

From: Stephen Pauley [Redacted]
Date: Mon, 20 Feb 2012 15:05:49 -0500
To: Ruth Lunn <lunn@niehs.nih.gov>

Dear Dr Lunn,

Should light at night (LAN) be labeled a carcinogen?

The large number of studies now in the literature indicate that the answer is "yes". I suggest your panel review the body of literature now available.

Proof of cause and effect are difficult, just like tobacco and lung cancer. The study that comes the closest was done by David Blask et al and reported in Cancer Research.

Melatonin-Depleted Blood from Premenopausal Women Exposed to Light at Night Stimulates

Growth of Human Breast Cancer Xenografts in Nude Rats

The work by Kloog et al in Israel is the first large scale human population study linking LAN exposure and human breast cancer.
<http://www.ncbi.nlm.nih.gov/pubmed/18293150>

I wrote a paper in 2003, early on when this subject began to gain critical mass. It's a general review of circadian rhythms and light at night. I called for fully shielded outdoor lighting to prevent LAN from entering bedrooms, and recommended the avoidance of light sources with blue wavelengths which can suppress melatonin production

Lighting for the human circadian clock: recent research indicates that lighting has become a public health issue.

[Pauley SM. Med Hypotheses. 2004;63\(4\):588-96](#)

<http://www.ncbi.nlm.nih.gov/pubmed/15325001>

In 2007, the IARC listed shift work and LAN as a "probable" carcinogen. "shift-work that involves circadian disruption is probably carcinogenic to humans" (Group 2A) (Straif et al., Lancet Oncol, 8:1065-66, 2007)

I think your committee should at least do the same. The Precautionary Principle needs to be applied.

Ruchard Stevens reviewed the literature since the IARC listing.

<http://monographs.iarc.fr/ENG/Publications/techrep42/TR42-20.pdf>

The lighting industry and LRC will fight you every step of the way. Linking LAN to breast cancer is bad for business, but the industry supported LRC has failed to do their own biological experiments to back up their position.

Sincerely,
Stephen M Pauley MD FACS

Retired Otolaryngology Head and Neck Surgery
[Redacted]