Iron Workers
Noise on the Job
Can damage your hearing

Our Web site
http://depts.washington.edu/occnoise
Or contact us at 206-543-9711 or by e-mail at cnstsafe@u.washington.edu

Similar pamphlets are available for the following trades at the above Web site
Bricklayers, Carpenters, Cement Masons, Electricians, Insulation Workers, Laborers, Masonry Restoration Workers, Operating Engineers, Sheet Metal Workers, Tilesetters

WISHA noise Web site
http://www.lni.wa.gov/Safety/Topics/AtoZ/NoiseHearing/default.asp

OSHA noise Web site
http://www.osha.gov/SLTC/constructionnoise/

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UNION BUG

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Like many construction workers, you may not hear as well as you once did, and that may worry you. Your concerns are real—by retirement, many construction workers have a noticeable hearing loss. You and your employer need to take steps to protect your hearing, and this pamphlet will help you do so.

What is noise?
Noise is unwanted sound. It is measured on a decibel scale. Noise levels for some familiar sounds are shown at left.

What if you are exposed to too much noise?
Noise exposures that are loud enough and last long enough can damage nerves in your inner ear. This causes permanent and irreversible hearing loss.

Hearing loss makes it hard to:
- talk with family, friends, and coworkers.
- hear warning signals
- enjoy music, nature, voices, and other good sounds.

Once you have a hearing loss, it cannot be reversed by using hearing aids. Hearing aids can make sounds louder, but they can’t make the sounds clearer.

Safe noise levels
The legal limit for construction workers in Washington is an 8-hour (full-shift) average noise exposure of 85 decibels. This limit is enforced by WISHA. Construction workers in most other states have an 8-hour limit of 90 decibels enforced by OSHA.

If you must raise your voice to talk to someone an arm’s length away, the noise level is probably over 85 decibels. Workers with an average noise exposure above 85 decibels need to wear hearing protectors—either earplugs or earmuffs—and be in a hearing loss prevention program. You should wear hearing protectors any time noise levels are over 85 decibels.

Noise exposure levels for ironworkers
University of Washington researchers have been measuring the noise exposures of construction workers. Among ironworkers, we found:
- the average level was 83 decibels across a full work shift
- almost half of work shifts were above the 8-hour limit of 85 decibels
- more than three-quarters of work shifts had short periods of extremely high levels (above 115 decibels)
Noise levels of tools
We measured the noise levels of various tools. We found that:
■ every tool used by ironworkers exceeded 85 decibels
■ the highest average noise levels came from chopsaws, screw guns, and drills
■ noise levels were usually above 85 decibels even when no tool was used

Average noise level by tool

<table>
<thead>
<tr>
<th>Tool Description</th>
<th>Noise Level, Decibels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaler</td>
<td>90-95</td>
</tr>
<tr>
<td>Rattle Gun</td>
<td>85-90</td>
</tr>
<tr>
<td>Grinder</td>
<td>85-90</td>
</tr>
<tr>
<td>Welding Equipment</td>
<td>85-90</td>
</tr>
<tr>
<td>Hammer, Sledge</td>
<td>85-90</td>
</tr>
<tr>
<td>Hand Power Saw</td>
<td>85-90</td>
</tr>
<tr>
<td>Screw Gun, Drill</td>
<td>85-90</td>
</tr>
<tr>
<td>Chopsaw</td>
<td>100</td>
</tr>
</tbody>
</table>

Hearing protection use
We looked at whether ironworkers used hearing protectors when their noise levels were above the limit of 85 decibels. We found that hearing protection was:
■ used less than 15% of the time it was needed overall
■ needed most with chopsaws, hammers, and sledges
■ worn most often with chopsaws, hammers, sledges, and screw guns and drills
■ almost never worn when needed with most other tools

Hearing protection use by tool
How much hearing protection do I need?
Based on our measurements, most ironworkers will get enough protection if they wear a hearing protector with an NRR of 18 decibels. For most activities, an NRR higher than 18 decibels will block too much sound and may interfere with communication, including warning signals. Ironworkers with very high noise exposures need an NRR between 18 and 33 decibels.

Finding a hearing protector that works for you
Hearing protectors are like shoes: one style will not work for all workers and all exposure levels. You may have to try several styles before you find one that is comfortable and works for you. It may take several weeks before you get used to wearing hearing protectors. Your employer should train you on how to wear hearing protectors properly.

Also keep in mind
Your employer may be able to reduce your exposure by using quieter equipment, blocking noise with shields, or moving noisy equipment away from you. All ironworkers should be enrolled in a hearing loss prevention program—find out if your employer has one.