

## Noise-induced Hearing Loss



### Dear Editor,

I read with interest the article on noise-induced hearing loss<sup>1</sup> published in the first issue of *The IJOEM* and found several points worth to mention. In that article, the author mentions that heat is one of the causes of occupational sensorineural hearing loss; I believe that it is not correct and there are no scientific data available supporting this claim.

The author also states that “the excessive exposure to noise can cause other health problems, such as auditory stress under exposures of 55 dBA,” which is incorrect too; “auditory stress” means a level of sound that causes damage to the auditory system and should exceed 85 dBA for at least 8 hours a day.

Furthermore, the author mentions that chronic exposure to noise may cause damage to the middle ear, which is incorrect—middle ear can only be damaged by acute exposure to sound (acoustic trauma).

The author also mentions that “when hearing loss is diagnosed, it is better to transfer the worker to a less noisy area.” However, this is not correct. The first step after the diagnosis of hearing loss is administrative and engineering controls. If such measures are not successful, use of hearing protective devices is recommended. Transfer of worker to a less noisy area is only done under certain circumstances the explanation of which is out of scope of this short passage.

**Conflicts of Interest:** None declared.

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### Author's Reply

#### Dear Editor,

The points raised by Dr. Davoodi were well taken. There are numerous old and new references revealing that intense heat is a cause of sensorineural hearing loss.<sup>1-3</sup> It was shown that exposure to temperatures above 44 °C for periods as short as 10 minutes resulted in a significant loss of hair cells.<sup>2</sup>

According to the World Health Organization (WHO), excessive exposure to noise can cause many health problems including auditory stress under exposures of 55 dBA; physical reaction such as hypertension, cardiac arrhythmias and muscle contractions; the increase in adrenaline production and other hormones; irritability; stress; insomnia and anxiety.<sup>4-6</sup>

In my article,<sup>7</sup> I have not said anything about “chronic exposure to noise” and its effect on the middle ear. What I said is that people have different susceptibilities to noise-induced hearing loss and that it may damage the middle ear too.<sup>8</sup>

Transfer of those with progressive hearing loss, as diagnosed by serial audiograms, despite use of protective measures and management of workplace, is a recommendation of WHO.<sup>9,10</sup>

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