

# Fact Sheet

## Ipods, MP3 Players, and Recreational Music

Sony Walkmans™ first came to the attention of the public in the early 1980s and we have had portable music ever since. The 1990s saw the introduction of portable CD players, and more recently MP3 players such as the ipod™ have become available. It is tempting to wonder whether listening to music with earphones is dangerous, but this is actually not the problem. The listener will always adjust the volume of their music to a comfortable listening level, and the ear does not know whether the music came from a radio loudspeaker or an earphone. There are subtle differences between loudspeakers and earphones, but nothing significant.

The issue is one of “portability”. Whenever there is background noise, we prefer sound (such as speech and music) to be louder. This is called the Lombard Effect, also known as the cocktail party effect. Because of technical advancements we can now take music with us onto the subway, in our cars, when jogging beside a noisy road, and to the gym. Once there is traffic noise or other background environmental sound, the volume is turned up. When we are in environments with background noise, we tend to turn up the volume to unsafe levels. It is these unsafe levels, combined with the duration (or how long we listen to the music) that will determine safe and unsafe levels.

Most young people will agree that music needs to be loud, but the trick is that this loud music does not need to be intense. Huh? Although related, loudness and intensity are actually two different things.



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Intensity relates to the physical vibration in the air and can be measured with a sound level meter, usually in a unit called a decibel (dB). Loudness is merely our subjective feeling about the intensity. While we use loudness to set the volume control of the MP3 player, it is the intensity of the music that causes hearing loss. There is no such thing as a “loudness meter” – loudness is a very individual thing.

We know from years of research that any sound over 85 decibels can eventually cause hearing loss. It is quite amazing how quiet 85 decibels really is - a dial tone on a phone is 85 decibels. A potentially damaging noise or music level actually does not sound loud. However, it is not only the intensity (in decibels) but also how long we listen to the music. It turns out that 85 decibels for 40 hours each week is the same as 88 decibels for only 20 hours; 91 decibels for 10 hours; 94 decibels for only 5 hours; and so on. While we don't listen to music for 40 hours a week, many of us do listen for 5 or 6 hours (while on the subway or gym, for example).

Here is a guideline derived from recent research by Dr. Brian Fligor of Harvard University:

It is safe to listen to 120 minutes of music at 60% of the volume. This is called the 120/60 rule and will provide the listener with half of their daily dose of music - you can still mow the lawn, and do other noisy things throughout the day. Moderation is also important; if your favourite song comes on, turn up the volume; just turn it back down to 60% or lower, when the song ends.