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### **Occupational exposure to magnetic fields and the risk of brain tumors.**

[Coble JB](#), [Dosemeci M](#), [Stewart PA](#), [Blair A](#), [Bowman J](#), [Fine HA](#), [Shapiro WR](#), [Selker RG](#), [Loeffler JS](#), [Black PM](#), [Linnet MS](#), [Inskip PD](#).

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The authors investigated the association between occupational exposure to extremely low frequency magnetic fields (MF) and the risk of glioma and meningioma. Occupational exposure to MF was assessed for 489 glioma cases, 197 meningioma cases, and 799 controls enrolled in a hospital-based case-control study. Lifetime occupational history questionnaires were administered to all subjects and supplemented for 24% of jobs with job-specific questionnaires, or job modules, to obtain information on the use of electrically powered tools or equipment at work. Job-specific quantitative estimates for exposure to MF in milligauss (mG) were assigned using a previously published job exposure matrix (JEM) with modification based on the job modules. Jobs were categorized as <1.5 mG, 1.5 to <3.0 mG, and greater than or equal to 3.0 mG. Four exposure metrics were evaluated: 1) maximum exposed job; 2) total years of exposure above 1.5 mG; 3) cumulative lifetime exposure; and 4) average lifetime exposure. Odds ratios were calculated using unconditional logistic regression with adjustment for the age, gender and hospital site. The job modules increased the number of jobs with exposure equal to or greater than 3.0 mG from 4% to 7% relative to the JEM. No statistically significant elevation in odds ratios or trends in odds ratios across exposure categories was observed using four different exposure metrics for the three tumor types analyzed. Occupational exposure to magnetic fields assessed using job modules was not associated with an increase in the risk for glioma, glioblastoma or meningioma among the subjects evaluated in this study.

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