

Magnetic fields and leukaemia risks in UK electricity supply workers

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Table S1. Relative risks of leukaemia^a by levels of estimated cumulative magnetic field exposure (four separate analyses), UK electricity generation workers first employed in power stations, 1973-2010.

Exposure to magnetic fields ($\mu\text{T.y}$) ^b	n	RR ^c	(95 % CI)	RR ^d	(95% CI)
<i>Model 1. Occupational cumulative lifetime exposure to magnetic field.</i>					
0-	101	1.0		1.0	
2.5-	34	0.92	(0.62 to 1.36)	0.94	(0.64 to 1.40)
5.0-	57	0.96	(0.69 to 1.34)	0.98	(0.70 to 1.36)
10.0-	46	0.95	(0.67 to 1.35)	0.97	(0.68 to 1.39)
≥ 20.0	18	0.86	(0.52 to 1.42)	0.86	(0.52 to 1.43)
RR per 10 $\mu\text{T.y}$ ^e		0.96	(0.85 to 1.10)	0.97	(0.85 to 1.10)
<i>Model 2. Occupational exposure to magnetic fields received more than ten years ago (lagged exposure)</i>					
0-	109	1.0		1.0	
2.5-	39	1.11	(0.76 to 1.60)	1.10	(0.76 to 1.60)
5.0-	53	1.02	(0.73 to 1.43)	1.00	(0.71 to 1.42)
10.0-	42	1.07	(0.74 to 1.56)	1.06	(0.72 to 1.56)
≥ 20.0	13	0.81	(0.45 to 1.46)	0.79	(0.43 to 1.46)
RR per 10 $\mu\text{T.y}$ ^f		0.95	(0.82 to 1.10)	0.94	(0.81 to 1.08)
<i>Occupational exposure to magnetic fields received less than ten years ago (lagged exposure)</i>					
Zero	154	1.0		1.0	
0.01-	53	0.94	(0.68 to 1.30)	0.95	(0.67 to 1.34)
0.5-	17	0.68	(0.41 to 1.15)	0.69	(0.38 to 1.23)
2.0-	16	0.78	(0.45 to 1.34)	0.83	(0.45 to 1.54)
≥ 5.0	16	1.03	(0.59 to 1.78)	1.11	(0.59 to 2.07)
RR per 10 $\mu\text{T.y}$ ^g		1.04	(0.66 to 1.64)	1.20	(0.74 to 1.94)

- cancer registration or any part of death certificate coded to ICD-9 204-208.
- one year refers to a working year, approx. 250 8-hour shifts.
- analysed simultaneously with sex and attained age (5 year age groups)
- analysed simultaneously with sex, attained age, calendar period (5 year periods), and negotiating body (NJM, NJB, NJC, NJIC + NJ(B+C)E).
- five exposure categories scored by the mean value in each category, namely 0.76, 3.72, 7.27, 13.92, 38.50 $\mu\text{T.y}$.
- five exposure categories scored by the mean value in each category, namely 0.71, 3.70, 7.25, 13.75, 37.82 $\mu\text{T.y}$.
- five exposure categories scored by the mean value in each category, namely zero, 0.19, 1.11, 3.29, 12.26 $\mu\text{T.y}$.

Table S2. Relative risks of chronic myeloid leukaemia (CML)^a by levels of estimated cumulative magnetic field exposure (four separate analyses), UK electricity generation workers first employed in power stations, 1973-2010.

Exposure to magnetic fields ($\mu\text{T.y}$) ^b	n	RR ^c	(95 % CI)	RR ^d	(95% CI)
<i>Model 1. Occupational cumulative lifetime exposure to magnetic field.</i>					
0-	9	1.0		1.0	
2.5-	6	1.73	(0.62 to 4.86)	1.69	(0.60 to 4.75)
5.0-	10	1.77	(0.72 to 4.36)	1.71	(0.69 to 4.26)
10.0-	5	1.08	(0.36 to 3.23)	1.05	(0.35 to 3.18)
≥ 20.0	2	0.97	(0.21 to 4.51)	1.04	(0.22 to 4.88)
RR per 10 $\mu\text{T.y}$ ^e		0.95	(0.67 to 1.36)	0.97	(0.67 to 1.39)
<i>Model 2. Occupational exposure to magnetic fields received more than ten years ago (lagged exposure)</i>					
0-	10	1.0		1.0	
2.5-	8	2.31	(0.90 to 5.94)	2.54	(0.97 to 6.63)
5.0-	8	1.54	(0.59 to 4.01)	1.85	(0.69 to 4.98)
10.0-	5	1.29	(0.42 to 3.93)	1.72	(0.54 to 5.45)
≥ 20.0	1	0.62	(0.08 to 4.99)	0.97	(0.11 to 8.15)
RR per 10 $\mu\text{T.y}$ ^f		0.89	(0.58 to 1.35)	0.94	(0.61 to 1.46)
<i>Occupational exposure to magnetic fields received less than ten years ago (lugged exposure)</i>					
Zero	16	1.0		1.0	
0.01-	6	0.94	(0.36 to 2.45)	0.59	(0.21 to 1.66)
0.5-	5	1.58	(0.55 to 4.50)	0.64	(0.18 to 2.29)
2.0-	2	1.74	(0.16 to 3.41)	0.31	(0.06 to 1.73)
≥ 5.0	3	1.58	(0.41 to 6.00)	0.68	(0.14 to 3.24)
RR per 10 $\mu\text{T.y}$ ^g		1.48	(0.51 to 4.24)	1.11	(0.34 to 3.61)

