

Hearing Protection

Day 1 What is the safe level of noise that I can be exposed to in my workplace?

If an employee is exposed to 85 decibels or more for 8 hours a day, they must wear hearing protection. People don't realize that normal conversation is 60 decibels. That is not very loud, but we expose ourselves to levels that can damage our hearing without even thinking about it.

NOISE LEVELS BY DECIBELS	
Pneumatic Precision Drill	119
Hammer Drill	114
Chain Saw	110
Spray Painter	105
Hand Drill	98
NIOSH Recommended Exposure Limit	85
Normal Conversation	60
Whisper	30

Source: NIOSH Noise Meter (http://www.cdc.gov/niosh/ohrt/occupational-noise-meter.html) (NIOSH 10/11)
NIOSH Power Tools Data Base (http://www.niosh.gov/ohrt/occupational-noise-meter.html)

Some common causes of hearing loss are:

- Noise (prolonged exposure to loud or a sudden loud noise).
- Obstructions in the ear. (objects, growths, tumors, etc.)
- Build up of earwax.
- Natural aging.
- Injuries to the ear.
- Atmospheric pressure changes.
- Drugs that can damage the ear. (some antibiotics, some chemotherapy drugs, drugs for erectile dysfunction, etc.)

Signs you may have hearing loss

- Difficulty hearing someone during a conversation.
- Asking someone to keep repeating themselves.
- Turning up TV / radio volumes above what is comfortable for everyone else in the room.
- Easily getting confused or frustrated trying to follow verbal instructions.

Ways to avoid hearing loss

- Limit your exposure to loud noises. Both prolonged and sudden noise.
- Wear the appropriate hearing protection to prevent hearing loss.
- If hearing protection is not adequate, isolate the noise hazard.
- Do not use anything other than approved hearing protection devices.
- Avoid trying to block out noise with another noise source.

FACT

Hearing loss claims make up 50.1% of all occupational disease claims in 2019

Consult a doctor if:

- You have sudden ear pain.
- Hearing loss in one or both ears.
- Injury to the ear or ear canal.
- Ringing in the ears.

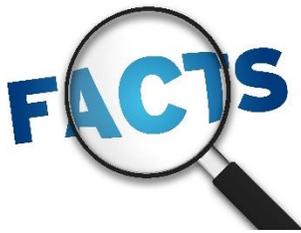


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Hearing Protection

Day 2

Are there different types of hearing loss?



Yes, there are different types of hearing loss. Hearing loss can affect the middle or outer ear and be classed as conductive. If it affects the inner ear it is sensorineural. You can also have a combination of both conductive and sensorineural hearing loss which is referred to as combined hearing loss.

Different levels of hearing loss

Hearing loss affects people differently. Most people do not realize their hearing is being impaired as it is gradual in most cases. Exposure to noise levels 85 decibels or more for 8 hours a day will cause damage. Even if it is only slightly above the 85-decibel threshold. In severe cases a person is exposed to a sudden loud noise such as the discharge of a firearm which causes an immediate noticeable loss of hearing.



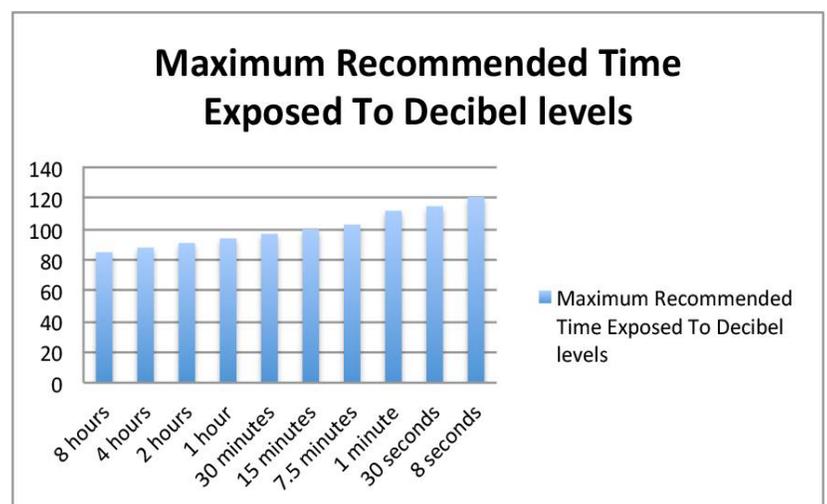
- **Mild hearing loss.** A loss of hearing between 26 to 40 decibels.
- **Moderate hearing loss.** A loss of hearing between 41 to 55 decibels.
- **Severe hearing loss.** A loss of hearing more than 71 decibels.

FACT

There were 229 hearing loss claims submitted to WorkplaceNL in 2019.

Workers who begin to experience hearing loss can prevent it from getting worse if they put the appropriate measures in place to prevent it from getting worse in most cases.

Type of Work	Decibel Level
Truck Driver	85
Loader Operator	88
Feller Buncher	94
Forwarder	97
Chainsaw	108
Band Saw	99
Edger Saw	96
Resaw	97
Planer	101



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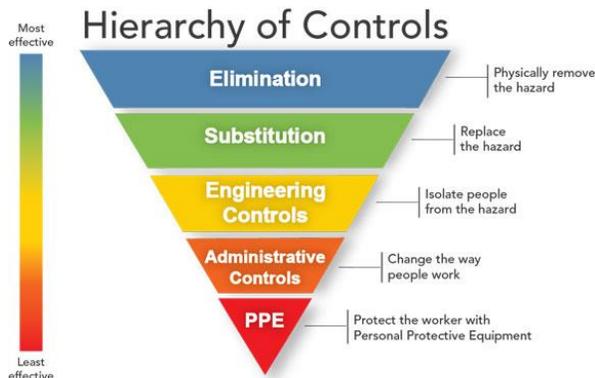
Day 3

Hierarchy of Controls

When it comes to hearing protection, we do have different options available that can help us eliminate hearing loss. Most times people immediately choose personal protective equipment (PPE) but that is the last resort. PPE is only to be used when all other options have been exhausted and the hazard remains.

