

HLSim: NIOSH Hearing Loss Simulator



Interactive Activities

Scenario 1: Living with tinnitus

People who live with tinnitus hear a constant ringing or buzzing, along with external sounds, but they report it is worse in quiet situations. Add tinnitus as a background sound and set the S/N ratio to -9. Listen to a music and a voice recording to understand how that sounds in daily situations. Then turn off the foreground recording, move the S/N ratio to -8 and close your eyes. Imagine falling asleep to this sound.

Scenario 2: How do others hear me?

Background noise interferes differently with each voice. Record your own voice for 30 seconds (reading from text or simply talking about your day). Using the directions on the Simulator handout, add that recording to the hearing simulator *Sounds* folder. Now listen to your voice as the foreground sound, with a variety of background noises and differing amounts of hearing loss. In which situations is your voice easy to understand? When is it hardest to hear your voice?

Scenario 3: Experiment with custom settings

You have a new employee who will be working in the farrowing barn. He is 22 years old and is not interested in wearing hearing protection while he works. Show him how this will affect his hearing over time using the *Predicted exposure and age effects* option in the hearing loss panel. The sound of squealing pigs is about 100 dB. Assuming he is working in the barn about 6 hours a day, how will his hearing be affected after 10 years? 20 years? 40 years?

What do you have to lose?

More than just your hearing! Hearing loss can also lead to:

Physical Health effects

- Increased blood pressure
- Headaches
- Vertigo
- Tiredness/exhaustion
- Sleeping problems

Mental Health effects

- Anger and shame
- Problems concentrating
- Insecurity
- Anxiety
- Depression
- Increased risk of dementia

Social effects

- Problems communicating with family and friends
- Inability to participate in family and social functions
- Problems at work
- Isolation and withdrawal
- Relationship difficulties



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