

## Respiratory Health And Work in the Post-Katrina Environment

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**Rationale:** New Orleans residents and workers have had exposures to bioaerosols and other noxious contaminants left by the floodwaters of Hurricane Katrina. In a longitudinal study to examine associations between work in and around flood-damaged structures and the risks of respiratory illness, baseline findings are presented.

**Methods:** Spirometry was performed on 594 participants who worked for various public and private institutions, or were private residents of the New Orleans area, with some restoring/remediating their own homes. Administered questionnaire included information on respiratory health, smoking history, and pre- and post-Katrina work and occupation. Any time since Katrina spent in demolition, trash removal, landscape restoration, sewer line repair, or mold remediation ("dirty jobs") was taken as indicating exposure to flood-related contaminants. An interview question about transient fever and cough at the end of a workday was used as an indicator of possible hypersensitivity or toxic reaction. Multiple linear regression was used to relate percent predicted (%P) FEV<sub>1</sub>, FVC and FEV<sub>1</sub>/FVC to exposure, after adjusting for smoking category.

**Results:** 74% of study participants reported time spent in at least one of the dirty jobs. The table shows that significant differences between exposed and nonexposed subjects were observed for %P FEV<sub>1</sub> for current smokers and for %P FEV<sub>1</sub>/FVC for ex- and never smokers.

Percent Predicted Lung Function -Mean ± SE-	CURRENT SMOKERS: ? ANY DIRTY JOB (n)		EX- AND NEVER SMOKERS: ? ANY DIRTY JOB (n)	
	NO (39)	YES (120)	NO (114)	YES (321)
%P FEV <sub>1</sub>	97.4 ± 2.10*	91.8 ± 1.56*	94.4 ± 1.48	96.3 ± 0.80
%P FVC	98.2 ± 1.97	94.4 ± 1.31	94.7 ± 1.41	94.9 ± 0.76
%P FEV <sub>1</sub> /FVC	99.0 ± 1.10	96.7 ± 0.90	99.4 ± 0.77 <sup>§</sup>	101.2 ± 0.40 <sup>§</sup>
* p = 0.06, <sup>§</sup> p = 0.02, both two-tailed				

31% of study participants reported at least one episode of transient fever/cough since Katrina, and a significantly increased risk was observed with dirty jobs (RR = 1.51, p = 0.007, CI: 1.10-2.09). This association was also observed in ex- and never smokers (RR = 1.78, p = 0.003, CI: 1.19-2.67), but not in current smokers (RR = 1.07, p = .80, CI: 0.64-1.7796). No significant differences in %P FEV<sub>1</sub>, FVC and FEV<sub>1</sub>/FVC were observed between subjects with and without fever/cough.

**Conclusions:** Baseline symptoms and lung function data may be reflecting inhalant exposures to contaminants left in the wake of flooding from Hurricane Katrina.

This abstract is funded by: CDC/NIOSH Grant No. 5R01OH008938-03