

# Occupational Magnetic Field Exposure, Cardiovascular Disease Mortality, and Potential Confounding by Smoking

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**PURPOSE:** To assess the relationship between occupational magnetic field (MF) exposure and cardiovascular disease (CVD) mortality and to determine whether smoking could confound this relationship.

**METHODS:** Death certificate and proxy respondent information from the US 1986 and 1993 National Mortality Followback Surveys (NMFS) were used to determine whether job titles with potential occupational MF exposure were risk factors for CVD mortality and whether smoking behavior may confound the observed relationship. A qualitative MF exposure matrix was developed based on job titles and published exposure measurements. In a case-control analysis, logistic regression models, adjusting for age, sex, race, working status, level of education, and survey year, were used to examine the associations between estimated MF exposure and death from CVD. To assess the effect of adjustment for smoking, we conducted our analyses with and without including smoking-related variables in the models, and evaluated the change in CVD risk estimates.

**RESULTS:** There was no consistent dose-response relationship between occupational MF exposure estimates and CVD mortality. Adjustment for smoking behavior did not appreciably change the observed MF exposure-CVD mortality relationship.

**CONCLUSIONS:** Although limited by self-reported information on exposure and smoking, our results suggest that CVD mortality was not associated with MF exposure in this study, and smoking behavior was not an apparent confounder of the MF-CVD association.

**KEY WORDS:** Arrhythmia, Atherosclerosis, Myocardial Infarction, Cardiovascular Disease, Electromagnetic Fields, Smoking.