NOISE POLLUTION
Learn how to protect your ears!

Excessive exposure to loud noise is one of the main causes of hearing loss for more than 28 million people. It can also cause health problems including stress, illness, high blood pressure, and sleep disturbance.

HOW THE EAR WORKS
1. Outer ear: Sounds enter the ear, stimulate the eardrum (or tympanic membrane) to vibrate (or thrill). This vibration is conducted to the middle ear.
2. Middle ear: Vibrations in the auditory ossicles (orbiting bones) of the middle ear cause the eardrum to vibrate back and forth.
3. Inner ear: The full force of the vibrations reaches the hair cells that convert these vibrations to impulses which are relayed to the brain.

WHAT NOISES ARE TOO LOUD?
Expert panelists loud sounds by their duration to determine the level of damage. Brief sounds of high intensity cause less damage than continuous noise of equal or greater intensity can harm the ears.

Continuous Decibel and Permissible Exposure Time

<table>
<thead>
<tr>
<th>Decibel Level</th>
<th>Permissible Exposure Time</th>
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<tbody>
<tr>
<td>0-90 dB</td>
<td>100%</td>
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<tr>
<td>91-100 dB</td>
<td>10%</td>
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<tr>
<td>101-105 dB</td>
<td>1%</td>
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<tr>
<td>106-110 dB</td>
<td>0.1%</td>
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<tr>
<td>111-115 dB</td>
<td>0.01%</td>
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<td>116-120 dB</td>
<td>0%</td>
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<tr>
<td>121-125 dB</td>
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<td>126-130 dB</td>
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<td>131-135 dB</td>
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<td>136-140 dB</td>
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<td>141-145 dB</td>
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Hearing loss occurs when sound waves arrive at the eardrum, and the ear is unable to process the sound.

People exposed to noise over 85 dB have a 10% chance of hearing loss, according to the American Academy of Otolaryngology.

Average noise levels in these environments:
- 115 dB: Recording studio
- 106 dB: Hairstylists
- 105 dB: Flowing water

Average nighttime levels for sleeping: 40 dB

HOW NOISE AFFECTS YOUR HEALTH
LONG-TERM HEALTH EFFECTS:
- Hearing loss: With constant exposure to excessive noise levels, hearing loss occurs. Symptoms include difficulty understanding speech, and speech in a noisy background.
- Mental health: Excessive noise levels have been linked to stress, anxiety, and irritability.
- Cardiovascular: High noise levels have been linked to higher blood pressure.
- Sleep: Exposure to high noise levels can lead to sleep disorders and decreased sleep quality.

Children: 90% of children with hearing loss have hearing problems before their speech development.

WARNING SIGNS
- Sounds as loud as a normal conversation.
- Difficulty understanding speech.
- Speech in a noisy background.
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