We thank Dr. Erren (1) for his comments about our study (2). Dr. Erren discusses the possibility that exposure to light at night might confound the results found for extremely-low-frequency electromagnetic fields in relation to breast cancer. The hypothesis that light at night might increase breast cancer risk through a mechanism involving suppression of the hormone melatonin is very interesting and has been addressed in studies of, for example, shift workers (3–5) and the blind (6). At present, the evidence in favor of this hypothesis is suggestive but not very strong regarding either the effect of light at night on breast cancer risk or a possible protective effect of melatonin on breast cancer development (7). However, the hypothesis is intriguing, and we continue to follow this research area with great interest.

In our study (2), we were unable to adjust for exposure to light at night because of a lack of data, but we believe it is unlikely that doing so would substantially change the results. To our knowledge, no study has investigated the association between light at night and exposure to occupational electromagnetic fields, but there is nothing that hitherto indicates an existence of such a relation that could mask a risk from electromagnetic fields. Furthermore, the epidemiologic studies that have investigated light as a risk factor for breast cancer have observed an increase in risk that is very moderate and not entirely consistent. At most, risks of twofold or less have been reported, substantially lower than
those for the association between smoking and lung cancer, as Dr. Erren (1) brought up as an example. Exposure to light can therefore not be considered a “potentially strong” risk factor for breast cancer, should the effect be real.

In using the experimental studies as a comparison, Dr. Erren (1) also seems to suggest an interactive effect between light and electromagnetic fields. As far as we know, no studies on humans support this effect. Given the level of exposure to light common in Sweden, electromagnetic fields do not seem to affect breast cancer risk.

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REFERENCES


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