



NEUROSCIENCE AND PHYSIOLOGY SEMINAR SERIES

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“The Effects of Small Arms Fire-like Noise Exposure on the Peripheral and Central Auditory Systems.”

Hearing loss (HL), along with tinnitus, is the leading sensory disability among military personnel. Untreated, HL leads to communication difficulties, mood disorders, and cognitive decline. A common source of HL is small arms fire (SAF) noise, characterized by an acute, high intensity impulse, which is often repeated. Despite its prevalence, the specific damage progression of SAF-induced hearing loss (SAF-NIHL) is not well understood, rendering diagnostic and therapeutic strategies suboptimal. This study addresses the need to comprehensively characterize changes resulting from SAF noise exposure. Utilizing a rodent model of SAF noise exposure and longitudinal electrophysiological assessments, we evaluate functional alterations across the peripheral and central auditory systems to determine possible mechanisms of damage.



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