Responses to Questions and Complaints Regarding Hearing and Hearing Protection (Part III)

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The dialogue of the EARLog series ¹, which began in #8 and continued in #9, is concluded in this EARLog, #10. We address additional problems that hearing conservation administrators may encounter in their ongoing efforts to educate and motivate employees concerning the importance of protecting their hearing.

Question:
How can I tell when a noise may be harmful to my ears?

Response:
When a noise is loud enough that you feel the need to shout at a distance of 3 feet in order to communicate with a normal hearing person, the noise levels are probably around 85 dBA or more and may be hazardous to your hearing. Additional information on using speech levels to judge noise levels can be gleaned from Figure 1, which depicts the ability to conduct face-to-face communications as a function of the A-weighted sound level. Figure 1 is a rough guide that is applicable for communication in non-reverberant conditions.

If, after a noise exposure, your hearing appears dulled as though you had a temporary loss (temporary threshold shift or TTS), or you hear a ringing or hissing noise in your ears (tinnitus), this is an indication that the particular exposure overstimulated your hearing. Repeated exposures over a period of weeks, months, or years, to noises which cause TTS or tinnitus, may in time lead to a noise induced hearing loss which is permanent and irreversible . . . so take the hint before it’s too late—if you can’t avoid the noise exposure, wear hearing protection.

Complaint:
Hearing protectors make my voice sound strange to me and make me more conscious of other body noises such as breathing and walking. They also make

Question:
Are all foam earplugs the same?

Response:
Are all foam earplugs the same? Definitely not. For example, thickness of foam, grade of material, and the method used to mold the foam can influence attenuation. The use of foam earplugs with a mylar envelope, such as the reusable earplugs in Figure 1, can improve comfort, such as low headband tension for earmuffs, removal of earplug flanges, undersizing premolded inserts, removing material from fiberglass, foam, or wax plugs, and cutting holes to permit a device to breathe, will increase an HPD’s comfort at the expense of its noise reducing capability. Since only the manufacturer or a special test laboratory possesses the capability to determine the exact effects of such modifications, and since manufacturers’ reported test data are always for new, unmodified devices, it is likely that user alterations will result in reduced and unreli-
such as those made from vinyl, closed-

Response:
Can I use noise reducing earplugs for

Question:
their expansion, degrading one’s ability

spiration. This can dramatically speed

ditions or are exposed to excessive per-

ture when stored in high humidity con-

generally preferred because of stability .

(PVC) or polyurethane (PU). PVC is

plug is made, typically polyvinyl chloride

impossible to insert. Conversely , if it ex-

develop too slow it may dislodge before

in a dry condition, before enter-

fortably and snugly . The plugs should be

since they fit the ear canal more com-

thing smaller than your elbow in your ear.

My mother always said “never put any-

Comment:
My mother always said “never put any-

Response:
This plat tidue is representative of the

Characteristics to effectively attenuate sound.

Additionally , such devices are often un-

comfortable and unhygienic. For ex-

ample, ordinary dry cotton is a very poor

hearing protector as shown in Figure 2.

Interestingly, a finger tip, although it cer-

tainly cannot be utilized for extended

periods of time, does provide very good

protection (see Figure 2) when forced

tightly into the ear canal.

References and Footnotes
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