Noise-Induced Hearing Loss (NIHL)

About 12.5 percent of children and teens have lasting hearing loss from contact with very loud noise (Sight and Hearing Association, 2013).

Why does loud noise cause hearing loss?

There are 15,000 to 20,000 tiny cells (cilia) in the inner ear that send sounds to the brain. Hearing loss can result when these cilia are damaged. To picture what happens when these cells are exposed to too much noise, think about when you walk on fresh grass. When you walk on it lightly only a few times it bounces back to its original shape. If you walk on grass often, or you crush it, it becomes matted down and will not bounce back. Exposure to sounds that are loud enough or occur long enough can damage the ears’ cilia so that they can no longer bounce back into shape and can no longer send sound to the brain. This is the cause of noise-induced hearing loss (NIHL).

Frequency is the tone of a sound. The frequency of a sound can range from very low to very high tones. At first, NIHL can make it hard to hear high tones. This can cause problems hearing speech sounds like “s”. Background noise often makes hearing these sounds even harder to hear. NIHL slowly progresses into lower tones. Once these are affected, you may have problems hearing people when they speak.

What kind of noise is too loud?

The noise is too loud if you have to raise your voice to talk to a person who is only an arm’s length away. The loudness of sound is measured in decibels (dB). Noise over 85dB can cause hearing loss. Hearing noise louder than 110dB for more than one minute can cause lasting hearing loss. Instant damage to hearing can be caused by sounds 150dB or higher. For every 5dB increase in sound level, it takes 50 percent less time to get hearing loss (Sight and Hearing Association, 2013).

When possible, the data table should follow images of a chart or graph. Table titles should be outside of the table. Keep tables as simple as possible. Try not to merge or split cells, if possible. Table alt text and captions are not mandatory when using a style to mark the table title:

<table>
<thead>
<tr>
<th>Event</th>
<th>Decibel Level</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guns</td>
<td>120dB+</td>
<td>7.5 minutes</td>
</tr>
<tr>
<td>Rock concert</td>
<td>120dB</td>
<td>7.5 minutes</td>
</tr>
<tr>
<td>Snowmobile</td>
<td>115dB</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Stereo headphones</td>
<td>110dB</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Boom box</td>
<td>110dB</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Lawn mower</td>
<td>90dB</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

Note: Decibel levels vary between sources, though the levels here are generally agreed upon in the field.
How can I prevent NIHL?

- Know how to avoid loud noise and protect your ears.
- Know which noises cause damage (those about 90 decibels).
- Wear earplugs or other hearing protective devices when involved in a loud activity. Special earplugs and other ear protectors are available at hardware stores and sporting goods stores.
- Do noisy activities for a short time, and then do something quiet to rest your ears.
- Be alert to noise in the environment.
- Tell your friends and family about this!

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