

# Temporal processing disorder associated with styrene exposure

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Little evidence exists on the possible adverse effects of styrene on the central part of the auditory system. The present investigation aimed to study the possible association between styrene exposure and temporal processing abilities. Fifty-nine styrene-exposed subjects and 50 nonexposed control subjects were tested. Pure-tone audiometry (125-8000 Hz) and 3 temporal processing tests (gaps-in-noise, frequency pattern test and duration pattern test) were carried out. Significant differences between groups were found for most of the audiometric thresholds for both ears. ANCOVA analysis showed that styrene-exposed subjects had significantly poorer performances on the frequency and duration pattern tests than nonexposed subjects, when including hearing level and age as covariates. The results of the present research study suggest an association between styrene exposure and central auditory dysfunction characterized by a temporal processing disorder.

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