



STAPH Meal: Society To Always Procure Healthfully Newsletter

OFFICIAL NEWSLETTER OF DR. MIKE: THE FOOD SHAMAN

IN THIS ISSUE: BONES AND CALCIUM

With Bated Breath

*“Shall I bend low and in a bondman’s key,
With bated breath and whisp’ring humbleness...”*
~ Shakespeare; *The Merchant Of Venice Act 1, scene 3, 123-124*

In Shakespeare’s *The Merchant of Venice* the Jewish usurer, Shylock, rhetorically asks whether he should servilely bow, and whisper like a slave (“bondman”). He mocks the idea that he ought to respond “with bated breath”. This phrase which today is interpreted as meaning “with one’s breath held” actually means with reduced breath. The term “To bate” is akin “to abate”; meaning to diminish, reduce, or blunt.

With bated, or reduced breath, may be the new normal for the urban dweller. A recent study examined the cross-sectional relationship between air pollution and both HDL cholesterol and HDL particle number in the MESA Air study (Multi-Ethnic Study of Atherosclerosis Air Pollution). The study



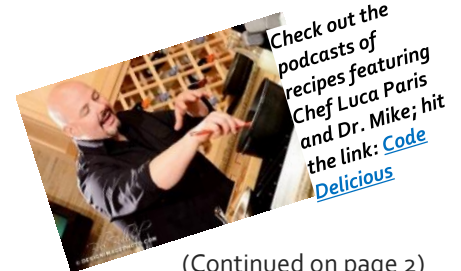
consisted of over 6500 participants of varying ethnicity. Ambient fine particulate pollution exposure (PM_{2.5}; (250 µg/m³)) has been associated with an increased risk for cardiovascular events (CVD) like heart attack and stroke.

As experts have observed:

PM_{2.5} pollution contributes to 3.7 million premature deaths per year worldwide, predominantly through acute effects on the cardiovascular system. Indeed, PM pollution is the most frequent trigger for

myocardial infarction at the population level. Even at levels below the current National Ambient Air Quality Standards (NAAQS), associations of PM_{2.5} exposure with increased cardiovascular risk have been found in sensitive individuals. Moreover, many urban areas outside of North America continue to have elevated levels of PM_{2.5} pollution.

The researchers in the MESA study found that exposure to black carbon (a marker of traffic-related pollution) averaged over a 1-year period was significantly associated with a lower HDL cholesterol.



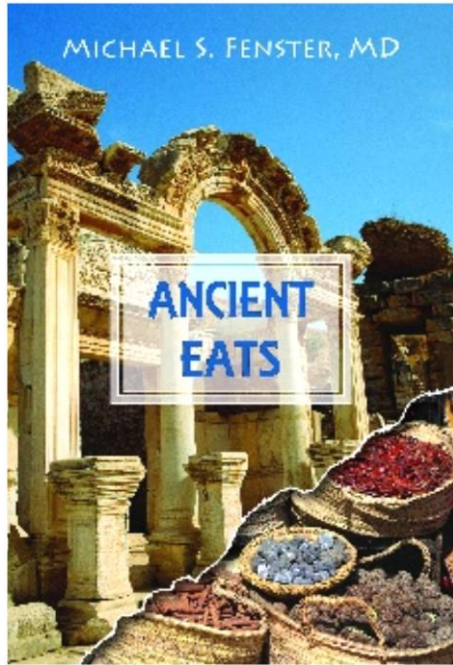
Check out the podcasts of recipes featuring Chef Luca Paris and Dr. Mike; hit the link: [Code Delicious](#)

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Air Pollution (continued from Page 1)

These findings are consistent with the observation that exposure to air pollution is adversely associated with risk of CVD. Since these effects appear to be inflammation mediated, another recent study looked at



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Natural and scrumptious foods like fish are a great source of vitamin B₆

Cheeses, yogurts and certain fish are among great dietary sources of vitamin B₁₂!



the effects of adding B-complex vitamins (2.5 mg/d folic acid, 50 mg/d vitamin B6, and 1 mg/d vitamin B12). The idea was to see if adding such supplements could help reduce the cardiac and inflammatory effects of air pollution.

Just 2 hours per day of pollution exposure was enough to significantly increase markers of cardiac vulnerability and inflammation (Heart Rate, total White Blood Cell count, and lymphocyte count (a type of white blood cell)).

These effects were observably attenuated by taking vitamin B supplementation. But the story is even more intriguing than simply taking supplements for some risk

The results were fascinating. In agreement with previous investigations, B-vitamins, often marketed as "stress vitamins," significantly reduced those markers of inflammation associated with man-made toxins.

Foods rich in these vitamin B₆ include fish like tuna and salmon, beef, chicken, sweet potatoes, potatoes, spinach and bananas. Foods that are great sources of B₁₂ include tuna, salmon, sardines, cod, lamb, scallops, shrimp, beef, and yogurt.

Folic acid is found in many kinds of beans, lentils, asparagus, spinach, broccoli, and turnip greens. A delicious natural diet may even help save us from ourselves.

Bell, G., Mora, S., Greenland, P., Tsai, M., Gill, E., & Kaufman, J. D. (2017). Association of Air Pollution Exposures With High-Density Lipoprotein Cholesterol and Particle Number. *Atherosclerosis, Thrombosis and Vascular Biology*, *https://doi.org/10.1161/ATVBAHA.116.308193*.

Zhong, J., Trevisi, L., Urch, B., Lin, X., Speck, M., Coull, B. A., . . . Baccarelli, A. A. (2017). B-vitamin Supplementation Mitigates Effects of Fine Particles on Cardiac Autonomic Dysfunction and Inflammation: A Pilot Human Intervention Trial. *Scientific Reports*, *7*: 45322 doi:10.1038/srep45322.

HEALTHY BYTES BY THE NUMBERS



10%

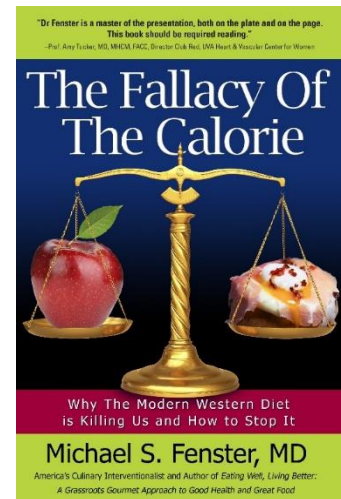
The increase in total white blood cell count after just 2 hours of air pollution exposure



12%

The percent decrease in total white blood cell count after taking vitamin B supplementation after 2 hour exposure to air pollution compared to maximum exposure without vitamins

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