FACT

The average hearing loss claim is 118 weeks.



The first option is to eliminate the hazard. Can we remove the noisy equipment from the process?

Can we substitute the equipment for something less noisy?

Engineering – Can we do something to contain or isolate the noise hazard?

Administrative controls – These are our paperwork controls that have been put in place. They include, safe work practices, job hazard analysis, training for employees, signage, reducing exposure times of employees, etc.

Personal Protective Equipment (PPE) – This is always a last resort. There are many different types to choose from. Please ensure you choose the appropriate hearing protection that will reduce the noise below the 85-decibel level.

Ways to reduce noise levels

- **Noise Absorbing Panels** - Installing noise absorbing panels throughout the facility can help to dramatically reduce overall noise levels.
- **Mufflers on Machines** - Machines or vehicles that have combustion engines can be very loud. Installing a proper muffler can reduce the noise level.
- **Modernizing Machines** - In many cases, newer machines run much quieter than older ones.
- **Containment** – Building a room around loud equipment can reduce noise levels.
- **PPE** – Wear appropriate hearing protection for the job.

It is important to remember that you have evaluate any controls put in place to ensure they are working properly.

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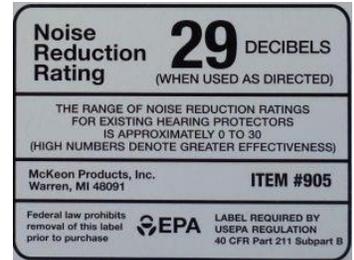
Hearing Protection

Day 4

Selection of Hearing Protection

There are several types of hearing protection available. Before you decide on what type you will use please consider the following:

- The type of work or activity you will be doing.
- The proper hearing protection that will bring your noise exposure down below 85 decibels.
- Is this going to be comfortable to use?
- Will this interfere with any other safety or required equipment?
- Are there any medical conditions that prevent me from using this?
- Do I have any existing hearing problems?



It is important to note that hearing protection only reduces the decibel level of the noise. It does not eliminate it completely. When you fit test for ear plugs and have a noise decibel level of 100 using hearing protection with the above label only reduces the noise level to approximately 71 decibels. When not fit testing NIOSH recommends subtracting 50% from the manufacturer's labeled NRR and 25% for ear muffs.

FACT
In 2019 hearing loss claims cost \$3,487,634.00

There are different types of hearing protection available and they each have both pros and cons to them. These are a few common types we see in the forest industry.



Foam ear plugs are very common in the workplace. They are reusable and not washable. They must be replaced once they get dirty. Very inexpensive.

Plastic earplugs can have a string to keep the earplugs around the workers neck. These are washable but must be replaced if they become damaged. Very inexpensive.



Banded earplugs keep the hearing protection around the workers neck. Foam plugs need to be replaced if they get dirty. The plastic plugs can be washed. Very inexpensive.

Earmuffs go over the ears and not into the ear canal which some users prefer. The plastic and nylon can be washed but the unit will have to be replaced if damaged. This is a more expensive unit but will last a long time with proper care.



Workers must be trained in the proper use, care and selection of their hearing protection. If a worker does not know how to select and use the hearing protection properly, they will not have the protection they need. There are times when an employee may be exposed to 105 decibels or more and regular hearing protection will not be enough. In this event they will be required to wear double hearing protection. This may be foam earplugs with a set of earmuffs over that to provide a better level of protection. It is important to note that you cannot add the NRR's together. When using double hearing protection, the NRR will be 36.

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Hearing Protection

Day 5

How to properly insert ear plugs

The protection of your hearing goes beyond just sticking some sort of ear plug in your ear. Every type of hearing protection has a right way and a wrong way to be used.



People will just put an ear plug in and if the supervisor can see there's something there, they think they are getting past the system. The only one being fooled is the employee who is damaging their own hearing.



In order to put foam ear plugs in correctly roll the ear plug with clean hands to compress it so it will fit in the ear canal. If your hands are dirty you run the risk of infections from the bacteria, you put on the ear plug.

FACT

From 2015-2019 there were an average of 236 hearing loss claims.



Lifting the cartilage of the ear allows the ear canal to straighten so the plug can be put in correctly. While lifting the ear place rolled plug into ear canal and gently press on end of plug. Hold this in place for 30 seconds to allow plug to expand properly in the ear canal.



When ear plugs are inserted properly the user can protect their hearing and prevent hearing loss no matter what type the use. Maintaining cleanliness of our hearing protection is very important.



Moulded ear plugs are also available through audiologists. These devices can be an expensive choice but provide the user with a comfortable and well fitted option to protect their hearing.

No matter what type you use always make sure you use them correctly, you keep them clean and they provide the right amount of protection.

Employees need to have their hearing tested before they begin work for a forestry employer and should have their hearing tested yearly by a trained audiologist. Records of the hearing test results must be kept on file and made available to the employee on request.

For information on your own hearing conservation program go to our website www.nlforestsafety.ca

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