

**Table 2.7 Cohort studies of workers exposed to mineral oils and cancer of the colon and rectum**

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	Large intestine Rectum	5+ years in oil mist exposure jobs	17 8	[1.3] [1.2]	Age, calendar year	Observed vs. expected presented
Järholm et al. (1985) Sweden	682 bearing ring industry workers followed 1977-1983	Lathe operators	Intestine/rectum	5+ years exposure to oil mist	9	[0.7] (0.3-1.3)		Observed vs. expected presented
Rønneberg et al. (1988) Norway	529 men exposed to mineral oils in Norwegian cable manufacturing company	Work process characterization	Colon	1+ years work	4	1.4 (0.4-3.3)	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	Colon, rectum	Ever exposed to straight oils  Ever exposed to soluble oils	Colon: 59 Rectum: 37  Colon: 116 Rectum: 51	0.8 (0.6-1.0) 1.5 (1.0-2.0)  0.9 (0.7-1.0) 1.1 (0.8-1.4)	Plant, sex, race, age, year at risk, length of follow-up	
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	Large intestine Rectum	Heavy exposure to oil mist	40 13	0.8 (0.6-1.1) 0.7 (0.4-1.2)	Age, race, calendar year	

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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	Colon, rectum	High exposure to straight oils	Colon: 37 Rectum: 24	0.8 (0.5-1.1) 2.0 (1.2-3.5)	Plant, sex, race, age, year at risk, length of follow-up			
				High exposure to soluble oils	Colon: 59 Rectum: 26	0.9 (0.6-1.3) 1.4 (0.8-2.8)				
Zhao et al. (2005) USA	5049 male aerospace workers hired before 1980 in the aerospace division who worked 2+ years	Detailed industrial hygiene review to construct job-exposure matrix	Colon & rectum	Low Medium High	67 15 8	1.0 0.9 (0.5-1.6) 0.9 (0.4-2.0)		Cancer incidence  Similar findings (with smaller numbers) for cohort of 6107 workers followed for cancer mortality		
Malloy et al. (2007) USA	46399 automobile workers who worked before 1985, followed from 1941-1985	Air measurements, modeling of plant-department-job specific levels by experts	Rectum	<i>Straight: fluids</i>		90 cases total	1.2 (0.6-2.2) 1.6 (0.9-3.2) 1.5 (0.8-2.8) 2.7 (1.4-5.3) 1.2 (0.5-3.0) 1.9 (0.8-4.6) 1.4 (0.6-3.6) 1.9 (0.6-6.4)	Age, race, plant, start year, calendar year, and other types of fluid exposure		
				Quintile 2						
				Quintile 3						
				Quintile 4						
				Quintile 5						
				<i>Soluble fluids</i>						
				Quintile 2						