Hearing Loss and Protection

Effects of Blast Injury on Hearing in a Screened Military Population Using the Blast-related Auditory Injury Database (BRAID)

During deployment, exposure to dangerous levels of combat noise, such as blast, may lead to impairments in sound recognition and communication, thereby reducing situational awareness. In addition, blast injury has been linked to hearing loss. In a recent study, the Naval Health Research Center (NHRC) investigated predictors of hearing loss among those with blast injury using data from the Blast-Related Auditory Injury Database (BRAID).

The study analyzed data from individuals that had taken a qualified hearing test within a year prior to, and following, injury (n = 1,574). Two groups were created, blast-related injury (BRI) and non-blast-related injury (NBRI). The results showed that those who sustained a blast injury were more likely to experience post-injury hearing loss (odds ratio [OR]: 2.21; 95 percent confidence interval [CI]: 1.42, 3.44), low-frequency hearing loss (OR: 1.95; 95 percent CI: 1.01, 3.78), high-frequency hearing loss (OR: 2.45; 95 percent CI: 1.43, 4.20), and reduced hearing sensitivity compared with a non-blast injury (NBRI) group (*Joseph et al., 2018*). It is estimated that approximately 63 percent of the risk for low frequency and high frequency hearing loss in deployed Service members with blast injuries could be attributed to the BRI event. NHRC's research with the BRAID will help identify at-risk populations for early intervention and hearing loss prevention, develop supportive policies and best practice guidelines for clinicians, and allocate appropriate funds and resources.

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REFERENCES:

Joseph, A. R., Shaw, J. L., Clouser, M. C., MacGregor, A. J., & Galarneau, M. R. (2018). Impact of Blast Injury on Hearing in a Screened Male Military Population. Am J Epidemiol, 187(1), 7-15. doi:10.1093/aje/kwx199