

Table 2.5 Cohort studies of workers exposed to mineral oils and stomach cancer

Reference, location, name of study	Cohort description	Exposure assessment	Organ site (ICD code)	Exposure categories	No. of cases/deaths	Relative risk (95% CI)*	Adjustment for potential confounders	Comments
Decoufle (1978) USA	2485 metal machining plant workers employed 1938-1967 in 1+ years blue collar job	Work in jobs with cutting oil mist exposure	Stomach	5+ years in oil mist exposure jobs	17	[1.2]	Age, calendar year	Observed vs. expected presented
Järholm et al. (1981) Sweden	788 men in the metal industry followed for cancer incidence by linkage to the Swedish cancer registry	Job classification 242 men classified as turners and 551 as grinders	Stomach (151)	5+ years exposure to oil mist	7	[1.2]		Observed vs. expected presented
Järholm et al. (1985) Sweden	682 bearing ring industry workers followed 1977-1983	Lathe operators	Stomach	5+ years exposure to oil mist				Observed vs. expected presented
Rønneberg et al. (1988) Norway	529 men exposed to mineral oils in Norwegian cable manufacturing company	Work process characterization	Stomach	1+ years work	1	[3.4 expected]	Age, calendar time	Not readily explained by smoking ; evidence pertains to non-severely refined low and high viscosity oils
Eisen et al. (1992) USA	33619 male automotive workers employed 3+ years prior to end of 1984; mortality follow-up through 1984	Air measurements, modeling of plant-department-job specific levels by experts	Stomach	Ever exposed to straight oils	49	1.1 (0.8-1.5)	Plant, gender, race, age, year at risk, length of follow-up	
				Ever exposed to soluble oils	99	1.2 (1.0-1.5)		

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Acquavella et al. (1993) USA	3630 metal components manufacturing workers followed from 1950-1987	Exposure inferred by industrial hygienists based on work location	Stomach	Metal dusts, cutting oils, and fluids	2	1.1 (0.1-4.0)	Age, calendar time, sex	
Kazerouni et al. (2000) USA	23698 men employed at automotive plant between 1938 and 1967, followed to 1980	Work in jobs with cutting oil mist exposure	Stomach	Heavy exposure to oil mist	36	1.1 (0.8-1.5)	Age, race, calendar year	
Eisen et al. (2001) USA	46399 male automotive workers employed 3+ years prior to end of 1984; mortality follow-up through 1994	Air measurements, modeling of plant-department-job specific levels by experts	Stomach	High exposure to straight oils	30	1.1 (0.8-1.7)	Plant, sex, race, age, year at risk, length of follow-up	
				High exposure to soluble oils	43	1.1 (0.7-1.6)		
Yassi et al. (2003) Canada	2222 men employed in transformer manufacturing	Work process characteristics	Stomach cancer	Mortality Incidence	n/a n/a	0.8 (0.2-2.3) 1.3 (1.5-2.7)	Age, sex, calendar year	Exposure inferred only from work process, not identified further

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Zeka et al. (2004) USA	31100 hourly auto workers alive on 1 January 1985 who worked at three automobile plants in Michigan cases identified from the Michigan cancer registry January 1985 through January 1 2000	Air measurements, modeling of plant-department-job specific levels by experts	Stomach cancer (C16.0-16.9)	Soluble fluids Straight chain fluids Synthetic fluids	77 total	1.0 (1.0-1.1) 1.0 (0.8-1.1) 0.7 (0.3-1.4)	Age	Case cohort analysis. Subcohort comprised 3110 male cohort members, randomly sampled
Zhao et al. (2005) USA	6107 male aerospace workers hired before 1980 in the aerospace division who worked 2+ years and followed for cancer mortality	Detailed industrial hygiene review to construct job-exposure matrix	Oesophagus & stomach : mortality	Low Medium High	22 11 7	1.0 2.0 (0.9-4.3) 2.3 (0.7-5.9)		Similar findings (with smaller numbers) for cohort of 5049 workers followed for cancer incidence