

Beware of Noise

by Audiology 6

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**BEWARE OF
NOISE!**



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BEWARE OF NOISE

What is noise?

We all know about air pollution and water pollution. But are you aware of noise pollution? Noise is also a pollutant, and it is known to be dangerous to health. Some of the effects of noise on physical well-being are:

- Damage to important parts of the ear
- Ringing in the ear (tinnitus)
- Heart problems
- Fast breathing
- Stomach ulcers
- Increase in cholesterol
- Affects unborn babies

Noise also has several psychological effects:

- Annoyance
- Poor concentration
- Irritation
- Short temper
- Inefficiency at work
- Difficulty in sleeping
- Emotional problems

Measurement of Noise: As the weight is measured in Grams or Kilograms, the sound is measured in units called Decibels (dB). Noise may be measured in dB A. This measure takes into account the way the human ear responds to sound.

Noise and hearing loss



Exposure to noise is one of the leading causes of hearing loss.

Hearing loss caused due to excessive or prolonged exposure to noise is known as *Noise Induced Hearing Loss* (NIHL). This type of hearing loss is acquired gradually. The person is usually not even aware of it until a considerable amount of damage has been done. In some cases, when only one ear is affected, the problem is not detected unless a hearing test is done.

Noise affects the delicate parts of the ear, which transmit sound to the brain. The amount of damage to one's hearing caused by noise depends on:

- The individual who is exposed to noise: Some people are more susceptible to hearing loss than others, and such people will have to

take even better care of their ears.

- Loudness of the noise: Louder sounds are more harmful. Sounds that are louder than 90 decibels (dB A) are considered potentially dangerous.
- Duration of exposure to the noise: The duration of exposure that is required to damage hearing depends on the loudness of the sound. If the noise is louder, hearing gets damaged faster. The table below gives more information:

Duration of noise exposure that can damage hearing

<i>Noise levels in dBA</i>	<i>Hours of exposure</i>
90	8
93	4
96	2
99	1
102	0.5
105	0.25

Beware of these signs if you have been exposed to noise:

- You need people to talk more loudly
- You can't hear someone more than two feet away from you.
- Speech around you sounds unclear or low after you leave a noisy area.
- You have temporary pain or ringing in your ears (tinnitus) after exposure to noise.
- Understanding speech in the presence of noise becomes difficult.

Music-induced Hearing Loss:



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Listening to loud music for a long time can also cause hearing loss.

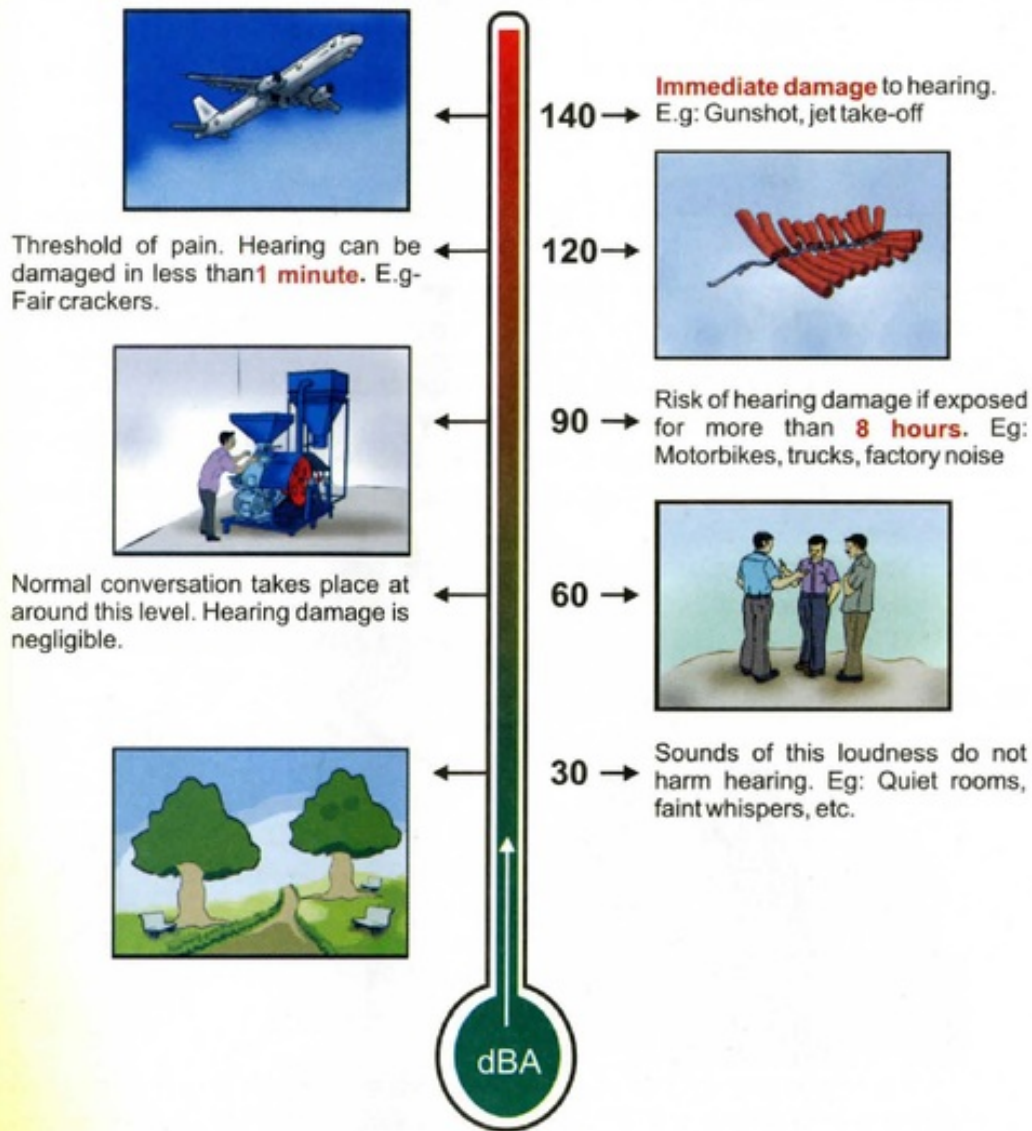
Excessive use of iPods, MP3 players, etc at loud levels damages hearing. If you use earphones or headphones, remember to keep the volume low. If a person three feet away from you can hear the music, it means the music is dangerously loud.



