

## Lymphoma and leukaemia

The studies below indicate an association between EMF exposure and lymphoma and leukaemia. (click on the study for more details):

[Need help understanding the studies?...](#)

[Glossary...](#)

### [\*\*Szmigielski, S., Cancer morbidity in subjects occupationally exposed to high frequency \(radiofrequency and microwave\) electromagnetic radiation, 1996\*\*](#)

The cancer morbidity rate for RF/MW-exposed personnel for all age groups (20–59 years) reached 119.1 per 100 000 annually (57.6 in non-exposed) with an OER of 2.07, significant at  $P < 0.05$ . The difference between observed and expected values results from higher morbidity rates due to neoplasms of the alimentary tract (OER = 3.19–3.24), brain tumours (OER = 1.91) and malignancies of the haemopoietic system and lymphatic organs (OER = 6.31). Among malignancies of the haemopoietic/lymphatic

systems, the largest differences in morbidity rates between exposed and non-exposed personnel were found for chronic myelocytic leukaemia (OER = 13.9), acute myeloblastic leukaemia (OER = 8.62) and non-Hodgkin lymphomas (OER = 5.82). [Samuel Milham Jr., 'Increased Mortality in Amateur Radio Operators Due to Lymphatic and Hematopoietic Malignancies', American Journal of Epidemiology, 1988, 127, pp.50-54.](#)

This study found significantly increased mortality for cancers of the other lymphatic tissues including multiple myeloma and non-Hodgkin's lymphomas and also acute myeloid leukemia.

[Repacholi M.H. et al., 'Lymphomas in Eu-Pim1 transgenic mice exposed to pulsed 900 MHz electromagnetic fields', Radiation Research, 1997, 147, pp.631-640.](#)

This study found higher incidence of lymphoma in exposed mice.

**See also Bio-Initiative Report Section 11 and Ecolog Report**