

Date: Mon, 26 Dec 2005 10:14:47 -0800
To: "James E. Enstrom" <jenstrom@ucla.edu>
From: Andrea Hricko <ahricko@usc.edu>
Subject: Re: .pdf of particulate paper?

Thanks so much.

At 09:22 AM 12/26/2005, you wrote:

Dear Prof. Hricko:

I have mailed you a reprint of my *Inhalation Toxicology* paper. You can also obtain a copy via this web link:

<http://www.journalsonline.tandf.co.uk/link.asp?id=p0gr311404273122> .

Thank you for your interest in my research. Please let me know if you have any comments or questions regarding it.

Best regards,

James E. Enstrom, Ph.D., M.P.H.
jenstrom@ucla.edu
(310) 825-2048

Date: Sun, 25 Dec 2005 22:26:21 -0800
To: jenstrom@ucla.edu
From: Andrea Hricko <ahricko@usc.edu>
Subject: .pdf of particulate paper?
Cc: jerrett@usc.edu

Dear Dr. Enstrom: Can you please send me a copy of this paper. Many thanks, Andrea Hricko, USC

1: [Inhal Toxicol.](#) 2005 Dec 15;17(14):803-16. [Related Articles, Links](#)

Fine particulate air pollution and total mortality among elderly Californians, 1973-2002.

[Enstrom JE.](#)

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Fine particulate air pollution has been associated with increases in long-term mortality in selected cohort studies, and this association has been influential in the establishment of air quality regulations for fine particles (PM_{2.5}). However, this epidemiologic evidence has been questioned because of methodological issues, conflicting findings, and lack of an accepted causal mechanism. To further evaluate this association, the long-term relation between fine particulate air pollution and total mortality was examined in a cohort of 49,975 elderly Californians, with a mean age of 65 yr as of 1973. These subjects, who resided in 25 California counties, were enrolled in 1959, recontacted in 1972, and followed from 1973 through 2002; 39,846 deaths were identified. Proportional hazards regression models were used to determine their relative risk of death (RR) and 95% confidence interval (CI) during 1973-2002 by county of residence. The models adjusted for age, sex, cigarette smoking, race, education, marital status, body mass index, occupational exposure, exercise, and a dietary factor. For the 35,789 subjects residing in 11 of these counties, county-wide exposure to fine particles was estimated from outdoor ambient concentrations measured during 1979-1983 and RRs were calculated as a function of these PM_{2.5} levels (mean of 23.4 microg/m³). For the initial period, 1973-1982, a small positive risk was found: RR was 1.04 (1.01-1.07) for a 10-microg/m³ increase in PM_{2.5}. For the subsequent period, 1983-2002, this risk was no longer present: RR was 1.00 (0.98-1.02). For the entire follow-up period, RR was 1.01 (0.99-1.03). The RRs varied somewhat among major subgroups defined by sex, age, education level, smoking status, and health status. None of the subgroups that had significantly elevated RRs during 1973-1982 had significantly elevated RRs during 1983-2002. The RRs showed no substantial variation by county of residence during any of the three follow-up periods. Subjects in the two counties with the highest PM_{2.5} levels (mean of 36.1 microg/m³) had no greater risk of death than those in the two counties with the lowest PM_{2.5} levels (mean of 13.1 microg/m³). These epidemiologic results do not support a current relationship between fine particulate pollution and total mortality in elderly Californians, but they do not rule out a small effect, particularly before 1983.

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