- cancer registration or any part of death certificate coded to ICD-9 205.1.
- one year refers to a working year, approx. 250 8-hour shifts.
- analysed simultaneously with sex and attained age (5 year age groups)
- analysed simultaneously with sex, attained age, calendar period (5 year periods), and negotiating body (NJM, NJB, NJC, NJIC + NJ(B+C)E).
- five exposure categories scored by the mean value in each category, namely 0.76, 3.72, 7.27, 13.92, 38.50 $\mu\text{T.y}$.
- five exposure categories scored by the mean value in each category, namely 0.71, 3.70, 7.25, 13.75, 37.82 $\mu\text{T.y}$.
- five exposure categories scored by the mean value in each category, namely zero, 0.19, 1.11, 3.29, 12.26 $\mu\text{T.y}$.

Table S3. Relative risks of acute myeloid leukaemia (AML)^a by levels of estimated cumulative magnetic field exposure (four separate analyses), UK electricity generation workers first employed in power stations, 1973-2010.

Exposure to magnetic fields ($\mu\text{T.y}$) ^b	n	RR ^c	(95 % CI)	RR ^d	(95% CI)
<i>Model 1. Occupational cumulative lifetime exposure to magnetic field.</i>					
0-	27	1.0		1.0	
2.5-	9	0.96	(0.45 to 2.06)	1.04	(0.48 to 2.23)
5.0-	14	0.97	(0.50 to 1.88)	1.06	(0.54 to 2.07)
10.0-	16	1.39	(0.73 to 2.63)	1.53	(0.80 to 2.93)
≥ 20.0	4	0.81	(0.28 to 2.33)	0.84	(0.29 to 2.45)
RR per 10 $\mu\text{T.y}$ ^e		1.00	(0.78 to 1.27)	1.01	(0.80 to 1.28)
<i>Model 2. Occupational exposure to magnetic fields received more than ten years ago (lagged exposure)</i>					
0-	29	1.0		1.0	
2.5-	10	1.17	(0.56 to 2.43)	1.17	(0.56 to 2.45)
5.0-	14	1.13	(0.58 to 2.22)	1.15	(0.58 to 2.28)
10.0-	14	1.50	(0.75 to 3.00)	1.53	(0.75 to 3.15)
≥ 20.0	3	0.79	(0.23 to 2.67)	0.77	(0.22 to 2.73)
RR per 10 $\mu\text{T.y}$ ^f		1.02	(0.79 to 1.33)	1.02	(0.78 to 1.33)
<i>Occupational exposure to magnetic fields received less than ten years ago (lagged exposure)</i>					
Zero	39	1.0		1.0	
0.01-	19	1.28	(0.72 to 2.28)	1.30	(0.70 to 2.42)
0.5-	5	0.75	(0.29 to 1.97)	0.80	(0.27 to 2.34)
2.0-	3	0.52	(0.16 to 1.77)	0.64	(0.17 to 2.39)
≥ 5.0	4	0.86	(0.29 to 2.59)	1.05	(0.31 to 3.53)
RR per 10 $\mu\text{T.y}$ ^g		0.79	(0.31 to 2.01)	0.98	(0.37 to 2.57)

- cancer registration or any part of death certificate coded to ICD-9 205.0.
- one year refers to a working year, approx. 250 8-hour shifts.
- analysed simultaneously with sex and attained age (5 year age groups)
- analysed simultaneously with sex, attained age, calendar period (5 year periods), and negotiating body (NJM, NJB, NJC, NJIC + NJ(B+C)E).
- five exposure categories scored by the mean value in each category, namely 0.76, 3.72, 7.27, 13.92, 38.50 $\mu\text{T.y}$.
- five exposure categories scored by the mean value in each category, namely 0.71, 3.70, 7.25, 13.75, 37.82 $\mu\text{T.y}$.
- five exposure categories scored by the mean value in each category, namely zero, 0.19, 1.11, 3.29, 12.26 $\mu\text{T.y}$.

Table S4. Relative risks of chronic lymphatic leukaemia (CLL)^a by levels of estimated cumulative magnetic field exposure (four separate analyses), UK electricity generation workers first employed in power stations, 1973-2010.