Musicians, who rehearse and play music for several hours a day, are also at risk for hearing loss. They are exposed to several hours of loud music, and many of them also hold their musical instruments close to their ears. Like any other loud sound, music can also damage a person's hearing. Music-induced hearing loss results in an inability to perceive differences in pitch, decreased hearing sensitivity at high frequencies, and tinnitus (ringing in the ears). Musicians as well as those who listen to music at high levels need to protect their hearing using special hearing protective devices.

Hazardous noise:

The diagram below shows some common sources of sound, the amount of noise they generate, and the duration of exposure that can cause damage:



We may encounter dangerous levels of noise at work, at home, or during recreation.

Common sources of noise:

- Traffic noise



- Machinery noise / Factory sirens
- Carpentry and construction
- Flour mills



- Loud music or rock music or stereo headsets
- Wedding halls and parties
- Video games / gaming arcades
- Some movie theaters, home entertainment centers, car stereo systems, health clubs, clubs, and amusement centers.
- Mixers / Grinders
- Noisy toys

Controlling noise:

Fortunately, noise pollution is easier to control than air or water pollution. Once the pollution stops, the environment is free of it. This is not the case for chemicals, sewage, and other pollutants introduced into the air, soil, or water.

Noise can be controlled at three levels:

- **At the place where noise is generated:** Noise can be reduced at its origin. For example,
 - Industrial equipment could be designed and maintained such that the amount of noise generated is less.
 - Firecrackers, toys and video games can be manufactured such that the noise output is not dangerously high.
 - The volume of music can be reduced.

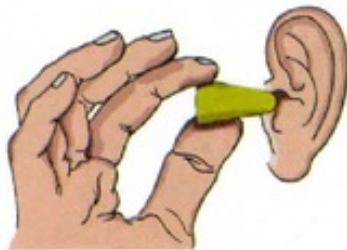
- **In the path:**
 - In factories and offices, walls can be built in a special way so that they absorb the noise.
 - In houses, carpets, cushions and curtains can be used to absorb noise
 - Trees and plants are also quite useful in this regard.

- **At the receiver:**
 - The individual can simply walk away from the source of noise if possible.
 - Otherwise, he/she should use hearing protective devices like ear plugs and ear muffs, or, in cases of extreme noise, both.

What can I do to protect my hearing?

Prevention is the best method to tackle hearing loss. Though it is impossible to eliminate noise, we can try to minimize its effects as much as possible.

- **Wear Hearing Protective Devices (HPDs)**



Use earmuffs, ear plugs or both in order to protect your hearing. These reduce the surrounding noise, and protect your hearing. However, you will still be able to hear sounds around you. Make sure the protective device you use provides sufficient protection. Cotton in your ears will not work.

Ear plugs are generally more suitable in hot, humid weather, and when the noise is present continuously. If you're using foam ear plugs, make sure you roll up the plug, insert it into your ear canal. Close the canal opening with a thumb. That way, the ear plug expands inside your ear, not outside.

Earmuffs may be used in a cold environment, and when the noise is not continuous. However, if the noise levels are very high, you might require both ear plugs and earmuffs.

Your audiologist can help you choose the option that is most suitable for you. They can also give you more details regarding the pricing and availability of HPDs.

Turn the volume down



Whenever you listen to music, keep the volume low. In theatres, lecture halls and at concerts, avoid sitting close to the speakers.

Take a break from listening

If you are exposed to continuous and loud noise, take a break from listening. Move away from the sound source for a while.

Be a responsible customer



Whenever you purchase firecrackers or noise-making toys, check if the manufacturers have mentioned the noise levels. Try to buy quieter toys and firecrackers. Pick quieter models of appliances, especially those that you hold close to your ear (ex: hair dryers).

Educate yourself and others

Be aware of damaging noises in your environment. Educate others through discussions and by setting an example. For example, you can wear ear protection and then make your children do the same. You can also remind your children to turn the volume of their music players down

Get your hearing checked regularly



While it may not be possible to reverse hearing loss, early identification of the problem can help in the prevention of further damage. Get your hearing evaluated periodically. This is especially important if you are at risk for hearing loss.

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If you have any questions/comments, or need any help, feel free to contact us:

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