

Adverse auditory effects associated with the combined exposure to jet fuels and noise

Adrian Fuente¹

¹ Université de Montréal, Faculté de Médecine

Corresponding author's e-mail address: adrian.fuente@umontreal.ca

ABSTRACT

Exposure to chemicals such as organic solvents and jet fuels has been suggested to adversely affect peripheral and central auditory structures. However, no much evidence about the effects of jet fuel exposure on the human auditory system is available. The aim of this research was to determine the cumulative effects of the combined exposure to jet fuels and noise on the auditory system. Sixty male and female officers from the Royal Australian Air force were selected. A test battery including pure-tone audiometry, distortion product otoacoustic emissions (DPOAEs), auditory brainstem response, compressed speech and a self-report questionnaire about performance in daily-life listening situations was carried. Results showed an interaction between noise and jet fuel exposure on pure-tone thresholds and DPOAEs, especially for the high frequencies. In addition, a significant effect of jet fuel exposure on ABR results was found. Finally, some factors such as job title and chronic exposure to jet fuels were significantly associated with self-report hearing difficulties. This study provides further evidence about the peripheral and central auditory dysfunction associated with exposure to jet fuels and noise.