

Table A. International Classification of Diseases (ICD) coding of cholangiocarcinoma, intrahepatic cholangiocarcinoma, and extrahepatic cholangiocarcinoma in the Nordic countries.

Cancer site	Finland (ICD-7)	Iceland (ICD-10)	Norway (ICD-7)	Sweden (ICD-7/9)
Cholangiocarcinoma	155.0 with histology code "07" ^c , 155.2	C22.1, C24.0, C24.1	155.1, 156.1, 156.2	155.1 (ICD-9) ^d , 152.0, 155.2, 155.3 (ICD-7)
Intrahepatic cholangiocarcinoma	155.0 with histology code "07" ^c	C22.1	155.1	155.1 (ICD-9) ^d
Extrahepatic cholangiocarcinoma	155.2	C24.0, C24.1	156.1, 156.2	152.0, 155.2, 155.3 (ICD-7)

^a A local adaptation of ICD-7 was used.

^b ICD coding was done simultaneously in several versions: starting 1958 in ICD-7, starting 1987 in ICD-9.

^c Finnish histology code "07" was used to distinguish ICC from other liver cancers.

^d Intrahepatic cholangiocarcinoma cases were included starting 1987 when coding according to ICD-9 was introduced. Before 1987 it was not possible to separate intrahepatic cancers from liver cancer.

Table B. Occupational codes classified as uninformative and recoded to missing.

Country	Code	Description
Finland	9999	Unknown occupation
Iceland	X-10	New workers seeking employment
Iceland	X-20	Workers reporting occupations unidentifiable or inadequately described
Iceland	X-30	Workers not reporting any occupation
Norway	X2	Persons with non-identifiable work
Norway	X21	Persons with non-identifiable work
Norway	X22	Persons with not identified work
Norway	X23	Persons with work without income
Norway	X3	Unspecified occupation
Sweden	999	Workers reporting occupations unidentifiable or inadequately described

Table C. Occupational categories and codes related to printing industry work.

Occupation	Occupational codes			
	Finland	Iceland	Norway	Sweden
Typographer	700	9-21	801	801
Printer	701	9-22, 9-24, 9-25	803	808
Lithographer	702	^a	802	801 ^b
Bookbinder	703	926	804	806
Other occupation	709	929	80	809

^a This occupational code does not exist in Iceland.

^b In Sweden one occupational code is used for “Typographers and Lithographers”.

Table D. Occupational exposure to asbestos and risk of cholangiocarcinoma. Estimates from logistic regression models conditioned on matching variables (year of birth, gender, and country) and adjusted by printing industry work (never/ever).

