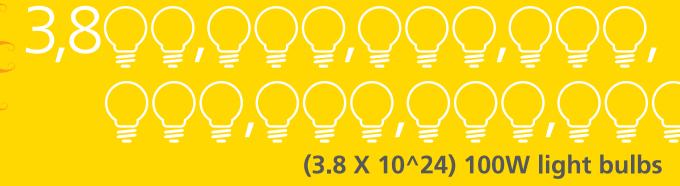


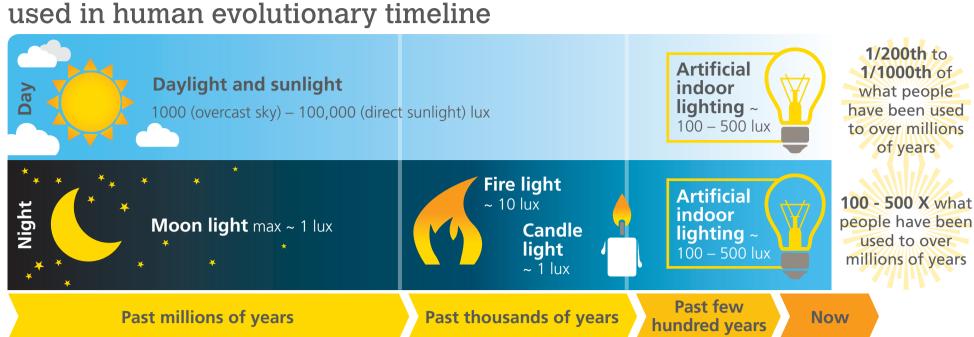
## Lighting and Health

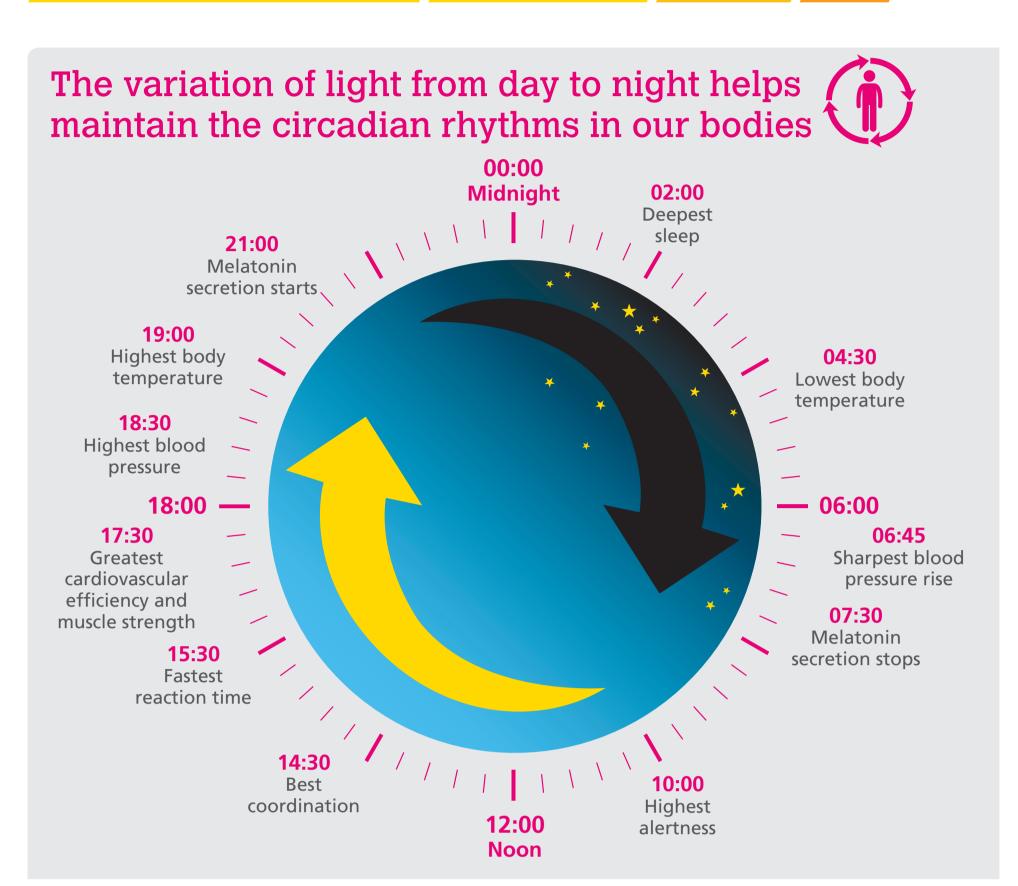




We have evolved using this light from the sun with the 24 hour day/night cycle of the earth.

Typical illuminance for light sources used in human evolutionary timeline





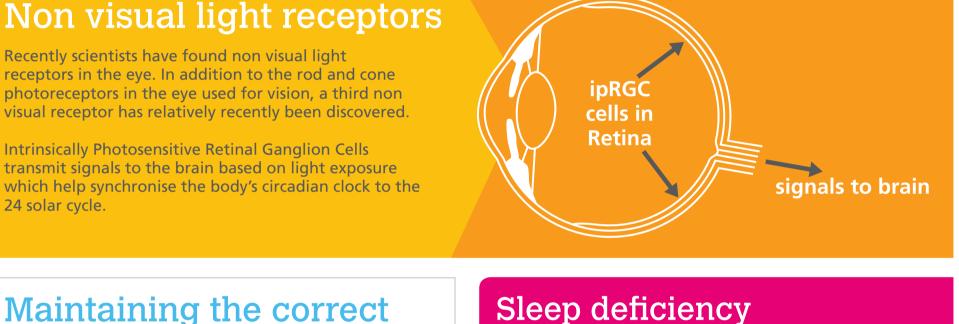
## Recently scientists have found non visual light receptors in the eye. In addition to the rod and cone

photoreceptors in the eye used for vision, a third non visual receptor has relatively recently been discovered. Intrinsically Photosensitive Retinal Ganglion Cells

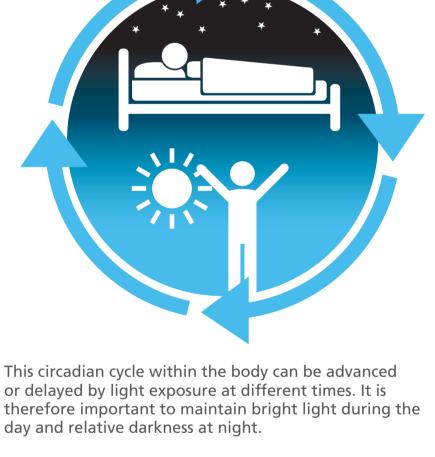
transmit signals to the brain based on light exposure

which help synchronise the body's circadian clock to the 24 solar cycle.

