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**Perception of speech and environmental sounds in cochlear
implant patients**

Valeriy Shafiro^a, Brian Gygi^b, Min-Yu Cheng^a, Megan Mulvey^a and Blythe Holmes^a

^aRush University Medical Center, Dept. Communication Disorders, 600 S. Paulina Str., 1015 AAC,
Chicago, IL 60612, USA

^bEast Bay Institute for Research and Education, 150 Muir Road 151-I, Martinez, CA 94552, USA

Limited research has investigated cochlear implant (CI) patients' ability to perceive environmental sounds. In this study, environmental sound perception was assessed with a large-item test composed of 40 sound sources, each represented by four different tokens. The relationship between speech and environmental sound perception and the role of working memory and basic auditory abilities was examined based on patient performance on a battery of speech tests (HINT, CNC, and individual consonant and vowel tests), tests of basic auditory abilities (audiometric thresholds, gap detection, temporal pattern and temporal order tests), and a backward digit recall test. Twelve postlingually deaf adult CI patients, having 1-5 years of implant experience participated. The results indicate substantially reduced ability to identify common environmental sounds in CI patients. Speech test scores correlated strongly with the scores on the environmental sound test. Both speech and environmental sound tests moderately correlated with gap detection, temporal order test and backward digit recall test. However, the correlation between speech and environmental sounds changed little after partialling out the variance due to other variables. These results suggest that speech and environmental sounds may overlap considerably in their perceptual processing, being largely independent of peripheral limitations that may affect both sound classes.