

JAAA CEU Program

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Questions refer to Korhonen et al, “Evaluation of a Wind Noise Attenuation Algorithm on Subjective Annoyance and Speech-in-Wind Performance,” 46–57.

Learner Outcomes:

Readers of this article should be able to:

- Identify the style of hearing aid that experiences the greatest amount of wind noise.
 - Explain how least-mean-squares filtering can reduce uncorrelated noise, serving as the basis for hearing aid wind noise attenuation.
1. Wind noise in hearing aids is generated when:
 - a. wind passes objects (trees, shrubs, car window) in the listening environment and creates noise
 - b. wind generates turbulences at the hearing aid microphone membrane
 - c. hearing aids generate internal circuit noise
 2. Because of its microphone placement, completely-in-the-canal and in-the-canal devices generally:
 - a. experience less wind noise than BTE devices
 - b. experience more wind noise than BTE devices
 - c. are immune to wind noise
 3. Generally, the strongest wind noise level is experienced for wind originating from the:
 - a. front
 - b. back
 - c. side
 4. Wind noise attenuation (WNA) algorithms typically use _____ to detect wind noise.
 - a. anemometer sensors
 - b. quick changes in the input signal
 - c. correlation of input signals between front and back microphones
 5. The adaptive WNA algorithm in the current study was designed to remove:
 - a. uncorrelated noise
 - b. correlated noise
 - c. both correlated and uncorrelated noise
 6. Stimuli were prerecorded in a wind tunnel and presented via insert earphones to allow:
 - a. control of wind characteristics across hearing aid processing conditions
 - b. post processing with experimental algorithms
 - c. presenting the stimuli at more comfortable levels
 7. The wind noise levels measured at the output of the hearing aid ranged from:
 - a. 81 to 109 dB SPL
 - b. 91 to 119 dB SPL
 - c. 101 to 129 dB SPL
 8. The measured signal-to-noise benefit at 50% performance level when using the WNA algorithm was ___ dB when wind originated from 0° at 5 m/sec.
 - a. 2.39
 - b. 4.39
 - c. 8.39
 9. Greatest change in annoyance when using the WNA algorithm was reported at a wind speed of:
 - a. 4 m/sec
 - b. 6 m/sec
 - c. 10 m/sec
 10. The phenomenon “apparent wind” refers to:
 - a. subjective perception of wind severity
 - b. average wind experienced throughout the day
 - c. the vector sum of true wind and headwind experienced in still air due to physical movement



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