EMFs and dementia

Dementia

The evidence indicates that long-term significant occupational exposure to ELF magnetic fields may increase the risk of Alzheimer's disease (Davanipour <u>2007</u>, García <u>2008</u>), high frequency magnetic fields have similar consequences (Davanipour & Sobel <u>2009</u>).

Feychting (2003) suggested that "EMF exposure increases the risk of early-onset Alzheimer's disease, and suggests that magnetic field exposure may represent a late-acting influence in the disease process."

High exposures to EMFs increased the risk of developing dementia amongst twins in a Swedish study, but not lower exposures (Andel <u>2010</u>).

Huss (2009) found an increased risk of developing Alzheimer's Disease and other forms of dementia associated with living near to powerlines. The longer people lived there, the greater the risk. They did not find the same risk for ALS or Parkinson's which have been linked to occupational exposure. Maybe this is an example of the 'window' effect. The study looked at mortality data rather than diagnosis, which can underestimate numbers as chronic conditions are not always listed on death certificates, instead you find the acute condition responsible for death, such as pneumonia.

References:

Andel R et al 2010 - Work-related exposure to extremely low-frequency magnetic fields and dementia: results from the population-based study of dementia in Swedish twins J Gerontol A Biol Sci Med Sci 65(11):1220-7 PMID: 20622138

Davanipour Z & E Sobel 2009 - Long-term exposure to magnetic fields and the risks of Alzheimer's disease and breast cancer: Further biological research Pathphysiology 16(2-3):149-56 PMID: 19278839

Davanipour Z et al 2007 - A case-control study of occupational magnetic field exposure and Alzheimer's disease: results from the California Alzheimer's Disease Diagnosis and Treatment Centers BMC Neurol Jun 9;7:13 PMID: 17559686

Feychting M et al 2003 - Occupational magnetic field exposure and neurodegenerative disease Epidemiology 14(4):413-9 PMID: 12843764

García AM et al 2008 - Occupational exposure to extremely low frequency electric and magnetic fields and Alzheimer disease: a meta-analysis Int J Epidemiol 37(2):329-40 PMID: 18245151

Huss A et al 2009 - *Residence near Power Lines and Mortality from Neurodegenerative Diseases: Longitudinal Study of the Swiss Population* Am J Epidem 169(2):167-75 PMID: 18990717