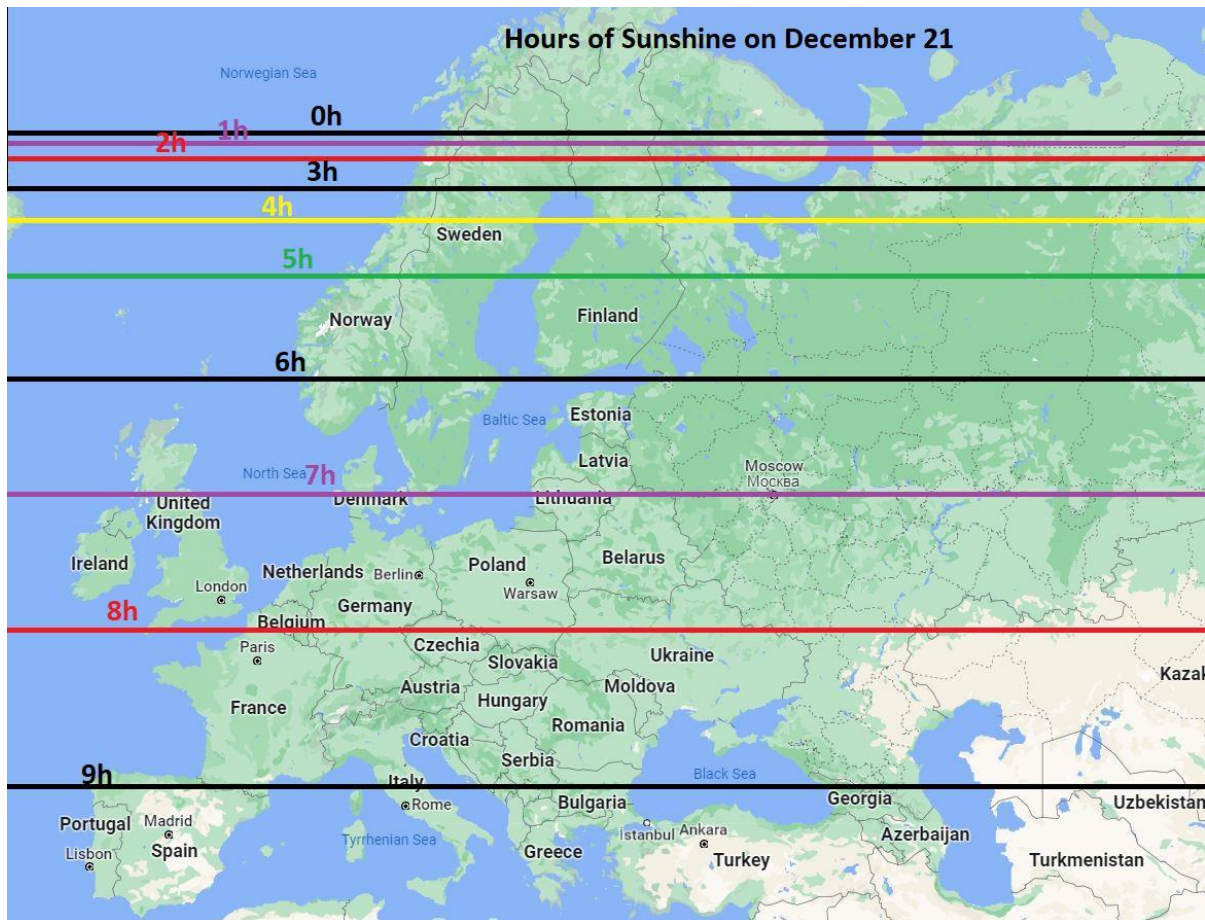
Locations of the Pineal and Pituitary glands

Abnormal melatonin secretion has been demonstrated in patients with affective disorders such as major depressive disorder (MDD) and bipolar disorder (BD).

Seasonal affective disorder (SAD) is a type of depression that comes and goes according to the season. It usually develops in autumn and winter, then disappears in spring and summer. SAD is thought to be triggered by shorter days and less daylight, which may lead to a chemical change in the brain causing symptoms of depression. Symptoms of SAD are the same as those of depression and can vary in severity.

The incidence of SAD may be higher in some populations, such as those with anxiety, attention deficit hyperactivity disorder (ADHD) or premenstrual dysphoric disorders. It is considered as a diagnosis if there is a variable pattern of depressive symptoms over a two-year period with a full recovery during the summer months.

Scandinavian countries such as Finland, Denmark, Norway and Sweden generally rank very high on the UN's Happiness Report but they too experience the phenomenon of seasonal depression.



There are new avenues of research that are now linking other biologically active substances produced by the body in response to our exposure, or lack of exposure to sunlight. This occurs in both depressive and non-depressive subjects.

Cells in our body communicate with each other locally and remotely through the release of cytokines. These signalling molecules are very much involved with our immunity and many other functions of the body. For instance, in arthritis, they regulate various inflammatory responses. They are not absorbed by other cells but act on receptors on the surface, which then trigger other actions within the cells. They can be very specific and also have more general actions to cause widespread effects.

One particular “pro-inflammatory” cytokine is called Interleukin-6 (IL6). It is involved in the regulation of several physiological processes, particularly in the immune response, as well as in sleep regulation and possibly even depression. It is suspected that it acts on the pituitary gland which in turn affects the brain through an inflammatory response, or perhaps IL-6 acts directly within the brain.

IL-6 is found to be raised in people with heart disease, who also develop depression. More recent research is now showing that acute as well as chronic psychological stress also increase concentrations of IL-6. It is tempting to wonder if we might regulate IL-6 to benefit patients who

develop depression. It is however a controversial idea since IL-6 also has anti-inflammatory activity in other areas of the body!



Grey days in Scandinavia

Seasonal affective disorder occurs four times more often in women than in men and the age of onset is estimated to be between 18 and 30 years and people who do shift work may be at particular risk. In the United Kingdom, 20% experience winter blues and 2% experience SAD.

For the time being, those who have Seasonal Affective Disorder or believe that they may suffer from it, may have to content themselves with the knowledge that it is self-limiting. In more severe cases, it is worth trying measures to increase exposure to light during the winter months but these activities are time consuming and can be expensive. They are not without some degree of hazard, as intense light treatment can be harmful to the eyes in some circumstances.

Clinical improvements have been observed when patients sit by a special light emitting box that mimics natural sunlight wavelengths for a period of time each day. The recommended intensity of the light and the duration of exposure will vary from patient to patient.

Although melatonin has found some use with managing circadian rhythm and sleep disorders and jet lag problems, there is little or no evidence of it being of benefit for SAD. (It is also a photosensitiser and should not be taken when using light therapies.)

During the winter months of November through February, those living above 33 degrees north of the equator are not able to synthesize Vitamin D. It is well established that low levels of Vitamin D are associated with depression, and taking supplements before winter darkness sets in may help. This can be helpful if other methods are not.

That leaves counselling approaches, which can provide help and support to people with SAD. It is judged to be at least as effective as light therapies and may help to break down problems that seem overwhelming and negative patterns; by changing the way people think about them. Access to cognitive behavioural therapy is likely to be the main problem with that approach in the United Kingdom at present.

Dr Peter Smith

January 2025

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