



Light Waste – Effects on Health

2020-08-07 Rev.



Light waste, trespass and pollution have a variety of important, serious, negative effects on human health and welfare, some barely noticeable, some life-altering or even life-terminating.

Humans tend to think of light as health-giving and, to a very great degree, it is. However, humans have a long history of living in darkness at night, a fact that the human body has adapted to over millions of years. It is only within the last century that humans have begun to live in a light-drenched environment that has seen light waste increasing at night, an incredibly short period of time for our bodies to adjust. Our bodies act according to a very ancient cycle known as the circadian rhythm, a cycle in which our bodies sleep and produce various chemicals to help us survive. One such chemical is melatonin, a cancer-fighting chemical that is best produced in the body in the darkness of night.

Research indicates that reductions in the levels of melatonin appear to reduce the body's ability to fight cancers such as breast and prostate cancer, both of which have seen tremendous increases in industrialized nations that use night lights. CBC News has reported "The Danish government has begun to compensate women who developed breast cancer after long spells of working night shifts.

The American Medical Association recently accepted a proposal for an anti-light pollution policy and passed it unanimously. Resolution 516 asked the American Medical Association to: (1) advocate that all future outdoor lighting be of energy efficient designs to reduce waste of energy and production of greenhouse gasses that result from this wasted energy use; (2) support light pollution reduction efforts and glare reduction efforts at both the national and state levels; and (3) AMA support efforts to ensure all future streetlights be of a fully shielded design or similar non-glare design to improve the safety of our roadways for all, but especially vision-impaired and older drivers. (Dr. Mario Motta, MD – sponsor)

According to Dr. Motta, "*Numerous papers over the past 15 years have led medical researchers to conclude that night light increases the incidence of certain cancers, most notably breast cancer. In fact, researchers now estimate that up to 30% of breast cancers may be due to light at night suppressing circadian rhythm.*" "...the World Health organization recently declared circadian-rhythm disruption to be a class 2A carcinogen — placing it on the same level of severity as the effects of tobacco smoke on lung cancer." "*Repeated exposure to light at night markedly suppresses melatonin production. Previous research has shown that this hormone helps the immune system suppress the development of several types of cancers.*"



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The Demons in the Light:

Considering the results of recent research, there appears to be far more danger in the light that trespasses on our properties than that which lies in the darkness of night. As our bodies need sunlight for health, so too do they need the darkness to properly complete our circadian rhythms.

2015 estimates from the Canadian Cancer Society indicate 24,000 men will contract **prostate cancer**, and 4,100 will die. There will be 220 new cases of **male breast cancer** and 60 will die. 25,000 women will contract breast cancer and 5,000 will die. **Colorectal cancer** has now been added to the list of problems related to artificial blue lighting (2020).

Alzheimer's, sleep-deprivation syndrome and circadian rhythm modification have also been added to the list of health effects suspected of being caused by night light and its effects on the human body.

As well, a 2012 study determined that coal-powered power plants cost Alberta Health Services **\$300 Million/year** with approximately **100 people** losing their lives due to effects of the plants.

Light-Efficient Communities (LEC's) help to make our urban and rural environments more healthy by reducing the amounts of light waste and trespass.

Light is placed where it is needed, when it is needed by efficient, effective, controlled, full cut-off light fixtures. Our communities should become more healthy if we are not exposed to light trespass. This should also reduce health problems and deaths in our society.

By advocating for **Light-Efficient Communities** each of us supports more healthy living in a higher-quality environment. In doing this each of us strives to eliminate the loss of loved ones as well as the pain and suffering, not to mention the increased health costs of fighting cancers and other nightlight-induced illnesses.

Light pollution affects every living thing in our environment in a multitude of ways. For human beings, the personal costs are extremely high. For the Alberta government, cancer-care costs were approximately \$200 Million for 2007 and steadily increasing each year.

It is time to take action against the waste and trespass of nightlight and in doing so protect ourselves, our loved ones and our environment from the demons in the light!