

Supplemental Tables for web publication only:

Table E1: Duration of employment in significant “ever” occupations by age 42

Occupation	Excluded*	Case/ total n	No asthma – median years	Asthma – median years	p- value**
5122 - Cooks	4	40/363	2.58	2.50	0.473
5123 - Waiters, waitresses & bartenders	9	78/658	1.37	1.55	0.859
5133 - Home-based personal care workers	2	60/402	3.18	1.88	0.016
5141 - Hairdressers, barbers, beauticians	1	32/217	5.00	3.71	0.167
5169 - Protective services workers	1	14/129	2.09	2.67	0.910
6130 - Market-oriented crop and animal producers	1	10/56	9.35	6.01	0.161
7232 - Aircraft engine mechanics and fitters	0	5/30	5.41	6.12	0.889
7341 - Compositors, typesetters	1	10/59	4.58	5.17	0.904
8263 - Sewing-machine operators	4	18/129	3.83	2.00	0.062
9131 - Domestic helpers and cleaners	2	16/111	3.14	1.08	0.022
9132 - Helpers and cleaners in offices, hotels	13	68/503	1.99	1.70	0.401
9133 - Hand-laundrerers and pressers	1	8/49	1.83	1.91	0.871
9151 - Messengers, package and luggage porters and deliverers	2	12/101	1.59	1.04	0.356
9152 - Doorkeepers, watchpersons	1	13/81	0.95	2.78	0.068
9313 - Building construction labourers	6	18/201	1.36	5.42	0.009
9320 - Manufacturing labourers	8	27/190	2.00	2.08	0.895
9322 - Hand packers & other manufacturing labourers	7	22/163	1.59	0.63	0.011

* Excluded due to missing or inconsistent dates

**Mann-Whitney test

Table E2: Significant associations between adult onset asthma and “ever” working in an ASJEM exposure group – stratified by sex

Ever exposure	case/ total	OR*	95% CI	case/ total	OR*	95% CI	p- value#
	MEN			WOMEN			
Mutually exclusive groups of exposure^							
Non exposed	33/630	-	-	114/1234	1.00	-	-
Exposed to low risk only	78/1291	1.17	0.76-1.78	85/796	1.21	0.89-1.63	0.914
Exposed to high risk only	16/213	1.51	0.81-2.83	50/382	1.57	1.10-2.26	0.911
Exposed to both high and low risk	80/1209	1.29	0.84-1.99	155/1333	1.36	1.05-1.77	0.838
Non-mutually exclusive groups of exposure~							
Any HMW exposure	40/671	1.25	0.77-2.02	143/ 1226	1.33	1.02-1.74	0.806
Any LMW exposure	74/ 1085	1.42	0.91-2.20	115/881	1.52	1.14-2.02	0.798
Any mixed exposure	28/ 461	1.23	0.72-2.10	47/346	1.61	1.10-2.34	0.422
LMW highly reactive chemicals	21/407	1.05	0.59-1.87	53/ 402	1.48	1.04-2.12	0.318
LMW reactive cleaning products	19/212	1.99	1.09-3.63	73/543	1.57	1.14-2.18	0.504
LMW metal and metal fume antigens	30/479	1.29	0.76-2.20	20/130	1.74	1.03-2.95	0.438
Mixed environments: textile production	3/62	0.87	0.25-3.01	29/195	1.88	1.19-2.97	0.256
Combustion fumes	85/1159	1.54	1.00-2.37	40/379	1.12	0.76-1.66	0.284
High probability of exposure to ETS	17/243	1.44	0.78-2.67	88/705	1.40	1.03-1.90	0.927
Possible irritants gases or fumes	91/1421	1.35	0.88-2.06	129/1111	1.32	1.00-1.74	0.947
Low antigens	99/ 1585	1.28	0.84-1.94	191/1687	1.29	1.00-1.67	0.962

Bold = reached conventional levels of statistical significance p<0.05

* adjusted for smoking, fathers social class at birth, region and childhood hayfever

#Ratio of odds ratios

^113 men and 205 women who had provided insufficient information to be certain regarding exposure status for their entire working life were excluded

~Each effect estimate is from a separate model with the reference group being individuals who had always been non-exposed. NB the groups are not mutually exclusive and are not adjusted for exposure to any of the other agents in the table

