

While it's been over 50 years since catalytic converters were required on all combustion engine automobiles, seeing an experiment demonstrate these drastic differences between the health effects of exhaust fumes with and without oxidative conversion was rather surprising. I didn't understand the importance of these converters, at least in terms of pollution control. However, seeing the impact that non-converted exhaust can have on mice, and additionally, learning about the detrimental effects of irradiated exhaust with its propensity for increased toxicity levels, especially when compared to non-irradiated exhaust has made me question the greater effect that these pollutants can and do have on our natural environment, given the scale at which we operate automobiles.

Furthermore, having such a large volume of pollution produced on a daily basis is concerning. Even more so, given that the levels of Particulate Matter needed for adverse health effects are quite miniscule, with one study resulting in a 2.14% increase in mortality rate for every $10 \mu\text{g}/\text{m}^3$ increase of $\text{PM}_{2.5}$. It was also particularly scary to read about the conditions that stem from PM exposure. Overarching conditions of immunotoxicity that can cause dysregulated immune system functions or cause dysfunctional conditions in other bodily systems, like ventilatory disorder that reduces total lung capacity. All frightening and dangerous outcomes induced through Particulate Matter exposure.