

About Hearing Loss

When you notice a difference between loud sounds and quiet ones, your ears are perceiving changes in sound pressure level. Intensity (or volume) is measured in decibels (dB). Zero (0) dB is the softest sound that can be heard. Normal conversation is around 40dB to 60dB, a whisper around 30dB. A rock concert can average between 110 and 120 dB. Pain from hearing is subjective. Levels below 125 dB may be painful to some individuals. The sound from a jet plane is approximately 140 dB.

At rock shows, the dB level can be as great as 140 dB in front of the speakers, but less than 120 dB at the back which is still very loud and dangerous.

Decibels are measured on a logarithmic scale. Each increase of 10 on the scale represents a tenfold increase in loudness. 20 dB is 10 times as loud as 10 dB; 30 dB is 100 times louder than 10 dB, and so on.

The maximum exposure time for unprotected ears per day is 8 hours at 90 dB according to The Occupational Safety and Health Administration (OSHA) guidelines. For every 5 dB increase in volume, the maximum exposure time is cut in half.

- 95 dB - 4 hours
- 100 dB - 2 hours
- 110 dB - 30 min
- 120 dB- 7.5 min



Decibel (Loudness) Comparison Chart

Environmental Noise

weakest sound heard	0 dB
normal conversation at 3-5 ft	60-70 dB
dial tone of telephone	80 dB
city traffic inside car	85 dB

1983 OSHA monitoring requirements begin 90 dB

train whistle at 500 ft.	90 dB
subway train at 200 ft.	95 dB
regular sustained exposure may cause permanent damage	90-95 dB
power mower	107 dB
power saw	110 dB

Pain begins 125 dB

pneumatic riveter at 4 ft.	125 dB
jet engine at 100 ft.	140 dB
loudest sound that can occur	194 dB

Musical Noise

normal piano practice	60-70 dB
fortissimo singer 3 ft. away	70 dB
chamber music in small auditorium	75-85 dB
regular sustained exposure may cause permanent damage	90-95 dB
piano fortissimo	92-95 dB
cello	82-92 dB
oboe	90-94 dB
flute	85-111 dB
piccolo	95-112 dB
clarinet	92-103 dB
trombone	85-114 dB
timpani & bass drum rolls	106 dB
average Walkman on 5/10 setting	94 dB
symphonic music peak	120-137 dB
amplified rock music at 4-6 ft.	120 dB
rock music peak	150 dB