Table E3: Significant associations between adult onset asthma and “ever” working in an ASJEM exposure group – stratified by smoking status at age 42

Ever exposure	cases/ total	OR*	95% CI	cases/ total	OR*	95% CI	p- value#
	Never smokers			Ever smokers			
Mutually exclusive groups of exposure^							
Non exposed	83/1043	1.00	-	64/821	1.00	-	
Exposed to low risk only	56/912	0.94	0.65-1.36	107/1175	1.47	1.05-2.05	0.080
Exposed to high risk only	30/278	1.58	1.00-2.48	36/317	1.60	1.03-2.48	0.961
Exposed to both high and low risk	78/963	1.19	0.85-1.66	157/1579	1.54	1.12-2.10	0.271
Non-mutually exclusive groups of exposure~							
Any HMW exposure	70/786	1.25	0.89-1.76	113/ 1111	1.44	1.04-1.99	0.566
Any LMW exposure	65/717	1.44	1.01-2.05	124/1249	1.60	1.15-2.21	0.673
Any mixed exposure	30/282	1.87	1.18-2.96	45/525	1.36	0.91-2.05	0.312
HMW animal antigens	12/ 96	2.01	1.02-3.94	9/153	0.91	0.44-1.88	0.117
HMW Flour	3/38	1.30	0.39-4.38	11/73	2.66	1.31-5.39	0.318
HMW antigenic enzymes	1/30	0.53	0.07-4.00	11/60	3.50	1.71-7.19	0.085
LMW reactive cleaning / disinfecting products	30/257	1.68	1.06-2.65	62/498	1.77	1.22-2.58	0.852
LMW metal and metal fume antigens	15/211	1.22	0.67-2.22	35/398	1.62	1.03-2.55	0.457
Mixed environments: textile production	9/76	1.65	0.78-3.50	23/181	1.92	1.14-3.24	0.743
Mixed environments: Agriculture	16/ 144	2.11	1.17-3.83	19/255	1.21	0.70-2.08	0.173
Combustion particles/fumes	37/581	1.14	0.75-1.75	88/957	1.64	1.15-2.34	0.203
High probability of exposure to ETS	30/319	1.18	0.75-1.86	75/629	1.64	1.15-2.35	0.265
Possible irritants gases or fumes	73/973	1.16	0.83-1.64	147/1559	1.52	1.11-2.09	0.261
Low antigens	97/1306	1.10	0.80-1.50	193/1966	1.51	1.11-2.04	0.154

Bold = reached conventional levels of statistical significance p=0.05

*adjusted for sex, fathers social class at birth, region and childhood hayfever

#Ratio of odds ratios

^167 never smokers and 151 who had provided insufficient information to be certain regarding exposure status for their entire working life were excluded

~Each effect estimate is from a separate model with the reference group being individuals who had always been non-exposed. NB the groups are not mutually exclusive and are not adjusted for exposure to any of the other agents in the table

Table E4: Significant associations between adult onset asthma and “ever” working in an ASJEM exposure group – stratified by atopy

Ever exposure	cases/ total	OR*	95% CI	cases/ total	OR*	95% CI	p- value#
	Not atopic (n=3791)			Atopic (n=1285)			
Mutually exclusive groups of exposure^							
Non exposed	48/929	1.00	-	56/342	1.00	-	-
Exposed to low risk only	58/1036	1.31	0.87-1.98	52/371	1.05	0.68-1.62	0.467
Exposed to high risk only	19/292	1.20	0.69-2.09	23/102	1.74	0.98-3.07	0.361
Exposed to both high and low risk	90/1385	1.30	0.90-1.89	77/413	1.38	0.93-2.05	0.837
Non-mutually exclusive groups of exposure~							
Any HMW exposure	67/1008	1.20	0.81-1.77	63/335	1.32	0.87-2.01	0.735
Any LMW exposure	70/1043	1.40	0.94-2.09	60/324	1.55	1.01-2.38	0.733
Any mixed exposure	18/410	0.92	0.52-1.63	32/147	1.94	1.15-3.28	0.058
HMW fish antigens	3/14	6.56	1.67-25.78	0/5	-	-	0.007
HMW flour	6/48	3.00	1.18-7.62	4/17	1.38	0.42-4.56	0.319
HMW enzymes	5/41	2.82	1.02-7.74	3/10	2.07	0.49-8.79	0.734
LMW metal and metal fume antigens	15/300	1.24	0.66-2.32	16/107	1.34	0.70-2.55	0.869
LMW reactive cleaning products	34/411	1.43	0.90-2.30	31/115	2.12	1.25-3.61	0.280
Mixed environments: textile production	4/124	0.50	0.17-1.42	14/45	2.80	1.33-5.91	0.009
High probability of exposure to ETS	47/489	1.63	1.06-2.52	30/147	1.31	0.78-2.21	0.519