Exposure to magnetic fields ($\mu\text{T.y}$) ^b	n	RR ^c	(95 % CI)	RR ^d	(95% CI)
<i>Model 1. Occupational cumulative lifetime exposure to magnetic field.</i>					
0-	57	1.0		1.0	
2.5-	13	0.61	(0.33 to 1.11)	0.61	(0.33 to 1.11)
5.0-	26	0.73	(0.46 to 1.17)	0.72	(0.45 to 1.16)
10.0-	19	0.65	(0.38 to 1.10)	0.64	(0.38 to 1.09)
≥ 20.0	10	0.79	(0.40 to 1.56)	0.79	(0.40 to 1.55)
RR per 10 $\mu\text{T.y}$ ^e		0.93	(0.77 to 1.12)	0.93	(0.77 to 1.12)
<i>Model 2. Occupational exposure to magnetic fields received more than ten years ago (lagged exposure)</i>					
0-	59	1.0		1.0	
2.5-	16	0.81	(0.46 to 1.41)	0.82	(0.47 to 1.43)
5.0-	24	0.81	(0.49 to 1.31)	0.81	(0.49 to 1.32)
10.0-	17	0.76	(0.44 to 1.34)	0.78	(0.44 to 1.37)
≥ 20.0	9	1.00	(0.48 to 2.05)	1.04	(0.50 to 2.16)
RR per 10 $\mu\text{T.y}$ ^f		0.96	(0.78 to 1.17)	0.96	(0.78 to 1.17)
<i>Occupational exposure to magnetic fields received less than ten years ago (lagged exposure)</i>					
Zero	93	1.0		1.0	
0.01-	22	0.76	(0.46 to 1.23)	0.76	(0.46 to 1.26)
0.5-	5	0.41	(0.16 to 1.04)	0.39	(0.15 to 1.04)
2.0-	9	0.93	(0.45 to 1.92)	0.84	(0.39 to 1.84)
≥ 5.0	6	0.82	(0.34 to 1.97)	0.74	(0.30 to 1.84)
RR per 10 $\mu\text{T.y}$ ^g		0.91	(0.44 to 1.85)	0.89	(0.43 to 1.85)

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- one year refers to a working year, approx. 250 8-hour shifts.
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- analysed simultaneously with sex, attained age, calendar period (5 year periods), and negotiating body (NJM, NJB, NJC, NJIC + NJ(B+C)E).
- five exposure categories scored by the mean value in each category, namely 0.76, 3.72, 7.27, 13.92, 38.50 $\mu\text{T.y}$.
- five exposure categories scored by the mean value in each category, namely 0.71, 3.70, 7.25, 13.75, 37.82 $\mu\text{T.y}$.
- five exposure categories scored by the mean value in each category, namely zero, 0.19, 1.11, 3.29, 12.26 $\mu\text{T.y}$.

Table S5. Relative risks of acute lymphatic leukaemia (ALL)^a by levels of estimated cumulative magnetic field exposure (four separate analyses), UK electricity generation workers first employed in power stations, 1973-2010.

Exposure to magnetic fields ($\mu\text{T.y}$) ^b	n	RR ^c	(95 % CI)	RR ^d	(95% CI)
<i>Model 1. Occupational cumulative lifetime exposure to magnetic field.</i>					
0-	1	1.0		1.0	
2.5-	3	8.77	(0.91 to 84.5)	8.97	(0.93 to 86.5)
5.0-	1	2.20	(0.14 to 35.6)	2.26	(0.14 to 36.8)
10.0-	3	9.06	(0.91 to 90.2)	9.30	(0.93 to 92.9)
≥ 20.0	2	13.56	(1.19 to 155)	13.19	(1.15 to 151)
RR per 10 $\mu\text{T.y}$ ^e		1.58	(1.03 to 2.43)	1.57	(1.02 to 2.41)
<i>Model 2. Occupational exposure to magnetic fields received more than ten years ago (lagged exposure)</i>					
0-	4	1.0		1.0	
2.5-	2	1.90	(0.32 to 11.2)	1.51	(0.25 to 9.02)
5.0-	1	0.75	(0.07 to 7.44)	0.53	(0.05 to 5.52)
10.0-	2	2.16	(0.32 to 14.6)	1.30	(0.17 to 9.89)
≥ 20.0	1	2.60	(0.23 to 28.8)	1.20	(0.09 to 16.5)
RR per 10 $\mu\text{T.y}$ ^f		1.32	(0.74 to 2.35)	1.23	(0.67 to 2.26)
<i>Occupational exposure to magnetic fields received less than ten years ago (lagged exposure)</i>					
Zero	2	1.0		1.0	
0.01-	2	2.07	(0.27 to 15.6)	3.10	(0.38 to 25.6)
0.5-	2	3.94	(0.46 to 33.7)	8.50	(0.75 to 96.2)
2.0-	2	4.09	(0.46 to 36.3)	10.10	(0.79 to 129)
≥ 5.0	2	4.41	(0.46 to 42.1)	11.74	(0.79 to 176)
RR per 10 $\mu\text{T.y}$ ^g		2.02	(0.51 to 7.99)	2.47	(0.56 to 11.0)

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- analysed simultaneously with sex, attained age, calendar period (5 year periods), and negotiating body (NJM, NJB, NJC, NJIC + NJ(B+C)E).
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- five exposure categories scored by the mean value in each category, namely 0.71, 3.70, 7.25, 13.75, 37.82 $\mu\text{T.y}$.
- five exposure categories scored by the mean value in each category, namely zero, 0.19, 1.11, 3.29, 12.26 $\mu\text{T.y}$.