

# Bigger cut in smoke exposure for immediate nicotine reduction

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(HealthDay)—Immediate reduction of nicotine in cigarettes leads to

significantly greater decreases in biomarkers of smoke exposure than gradual reductions in nicotine levels, according to a study published in the Sept. 4 issue of the *Journal of the American Medical Association*.

Dorothy K. Hatsukami, Ph.D., from the University of Minnesota in Minneapolis, and colleagues performed a double-blind, randomized, parallel-design study to assess the impact of (1) immediate reduction to 0.4 mg of nicotine per gram of [tobacco cigarettes](#); (2) gradual reduction from 15.5 mg to 0.4 mg of nicotine per gram of tobacco cigarettes with five monthly dose changes; or (3) maintenance on 15.5 mg of nicotine per gram of tobacco cigarettes. A total of 1,250 daily smokers with no intention to quit within 30 days were randomized.

The researchers observed significantly lower levels of exposure in the immediate- versus gradual-reduction group for breath carbon monoxide (CO; mean difference, -4.06 parts per million), urine 3-hydroxypropylmercapturic acid (3-HPMA; ratio of geometric means, 0.83), and urine phenanthrene tetraol (PheT; ratio of geometric means, 0.88). Similarly, significantly lower levels of exposure were seen for the immediate reduction versus control groups for CO (mean difference, -3.38), 3-HPMA (ratio of geometric means, 0.81), and PheT (ratio of geometric means, 0.86). There were no significant differences between the gradual reduction and control groups.

"Immediate reduction in [nicotine](#) content of cigarettes provided the greatest reduction in biomarkers of [smoke exposure](#) over time," the authors write.

Several authors disclosed financial ties to the pharmaceutical industry; one author reported serving as a paid expert witness in litigation against [tobacco](#) companies.

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