Bold = reached conventional levels of statistical significance (p<0.05)

* adjusted for sex, smoking, fathers social class at birth, region and childhood hayfever

#Ratio of ORs

~Each effect estimate is from a separate model with the reference group being individuals who had always been non-exposed. NB the groups are not mutually exclusive and are not adjusted for exposure to any of the other agents in the table

Table E5: Duration of employment in significant “ever” ASJEM exposures by age 42

ASJEM exposures	Excluded*	Case/ total n	No asthma – median years	Asthma – median years	p- value**
Any high risk	42	296/3095	6.50	5.77	0.117
Any low risk	48	392/4581	8.63	7.07	0.001
Any HMW	25	181/1871	5.17	4.84	0.665
Any LMW exposure	33	184/1933	5.17	3.61	0.019
Any mixed	16	74/791	4.00	3.38	0.343
HMW flour associated antigens	2	14/109	2.08	1.71	0.638
HMW antigenic enzymes	2	12/88	2.25	1.71	0.408
LMW reactive cleaning / disinfecting products	19	90/736	2.59	1.92	0.238
LMW metal and metal fume antigens	12	48/598	5.43	4.75	0.592
Mixed environments: textile production	10	31/247	3.00	1.67	0.015
Combustion particles/fumes: vehicle / motor exhaust	24	120/1513	6.04	4.25	0.007
High probability of exposure to environmental tobacco smoke	11	105/938	2.00	2.00	0.346
Possible exposure to irritants gasses or fumes	31	216/2499	5.08	3.81	0.024
Low antigens: May be exposed to "asthmagens" but low probability of enough exposure for OA	48	285/3225	5.48	5.31	0.112

* Excluded due to missing or inconsistent dates

**Mann-Whitney U test

Table E6: ASJEM exposures assigned to occupational groups

Occupation (ISCO-88 code)	ASJEM risk group	Specific ASJEM exposures*
Reference group	Non exposed	
5122-Cooks	Low risk	Low antigen
5123-Waiters, waitresses & bartenders	Low risk	ETS Low antigens
5133-Home-based personal care workers	Non exposed uncertain exposures (some high & low risk)	(some individuals had latex, cleaning or irritants)
5141-Hairdressers, barbers, beauticians	High risk	LMW highly reactive chemicals
5169-Protective services workers	Non exposed uncertain (some high & low risk)	(some individuals had latex, cleaning or irritants)
6130-Market-oriented crop and animal producers	High risk	Mixed exposures: agricultural antigens
7232-Aircraft engine mechanics and fitters	Low risk	Low antigens
7341-Compositors, typesetters	Low risk	Low antigens
8263-Sewing-machine operators	High risk	Mixed environments: textile production
9130-Cleaners unspecified	Low risk	Possible exposure to irritants, gasses or fumes Low antigen exposure
9131-Domestic helpers and cleaners	High risk Low risk	HMW mite and insect antigens LMW cleaning/disinfecting product Possible exposure to irritants gasses or fumes
9132-Helpers and cleaners in offices, hotels	High risk Low risk	LMW cleaning/disinfecting product Possible exposure to irritants
9133-Hand-laundryers and pressers	High risk	LMW highly reactive chemicals LMW reactive cleaning/disinfecting product
9151-Messengers, package and luggage porters and deliverers	Non exposed (some high & low risk)	(some individuals had cleaning , metals or irritants)
9152-Doorkeepers, watchpersons	Non exposed (some low risk)	(some individuals had combustion or ETS)
9313-Building construction labourers	Low risk	Possible irritants (some individuals had wood, low antigens, metals or irritants)
9320-Manufacturing labourers	Uncertain	-
9322-Hand packers & other manufacturing labourers	Uncertain	-

*A specific exposure may be added or reassigned on an individual basis during the expert re-evaluation step