Preventing Hearing Loss in Construction: What You Need to Know

Session 1: Noise and Hearing Loss

May be losing his hearing!

Saving his hearing!
Why you are here today

• Construction is noisy
• High noise can cause hearing loss
• Your employer wants you to know how to prevent hearing loss
• Part of overall safety program

“I’m not going to let noise hurt MY hearing.”
Temporary effects of noise

• Hearing “burned” by high noise
• To heal, ears need quiet!
• Might have a “hear-burn” if:
  – Hearing is muffled or ears ring
  – Car radio test
Permanent effects of noise

- *Anyone* can lose their hearing!
- More noise = worse hearing loss
- Small “hear-burns” add up slowly
- Hearing aids *can’t fix* hearing loss
Some things you may miss with a hearing loss
Another thing you may get from high noise

- Tinnitus = noise in your ears
- *Cannot* be controlled or cured
- Hard to sleep and concentrate

“I can’t make it STOP!!”
Noise off the job

• *Doesn’t matter* where noise comes from – if it’s too loud, it can hurt your hearing

• Limit time in high noise – on *and* off the job
Noise levels (decibels)

Familiar sounds

<table>
<thead>
<tr>
<th>dB</th>
<th>Sound</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td><img src="image" alt="Gun" /></td>
</tr>
<tr>
<td>110</td>
<td><img src="image" alt="Chainsaw" /></td>
</tr>
<tr>
<td>100</td>
<td><img src="image" alt="Helicopter" /></td>
</tr>
<tr>
<td>95</td>
<td><img src="image" alt="Motorcycle" /></td>
</tr>
<tr>
<td>90</td>
<td><img src="image" alt="Lawnmower" /></td>
</tr>
<tr>
<td>85</td>
<td>Noisy bar, restaurant</td>
</tr>
</tbody>
</table>

Construction tools

<table>
<thead>
<tr>
<th>dB</th>
<th>Sound</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td><img src="image" alt="Cranes" /></td>
</tr>
<tr>
<td>110</td>
<td><img src="image" alt="Drills" /></td>
</tr>
<tr>
<td>105</td>
<td><img src="image" alt="Hammer" /></td>
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<tr>
<td>100</td>
<td><img src="image" alt="Saws" /></td>
</tr>
<tr>
<td>95</td>
<td><img src="image" alt="Circular Saw" /></td>
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<tr>
<td>90</td>
<td><img src="image" alt="Hammer" /></td>
</tr>
<tr>
<td>85</td>
<td><img src="image" alt="Drills" /></td>
</tr>
</tbody>
</table>
Noise in Washington state

• Under 85 decibels = OK
• 85 decibels for 8 hours = X
• 100 decibels for 1 hour = X
• 115 decibels for 15 minutes = X
• If X, reduce noise level or exposure time to get below 85 decibels on average
How to know if levels are unsafe (over 85 decibels)

• Must raise voice to talk
• Have a “hear-burn”
• Noise measurements
• Signs or labels say so

NOTICE

HEARING PROTECTION MUST BE WORN IN THIS AREA
Hearing conservation programs *prevent* hearing loss

- Training
- Testing noise levels and hearing
- Reducing noise levels and time in high noise
- Using hearing protectors

“I can prevent hearing loss if I lower my noise exposure”
Measuring noise

- Sound level meter
- Dosimeter
- You have a right to know what the noise levels are onsite

EXPERIMENT!
Ways to reduce noise

• Barriers

• Reduce time in noise

• Trade off noisy and quiet jobs

• Get away from noise

• Wear hearing protectors
Hearing testing

• Employer should test your hearing yearly
  – Shows if you have a hearing loss
  – No “hear-burn” at time of test!

