TINNITUS: AN EARLY PRECURSOR TO HEARING IMPAIRMENT IN NOISE EXPOSED WORKERS?

P. Wynn, Durham County Council, Durham, UK

Previous cross-sectional research has suggested a possible link between the development of tinnitus and the subsequent development of hearing loss in populations exposed to industrial noise. If such a link exists, this may offer an opportunity for early workplace intervention to reduce the risk of such hearing loss in vulnerable workers. This historic nested longitudinal case-control study describes the relationship between pre-existing tinnitus and the subsequent development of hearing loss in a cohort of occupational noise exposed male workers. Evidence of the recent onset of tinnitus as a risk factor for subsequent hearing loss in this cohort was not established, suggesting new onset tinnitus may not be a useful marker for early intervention to prevent hearing loss. Nevertheless, further research is merited in larger such cohorts and including female workers exposed to noise hazards.

References:

- 1. Noise induced hearing loss and tinnitus new research developments and remaining gaps in disease assessment, treatment and prevention. (2020) Wang T-C, Chang T-Y, Tyler R et al. Brain Sci, 2020. 10, 732; doi:10.3390/brainsci10100732
- 2. Poole K. (2010) A review of the current state of knowledge on tinnitus in relation to noise exposure and hearing loss RR768 Research Report. London: Health and Safety Executive.
- 3. Kehrle HM et al. Ten years follow up of patients with tinnitus and normal hearing. Int Tinnitus J. 2022 21;26(1):57-62.
- 4. Shore A, Wu C. (2019) Mechanisms of noise-induced tinnitus: insights from cellular studies. Neuron. 2029 July 03; 103(1): 8-20.
- 5. Pelegrin AC, Canuet L, Rodríguez AA, Morales MPA. (2015) Predictive factors of occupational noise-induced hearing loss in Spanish workers: A prospective study. Noise Health 2015 Sep-Oct;17(78):343-9.