Maintaining the correct



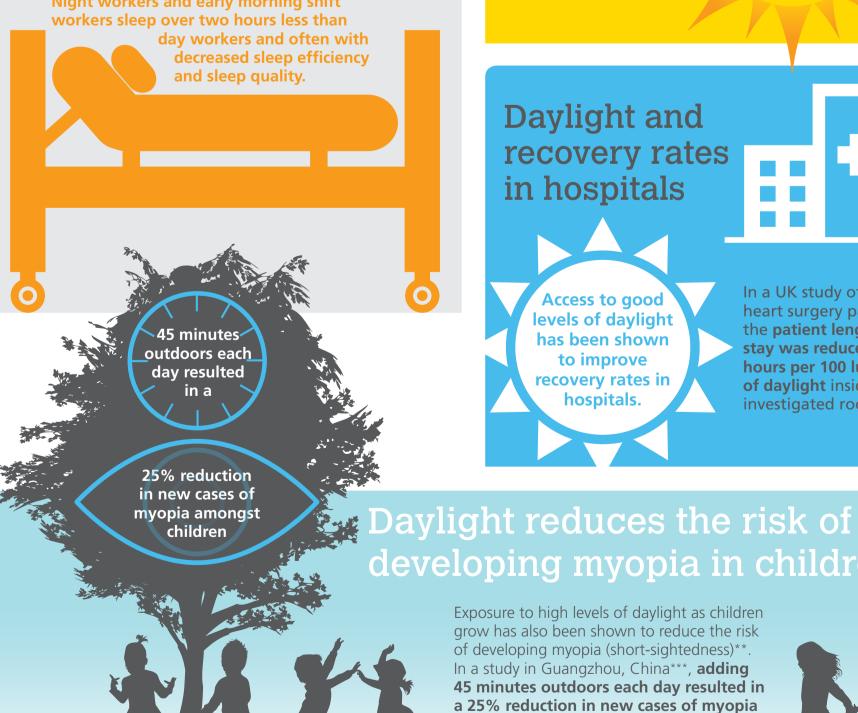
## circadian cycle



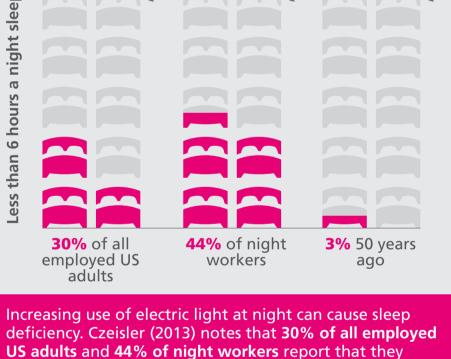
Night workers and early morning shift workers

The International Agency for Research in Cancer notes health impairments associated with shift

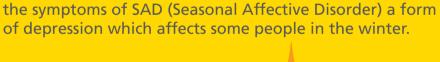




The increased use of electric light at night



sleep less than 6 hours a night, when 50 years ago less than 3% of the adult population slept so little. Reduce SAD symptoms

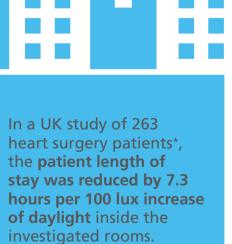


Exposure to bright light during the day can help reduce



Access to good levels of daylight has been shown to improve recovery rates in

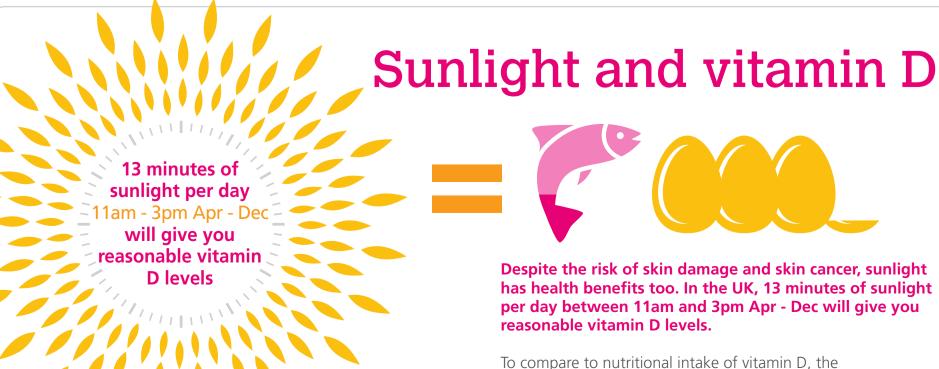
hospitals.



developing myopia in children Exposure to high levels of daylight as children grow has also been shown to reduce the risk of developing myopia (short-sightedness)\*\*. In a study in Guangzhou, China\*\*\*, adding

> 45 minutes outdoors each day resulted in a 25% reduction in new cases of myopia amongst children.





Despite the risk of skin damage and skin cancer, sunlight has health benefits too. In the UK, 13 minutes of sunlight per day between 11am and 3pm Apr - Dec will give you

recommended daily allowance of vitamin D, 5 micrograms per day can be met by 3 and 1/8 medium eggs, or 200g of salmon.