electricians of 0.71 (95%CI 0.48–1.06). Total person months at risk (excluding months with no sex, pregnancy, surgical sterility or menopause) were 12 696 for welders and 13 313 for electricians. Likelihood of conceiving in any month at risk was significantly reduced with use of better contraception, drinking >7 units of alcohol, increasing age, number of previous pregnancies and, for welders, smoking >10 cigarettes/day. No effect of either current or cumulative work in trade was evident having adjusted for confounding. HR for working as a welder was −0.07 95% CI −0.49–0.35.

Conclusions Female infertility presents challenges as an outcome in occupational epidemiology, but data can be structured to allow for time at risk. Analysis to date has demonstrated no important effect of exposure to welding.

### PARENTAL OCCUPATIONAL EXPOSURE TO EXTREMELY LOW-FREQUENCY MAGNETIC FIELDS AND THE RISK OF LEUKAEMIA IN THE OFFSPRING

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Background Leukaemia is the most common cancer diagnosed in children worldwide, accounting for about one third of all paediatric malignancies in economically developed countries. Despite extensive research, the aetiology of this cancer remains largely unknown. Previous studies suggested that parental occupational exposure to extremely low-frequency magnetic fields (ELF-MF) may increase leukaemia risk in the offspring.

Objective We aimed to evaluate the association of parental occupational exposure to ELF-MF with the risk of acute lymphoblastic leukaemia (ALL) and acute myeloid leukaemia (AML) in their offspring.

Methods We pooled data from 11 case-control studies participating in the Childhood Leukaemia International Consortium (CLIC). The studies included 9723 childhood leukaemia cases and 17 099 controls. Data on parental job history and other characteristics of the study population were collected by questionnaires and interviews, except for the Finnish study where data was obtained from population registries and censuses. Parental occupational ELF-MF exposure was estimated by linking job histories to an independently developed international ELF-MF job-exposure matrix. Logistic regression models were used to estimate odds ratios (OR) and 95% confidence intervals (95% CI). We employed two analytical approaches to obtain summary risk estimates. First, we conducted pooled analyses of all studies combined. Second, we summarized ORs from individual studies in meta-analyses.

Results The summary OR estimates from pooled analyses for paternal ELF-MF exposure at conception were 1.04 (95% CI 0.95–1.13) for ALL and 1.06 (95% CI 0.87–1.29) for AML, at >0.2 microtesla (μT) compared to ≤0.2 μT. Corresponding estimates for maternal ELF-MF exposure during pregnancy, using again the 0.2 μT cut-off, were 1.00 (95% CI 0.89–1.12) for ALL and 0.85 (95% CI 0.61–1.16) for AML. No trends with increasing exposure level were evident. Furthermore, no associations were observed in the meta-analyses.

Conclusion Our study did not find any associations between parental occupational ELF-MF exposure and childhood leukaemia.
identified 20 relevant studies of prenatal noise exposure levels and health. Maternal tissues attenuate industrial noise by about 30 dB. The foetus responds the earliest to noise exposure from the 19th week of gestational age. There is some evidence of an increased risk of hearing loss at prenatal noise levels ≥85 dBA (8 hour average) and little evidence at lower levels. Increased risks for preterm birth, small-for-gestational-age and congenital malformations are seen as single study findings at levels ≥90 dBA. There is little evidence for how noise exposure may increase the risk of extra-auditive effects in the foetus. Methodological shortcomings and the scarce number of studies limit the conclusions that can be drawn. Still, we recommend pregnant women avoid working at noise levels ≥85 dBA.

**Abstracts**

**018.5 INFERTILITY IN A COHORT OF MALE DANISH FIREFIGHTERS**

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**Introduction**

Firefighters are exposed to many hazardous agents, including heat, stress, nightwork and chemicals, which may have negative impact on their fertility. Despite this, there is a lack of epidemiologic studies in the field. We aimed to examine infertility among male Danish firefighters.

**Methods**

We established a cohort of 4710 male Danish firefighters born from 1964 to 1992 based on historical records from employers and trade unions. The firefighter’s unique personal identification number, applied to all residents in Denmark, was used as a key identifier for linkage of information from nationwide registers. Information on vital status and health data and household, mother and child characteristics were obtained from medical records, by face-to-face interview at maternity, and through cox regression analyses comparing the firefighters to two reference groups: a) a random sample of employees and b) military employed men.

**Results**

Among the full time firefighters (n = 1,253), male factor infertility was significantly increased compared to the sample of employees (IVF model HR = 1.5, 95% CI 1.1–1.9 and NPR model HR = 1.5, 95% CI 1.2–2.0). Results were less consistent using the military employees as reference. Further, the increase in infertility seemed restricted to the time employed as firefighter and, thus disappeared when the men quit firefighting. No increase in risk of either male factor or overall infertility was seen among the part time/volunteer firefighters (n = 1,497).

**Conclusion**

Full time firefighting was associated with an increased risk of being diagnosed with male factor infertility. This was not the case for part time firefighters. The increased risk seemed confined to actual firefighting time, indicating an occupational association,