

FULL TEXT LINKS

**Sage Journals**

[Toxicol Ind Health](#). 1997 Sep-Oct;13(5):559-70. doi: 10.1177/074823379701300501.

## Short-term exposure to JP-8 jet fuel results in long-term immunotoxicity

D T Harris <sup>1</sup>, D Sakiestewa, R F Robledo, M Witten

Affiliations

PMID: 9284530 DOI: [10.1177/074823379701300501](#)

### Abstract

Chronic exposure to jet fuel has been shown to have adverse effects on human liver function, to cause emotional dysfunction, to cause abnormal electroencephalograms, to cause shortened attention spans, and to decrease sensorimotor speed. Due to the decision by the United States Air Force to implement the widespread use of JP-8 jet fuel in its operations, a thorough understanding of its potential effects upon exposed personnel is both critical and necessary. Exposure to potential environmental toxicants such as JP-8 may have significant effects on host systems beyond those readily visible (i.e., physiology, cardiology, respiratory, etc.); e.g., the immune system. Previous studies have shown that short-term, low concentration JP-8 exposure had significant effects on the immune system, which should have serious consequences for the exposed host in terms of susceptibility to infectious agents. If these alterations in immune function were long-lasting, it might also result in an increased likelihood of development and/or progression of cancer, as well as autoimmune disease. In the current study, mice were exposed for 1 h/day for 7 days to a moderate (1000 mg/m<sup>3</sup>) and a high (2500 mg/m<sup>3</sup>) concentration of aerosolized JP-8 jet fuel to stimulate occupational exposures. One to 28 days after the last exposure the mice were analyzed for effects of the exposure on their immune systems. It was observed that decrease in viable immune cell numbers and immune organ weights found at 24 h after exposure persisted for extended periods of time. Further, JP-8 exposure resulted in significantly decreased immune infection, as analyzed by mitogenesis assays, which persisted for up to 4 weeks post-exposure. Thus, short-term exposure of mice to JP-8 jet fuel caused significant toxicological effects on the immune system, which were long-lasting and persistent. It appears that the immune system may be the most sensitive indicator of toxicological damage due to JP-8 exposure. Such long-term changes in immune status may have significant effects on the health of the exposed individual.

[PubMed Disclaimer](#)

### Related information

[Cited in Books](#)

[MedGen](#)

### LinkOut - more resources

Full Text Sources

[Atypon](#)

Medical

[MedlinePlus Health Information](#)