

## ONLINE SUPPLEMENT

### Association of low FVC spirometric pattern with WTC occupational exposures

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Table OS1. Comparison of the study group to members of the cohort with acceptable spirometries, but without follow up studies, and thus excluded from the study.

Variable	Value	Included		Excluded		StD <sup>‡</sup>
		n or mean	% or SD	n or mean	% or SD	
n		10,284	56.6	7,874	43.4	
Age on 9/11/2001	years	39.7	8.7	38.1	8.9	0.20
Sex	Male	8,779	85.4	6,684	84.9	0.01
	Female	1,505	14.6	1,190	15.1	
Height	cm	173.7	9.4	174.3	9.1	-0.05
Smoking status	Current Smoker	1,434	13.9	1,128	14.3	0.01
	Former Smoker	2,580	25.1	1,941	24.7	
	Never Smoker	6,075	59.1	4,658	59.2	
	Missing	195	1.9	147	1.9	
Ethnicity/race	Non-Latino/ White	5,612	54.6	4,393	55.8	0.10
	Latino	3,086	30.0	1,957	24.9	
	Non-Latino/Other	230	2.2	162	2.1	
	Non-Latino/Black	1,289	12.5	873	11.1	
	Missing	67	0.7	489	6.2	
BMI category	Normal	1,484	14.4	1,069	13.6	0.08
	Overweight	4,625	45.0	3,313	42.1	
	Obese	4,175	40.6	3,492	44.4	
Cohort entry period	2002-2005	6,218	60.5	3,255	41.3	0.47
	2006-2008	2,708	26.3	2,238	28.4	
	In or after 2009	1,358	13.2	2,381	30.2	
Pre-WTC occupation group	Protective	4,314	42.0	3,761	47.8	0.12
	Construction	2,716	26.4	1,772	22.5	
	Other	2,193	21.3	1,587	20.2	
	BCM&IRG <sup>†</sup>	1,061	10.3	754	9.6	
WTC arrival	< 48 hr	6,338	61.6	4,943	62.8	-0.03
	> 48 hr	3,868	37.6	2,837	36.0	
	Missing	78	0.76	94	1.19	
WTC exposure duration	less than 60 days	4,897	47.6	4,070	51.7	0.09
	≥ 60 days	5,321	51.7	3,720	47.2	
	Missing	66	0.6	84	1.1	
BDRany*	Yes	1,537	15.0	718	9.1	0.16
	No	8,121	79.0	6,056	76.9	
	Missing	626	6.1	1,100	14.0	
Eosinophil count	> 300/mcl	2,042	19.9	866	11.0	0.22
	< 300/mcl	8,221	79.9	6,465	82.1	
	Missing	21	0.20	543	6.9	
Neutrophil count	> 6,000/mcl	2,690	26.2	1,277	16.2	0.21
	≤ 6,000/mcl	7,573	73.6	6,054	76.9	
	Missing	21	0.2	543	6.9	
Probable MetSyn <sup>‡</sup>	2-4 criteria	1,888	18.4	715	9.1	0.25
	0-1 criteria	8,377	81.5	6,633	84.2	
	Missing	19	0.2	526	6.7	
Heart rate	≤ 90 bpm	10,002	97.3	7,203	91.5	0.15
	> 90 bpm	254	2.5	47	0.6	
	Missing	28	0.3	624	7.9	

<sup>†</sup>BCM&IRG: buildings and grounds cleaning and maintenance, and electrical, telecommunications and other installation and repair groups; \*BDRany: bronchodilator response at any visit; <sup>‡</sup>probable metabolic syndrome, based on 4 of 5 criteria (see Methods); <sup>‡</sup>StD: standardized difference

Table OS2. Simple and multiple logistic regression models of low FVC vs. early arrival (within 48 hours) at the WTC disaster site, stratified by sex, in 10,284 study subjects.

Characteristic	value	OR	95%CI	OR <sub>adj</sub>	95% CI
Arrival at WTC disaster site/sex	≤ 48 hours/men	1.43	1.30, 1.58	1.29	1.17, 1.43
	≤ 48 hours/women	0.91	0.71, 1.18	0.92	0.71, 1.19
	> 48 hours	ref	ref	ref	ref
Age on 9/11/2001	5 year unit	1.04	1.02, 1.07	1.10	1.07, 1.13
Ethnicity/race	Non-Latino/Black	ref	ref	ref	ref
	Non-Latino/White	1.81	1.56, 2.10	1.74	1.50, 2.03
	Latino/any race	1.98	1.70, 2.31	2.71	2.30, 3.19
	Non-Latino/Other	3.53	2.67, 4.67	4.39	3.23, 5.96
Height	5 cm unit	1.17	1.15, 1.20	1.22	1.18, 1.26
BMI category	Normal weight	ref	ref	ref	ref
	Overweight	1.45	1.30, 1.61	1.41	1.27, 1.58
	Obese	2.51	2.24, 2.81	2.34	2.08, 2.63
Cohort entry period	2002-2005	ref	ref	ref	ref
	2006-2008	1.10	1.00, 1.21	0.99	0.89, 1.09
	2009+	1.34	1.19, 1.52	1.00	0.87, 1.14
Smoking status	Never smoker	ref	ref	ref	ref
	Former smoker	1.04	0.97, 1.12	0.97	0.90, 1.05
	Current smoker	0.93	0.83, 1.03	1.06	0.95, 1.18
Pre-WTC occupation group	Construction	ref	ref	ref	ref
	Other	1.22	1.08, 1.38	1.15	1.01, 1.31
	Protective	1.38	1.24, 1.53	1.17	1.04, 1.32
	BCM&IRG <sup>†</sup>	1.28	1.10, 1.50	1.31	1.12, 1.53
WTC exposure duration	<60 days	ref	ref	ref	ref
	>60 days	1.01	0.93, 1.10	1.06	0.97, 1.16
BDRany*	Absent	ref	ref	ref	ref
	Present	1.66	1.50, 1.85	1.50	1.34, 1.68
Probable MetSyn	0-1 criteria	ref	ref	ref	ref
	2-4 criteria	1.67	1.51, 1.84	1.32	1.19, 1.46
Heart rate	≤ 90 bpm	ref	ref	ref	ref
	> 90 bpm	1.69	1.35, 2.13	1.35	1.06, 1.72
Eosinophil count	≤ 300/mcl	ref	ref	ref	ref
	> 300/mcl	1.01	0.91, 1.12	0.92	0.83, 1.02
Neutrophil count	≤ 6000/mcl	ref	ref	ref	ref
	> 6000/mcl	1.40	1.28, 1.53	1.27	1.16, 1.40

<sup>†</sup>BCM&IRG: buildings and grounds cleaning and maintenance, and electrical, telecommunications and other installation and repair groups;

\*BDRany: bronchodilator response at any visit;

<sup>‡</sup>probable metabolic syndrome, based on only 4 criteria (see Methods)