

Indoor Air Pollution: The Pulmonary Effects of Ozone-Generating Air Purifiers

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1

Key Points

- A 2-hour exposure to an ozone-generating room air purifier reduced an important measure of pulmonary function among the asthmatics tested by 11%.
- A 3-hour exposure to a personal air purifier reduced pulmonary function among both the asthmatic subset and the whole study population by 23% and 10%, respectively.

2

Change in FEV₁/FVC Ratio after a 2-hour Exposure to a Room Air Purifier

	Whole Population	Asthmatics
Mean Before	0.85 ±0.04	0.73 ± 0.12
Mean After	0.85 ±0.05	0.65 ±0.12
Change	0	-0.08
% Reduction	0%	-11%

3

Change in FEV₁/FVC Ratio after 3-hour Exposure to a Personal Air Purifier

	Whole Population	Asthmatics
Mean Before	0.83 ±0.08	0.79 ± 0.16
Mean After	0.75 ±0.05	0.61 ±0.09
Change	-0.08	-0.18
% Reduction	-9.6%	-22.8%

4

Conclusions

- The ozone-generating air purifiers tested clearly showed no beneficial effects on the respiratory parameters that were measured.
- The personal air purifiers had an even greater negative effect than the room air purifiers.

5

Conclusions, continued

- Perhaps the Air Resources Board should consider setting two different ozone emissions standards—50 ppb for room air purifiers, and an even lower limit for personal air purifiers.
- I strongly support the ARB in their efforts to limit ozone emissions from air purifiers.

6