Comments regarding the nomination of "shiftwork involving light at night" for the Report on Carcinogens

Dear Dr. Lunn:
I would like to thank your agency for looking into the issue of exposure to light at night (LAN). Please accept these comments to support the acceptance of LAN as a carcinogen.

The direct carcinogenic effect found in various research projects is from LAN, not Shiftwork, although the World Health Organization through the International Agency for Research on Cancer (IARC), listed shift work under Group 2A - as a "probable carcinogen." Convincing evidence emerging from scientific research is that LAN, specifically in the range of the blue-white light spectrum, is the 'substance' that affects natural human melatonin production, leading to various carcinogenic effects.

While we are aware of the IARC report and others linking shiftwork to melatonin suppression and circadian disruption, concerns exist for exposure to LAN in other circumstances, such as sleeping areas in a barracks or institution and where monitors with blue-white light are used, such as TV, computers and hand-held devices.

One relevant statement and a list of 9 scientific references taken from a new article addressing the issue of LAN and human health, can be found at www.illinoislighting.org/health2.html:

Hardly any of the human body's functions, nor any of its abilities to combat disease, are removed from the influences of the circadian cycle. For example, it appears that disruption of the circadian cycle reduces the body's ability to resist a number of forms of cancer. Evidence is mounting for the whole chain of causality -- exposure to light at night, leading to reduced production of the hormone melatonin, leading to an increased rate of cancer18-26.

19Does the modern urbanized sleeping habitat pose a breast cancer risk? Klooog I, Portnov BA, Rennert HS, Haim A, Chronobiology International (2011 Feb 1) 28 (1): 76-80
Artificial lighting in the industrialized world: circadian disruption and breast cancer Stevens RG, Cancer Causes Control (2006 May 1) 17 (4): 501-507


Nighttime light level co-distributes with breast cancer incidence worldwide Kloo I, Stevens RG, Haim A, Portnov BA, Cancer Causes Control (2010 Dec 1) 21 (12): 2059-68

Light during darkness and cancer: relationships in circadian photoreception and tumor biology Jasser SA, Blask DE, Brainard GC, Cancer Causes Control (2006 May 1) 17 (4): 515-523


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