



Title: The Melanoma Epidemic

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Abstract

The main purpose of this project was to find a possible explanation for the steadily increasing incidence of melanoma in Western countries since the mid-20th century. A secondary purpose was to develop models with predictive value in order to estimate future melanoma trends.

An initial study showed that Nordic countries and the USA both appeared to have the same exposure-time-specific incidence of melanoma, [1]. A second study showed that the incidence of some cancers correlated with variations in melanoma incidence across the Swedish counties, while others (e.g. leukemia) did not [2]. Melanoma also appeared to persist at a low and stable incidence in the counties as long as FM transmitters had not yet been substantially introduced, [3]. Melanoma incidence appeared to be significantly correlated with the number of main FM towers simultaneously covering an area [1, 4]. A model based on a precipitous decrease in the efficiency of the immune defense system (presumably caused by FM broadcasting towers) was able to accurately predict the reported age-standardized incidence and age-specific incidence of melanoma for all birth cohorts during the 20th century [5, 6]. Melanoma and breast cancer display a laterality as both cancers more frequently are located on the left part of the body. An important question is if this laterality logically can be explained by the 'reduced-repair' hypothesis. The project concluded so far that body-resonant radiation from FM broadcasting towers may disturb cell repair and apoptosis processes and that this may be one of the most important factors behind the observed increase in melanoma rates in the Nordic countries. Normal broadcasting radiation is not likely to be able to cause cellular damage *de novo*, but may be able to weaken defenses against cellular damage that may be caused by pervasive "natural" sources such as UV exposure etc.

References

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Biography

Örjan Hallberg, born 1942, received a Master of Science degree in Electrical Engineering from the Technical University of Chalmers in 1966. After heading a component engineering group within the Swedish Administration of Telecommunication he worked from 1971 to 1981 as manager of the component reliability unit within ELLEMTEL Development AB. In 1981 he was appointed quality manager within an Ericsson Company. From 1987 to 2003 Hallberg worked within Ericsson as Qualification and Vendor Assessment Manager, Product Improvement Manager and finally since 1998 as Environmental Manager for two business areas within Ericsson. From 2003 onwards Hallberg has been managing his own research company, Hallberg Independent Research. Hallberg has co-authored one book about long term reliability of technical systems, authored 17 publications in reliability journals and conferences and, so far, authored 24 publications in medical journals and conferences. In 1996 Hallberg was appointed Expert Reliability Engineering within the Ericsson corporation.

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