Metric for occupational exposure to asbestos	All cholangiocarcinoma					Intrahepatic cholangiocarcinoma					Extrahepatic cholangiocarcinoma				
	Cases	Controls	OR	(95%CI)	P trend	Cases	Controls	OR	(95%CI)	P trend	Cases	Controls	OR	(95%CI)	P trend
	N=8,231	N=37,389				N=1,458	N=6,773				N=3,972	N=18,221			
Never/ever exposed															
Never	6,861	31,052	1.0	(Ref.)		1,171	5,548	1.0	(Ref.)		3,225	14,727	1.0	(Ref.)	
Ever	1,370	6,337	1.1	(1.0–1.1)		287	1,225	1.2	(1.1–1.4)		747	3,494	1.1	(1.0–1.2)	
Maximum intensity ^a															
0 f/ml	6,861	31,052	1.0	(Ref.)		1,171	5,548	1.0	(Ref.)		3,225	14,727	1.0	(Ref.)	
<0.11 f/ml	786	3,605	1.1	(1.0–1.2)		147	735	1.1	(0.9–1.3)		443	1,950	1.1	(1.0–1.3)	
0.11–0.79 f/ml	321	1,550	1.0	(0.9–1.2)		77	286	1.4	(1.1–1.9)		171	877	1.0	(0.8–1.2)	
≥0.80 f/ml	263	1,182	1.1	(0.9–1.3)	0.113	63	204	1.6	(1.2–2.2)	<0.001	133	667	1.0	(0.8–1.2)	0.882
Duration of exposure ^a															
0 years	6,861	31,052	1.0	(Ref.)		1,171	5,548	1.0	(Ref.)		3,225	14,727	1.0	(Ref.)	
<21 years	678	3,180	1.1	(1.0–1.2)		149	632	1.2	(1.0–1.5)		372	1,763	1.0	(0.9–1.2)	
22–41 years	545	2,532	1.1	(1.0–1.2)		111	477	1.2	(1.0–1.5)		297	1,394	1.0	(0.9–1.2)	
≥42 years	147	625	1.2	(1.0–1.4)	0.049	27	116	1.2	(0.8–1.9)	0.022	78	337	1.2	(0.9–1.5)	0.239
Cumulative exposure ^a															
0 f/ml * years	6,861	31,052	1.0	(Ref.)		1,171	5,548	1.0	(Ref.)		3,225	14,727	1.0	(Ref.)	
0.1–1.1 f/ml * years	699	3,133	1.1	(1.0–1.2)		144	641	1.2	(1.0–1.4)		377	1,688	1.1	(1.0–1.2)	
1.2–14.9 f/ml * years	522	2,595	1.0	(0.9–1.1)		109	480	1.2	(1.0–1.5)		296	1,476	1.0	(0.9–1.1)	
≥15.0 f/ml * years	149	609	1.2	(1.0–1.4)	0.119	34	104	1.7	(1.1–2.6)	0.004	74	330	1.1	(0.8–1.4)	0.506
Cumulative exposure ^b															
0 f/ml * years	6,861	31,052	1.0	(Ref.)		1,171	5,548	1.0	(Ref.)		3,225	14,727	1.0	(Ref.)	
0.1–4.9 f/ml * years	969	4,534	1.1	(1.0–1.1)		199	927	1.1	(0.9–1.3)		536	2,447	1.1	(1.0–1.2)	
5.0–9.9 f/ml * years	142	704	1.0	(0.8–1.2)		27	106	1.3	(0.9–2.1)		81	444	0.9	(0.7–1.2)	
10.0–14.9 f/ml * years	110	490	1.1	(0.9–1.4)		27	88	1.6	(1.1–2.5)		56	273	1.0	(0.8–1.4)	
≥15.0 f/ml * years	149	609	1.2	(1.0–1.4)	0.032	34	104	1.7	(1.1–2.6)	<0.001	74	330	1.1	(0.8–1.4)	0.524

Abbreviations: CI, confidence interval; OR, odds ratio; Ref., reference category.

^aCutoffs based on quartile of the distribution of the exposure among subjects with a non-zero exposure. ^bEqual intervals.

Table E. Cumulative exposure to asbestos and risk of intrahepatic cholangiocarcinoma. Analysis stratified by gender, country, reference age, and birth cohort. Estimates from logistic regression models conditioned on matching variables (year of birth, gender, and country) and adjusted by printing industry work (never/ever).

Stratification variable	Cumulative exposure											
	0 f/ml * years			0.1–1.1 f/ml * years			1.2–14.9 f/ml * years			≥15.0 f/ml * years		
	Cases	OR	(95%CI)	Cases	OR	(95%CI)	Cases	OR	(95%CI)	Cases	OR	(95%CI)
Entire study population	1,171	1.0	(Ref.)	144	1.2	(1.0–1.4)	109	1.2	(1.0–1.5)	34	1.7	(1.1–2.6)
Gender												
Females	650	1.0	(Ref.)	22	1.5	(0.9–2.5)	2	^a	^a	0	^a	^a
Males	521	1.0	(Ref.)	122	1.1	(0.9–1.4)	107	1.2	(0.9–1.5)	34	1.8	(1.2–2.7)
Country												
Finland	429	1.0	(Ref.)	57	1.4	(1.0–1.9)	38	1.5	(1.0–2.3)	25	1.9	(1.1–3.0)
Iceland	10	1.0	(Ref.)	0	^a	^a	1	^a	^a	0	^a	^a
Norway	199	1.0	(Ref.)	27	1.1	(0.7–1.7)	30	1.2	(0.8–2.0)	4	1.6	(0.5–5.2)
Sweden	533	1.0	(Ref.)	60	1.0	(0.8–1.4)	40	0.9	(0.6–1.3)	5	1.5	(0.5–4.0)
Reference age												
<65 years	623	1.0	(Ref.)	88	1.2	(0.9–1.5)	73	1.5	(1.1–2.0)	9	1.3	(0.6–2.8)
≥65 years	548	1.0	(Ref.)	56	1.2	(0.8–1.6)	36	0.8	(0.6–1.2)	25	2.0	(1.2–3.2)

Abbreviations: CI, confidence interval; OR, odds ratio; Ref., reference category.

^aAnalysis not performed due to the limited number of cases.