• You have a right to a copy of your hearing test results
Hearing protectors

- Needed above 85 decibels
- Like shoes - one size won’t fit all!
- Roll-down earplugs

- Premolded earplugs

- Earmuffs

- Banded ear caps
Common thoughts about construction noise

“I’ve already lost some hearing, so it doesn’t matter”

“It’s loud, but there’s nothing I can do about it”

“This is noisy, but I’m not doing it long enough to need hearing protection

“I’m used to the noise”

“I can’t tell when it’s too loud”
Questions

- Is construction noisy enough to cause hearing loss?
- Is anyone immune from hearing loss?
- How can you tell when you’re exposed to too much noise?
- Where can you get hearing protection on this site?
- What are two ways you can reduce your noise exposure?
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Session 2: Hearing Protection Devices

Do this…

To avoid this…
Why you are here today

- Noise can hurt hearing forever, but hearing loss CAN be prevented!
- Your *employer* is working to make sure you don’t lose hearing
- *You* need to know how to protect yourself with hearing protection

“I won’t be doing this for long, but it’s noisy enough for hearing protection”
Hearing protectors

• Needed above 85 decibels
• Like shoes - one size won’t fit all!
• Roll-down earplugs

• Premolded earplugs

• Earmuffs

• Banded ear caps
Benefits of hearing protection

• Reduce noise to safe levels
• Can make it easier to hear machinery or talk to coworkers
• Reduce background noise
• Keep dirt, water out of ears

Without earplugs  With earplugs
How to pick a hearing protector

• Comfortable
• Easy to use properly
• Block enough noise (NRR)
• NOT cotton, wax or headphones
• Let you communicate
Noise Reduction Rating (NRR) on protectors

- Higher NRRs block more sound
- High NRRs may block too much

**NRR Needed**

**Very high:** 30 dB+
☆ Plugs and muffs!

**High:** 20-30 dB

**Medium:** 15-25 dB

**Low:** 10-20 dB
Common thoughts about hearing protectors

“They’ll give me an ear infection”

“They take too long to put on”

“Things sound funny when I wear them”

“They’ll poke out my eardrum”

“They’re uncomfortable”

“I can’t hear important sounds or people talking”
Roll-down earplugs

• What’s good about them:
  – Can be very comfortable
  – Can you find the NRR?
  – Disposable

• What’s bad about them:
  – Hardest to wear correctly
  – Need clean hands
  – May not fit all ear canals
Four steps to insert roll-down earplugs

1. Roll plug
2. Pull ear
3. Push plug
4. Hold plug

EXPERIMENT!
Premolded earplugs

• What’s good about them:
  – Easy to insert, different sizes
  – Can be used with dirty hands
  – Disposable or reusable

• What’s bad about them:
  – Good fit may be difficult
  – May be uncomfortable
Banded ear caps

• What’s good about them:
  – Very easy to put on and take off
  – Can be used with dirty hands
  – Reusable

• What’s bad about them:
  – Can be hard to get a good fit
  – Band may “squeeze” your head
  – Your voice may sound loud to you
Earmuffs

• What’s good about them:
  – Easiest protector to use
  – Can attach to hardhat
  – Reusable

• What’s bad about them:
  – Can be uncomfortable
  – May feel heavy or bulky
How to tell if you’re wearing protectors properly

• Proper fit is *really* important!
• Sounds change when they’re worn
• Earplugs:
  – Feel snug and secure
  – Not hanging out of your ear
• Earmuffs:
  – Should cover entire ear
  – Unbroken seal
When to wear hearing protectors

• In noise over 85 decibels
  – 85 decibels = noisy restaurant
• If you have to shout to be heard
• If you have a “hear-burn”
• Not sure if it’s too noisy? ASK!
Hearing protector tips

• Find some you’ll wear and keep them handy
• *Always* wear them in high noise
• Headphones *do not* protect you
• Speak up!
What if you don’t wear hearing protectors?

- You may be above the safe level
- You could lose your hearing
- To get the most protection, *always* wear them during high noise

Protectors only work if you wear them!

Plugging ears is NOT hearing protection!
You will get used to hearing protectors

• Try different protectors if yours:
  – Hurt or don’t seem to work
  – Make it hard to talk or hear

• Finding a good protector now is better than not hearing well later!

CAUTION
HEARING PROTECTION REQUIRED
Questions

- Is it okay to only wear protectors sometimes in high noise?
- What are two ways to know if you need hearing protection?
- What should you do if you don’t like your current protector?
- How can you tell if you’re wearing protectors correctly?
- What are two benefits of wearing hearing protection?