

ARE LOUD PARTIES DESTROYING OUR HEARING?

By: David Mizrahi



They are the highlights of our social calendar. The weddings or bar mitzvahs of relatives and friends are a time for us to share in the happy occasion of somebody we love, enjoying some laughs, song and dance, and fine food and drinks. It is perhaps no exaggeration to say that community *semahot* (happy occasions) are the very backbone of social life in the Orthodox Jewish community, the place where meaningful friendships are forged and cultivated and where some of life's most beautiful memories are created.

Certainly, we are also aware of the pitfalls of *semahot*. Our financial advisors warn against overspending when making an affair or purchasing gifts; our dieticians warn about overeating. And of course we need to be careful on the dance floor. But there is one occupational hazard of *semahot* that might not be receiving the attention it deserves – the effects of loud music on our ears. As amplification systems have become more advanced, orchestras and DJ's have been raising the volume at our bar mitzvahs, engagement parties, weddings and other venues, knowing that high volume creates high energy and greater excitement. In light of the frequency (no pun intended...) with which many of us, *baruch Hashem*, attend such celebrations (may there be many more!!), the effects of this exposure to loud music need to be considered.

Preventable Hearing Loss

According to Dangerous Decibels, a project of the Oregon Health and Science University in Portland, approximately 40 million Americans suffer from hearing loss, and a staggering 10 million of these cases are the result of noise induced hearing loss, known as NIHL. Alarming statistics from the National Institute of Health show that 15 percent of Americans between the ages of 20 and 69 experience high frequency hearing loss as a result of occupational or leisurely activities. While government regulations are in place regulating the decibel levels in noisy workplaces, such as construction sites and factories, no such regulations apply to *simha* orchestras or to teens listening to their iPods.

Loud noise overstimulates the tiny hair cells in the cochlea, or inner ear. These cells are responsible for transmitting the sound waves to the brain, which interprets the waves as sound. Damaged cells cannot function properly, thus impairing the auditory mechanism. To date, medical science is unable to repair damaged hair cells, and thus noise-induced damage is irreversible.

Unfortunately, and contrary to common misconception, damage to the ear can occur without pain. The average person's pain threshold for noise is approximately 120-140 decibels, whereas damage can be caused by prolonged, sustained exposure to 85 decibels – the noise level of midday city traffic. This means that your ears could be sustaining damage at a wedding even if you are enjoying the lively music and having the time of your life. The fact that you find the amplification tolerable, or even pleasurable, does not mean you are safe.

So just how loud is too loud?

The National Institute for Occupational Safety and Health (NIOSH), a division of the Centers for Disease Control and Prevention (CDC), has issued guidelines outlining the maximum allowed exposure time for different decibel levels. Noise below 85 decibels is generally considered safe even for sustained, long-term exposure. This includes the humming of a refrigerator (40 decibels), bird chirping (50 decibels), a normal conversational voice (60 decibels), the noise of a typical vacuum cleaner (70 decibels), and a crowded restaurant (80 decibels). At 85 decibels – which, as mentioned, is the noise level of heavy city traffic – damage can begin to occur after eight

hours of sustained exposure. Recommended exposure limits begin to drop drastically at decibel levels above 85, and a volume of 100 decibels is considered harmful after just 15 minutes of exposure. A single exposure to very high sound levels, exceeding 124 decibels, will cause permanent hearing loss (known as acoustic trauma).

Sound Advice for *Semahot*

Dr. Sandra Gordon-Salant is a Professor in the Department of Hearing and Speech Sciences and Director of the Doctoral Program in Clinical Audiology at the University of Maryland, and a certified and licensed audiologist. In an interview with *Community*, Dr. Gordon-Salant said that bands and DJ's typically play music exceeding 100 decibels, and often increase the music as the event progresses in order to sustain the "vibe" in the room. Sustained exposure to this noise level can potentially damage the ear.

Dr. Gordon-Salant offers several pieces of advice to protect oneself from the onslaught of noise at parties. First, she noted that sound-level apps are available that can measure noise exposure and indicate whether the volume exceeds safe noise limits. But there are also other, less scientific ways to detect potentially harmful noise levels. "If you notice that the sound level at a social affair is so loud that you have to shout to be heard above the music, you feel the vibrations in your body, or the music is painfully loud, chances are the sound level has exceeded a safe limit." In such a case, she says, one should periodically leave the room and go to a quiet place to allow the ear to recover from the noise and avoid sustained exposure to dangerous sound levels.

Deafness Research UK, a British charity committed to funding and disseminating research for the prevention and treatment of auditory disorders, provides several guidelines for those attending parties or discos with loud music. It advises that if you cannot speak to somebody two meters (6.5 feet) away from you without shouting, and certainly if you feel a ringing sensation or pain in your ears, then the music is too loud. You should then take frequent breaks by stepping outside, try to stay at a distance from speakers, and allow your ears a "day off" for the entire day after a loud night.

Another option worth considering is wearing earplugs to protect the ear. Earplugs are common among those who work with noise – musicians, construction workers, fighters in combat units, etc. – but might be a good idea for *semahot*, as well, as a reasonable, inexpensive and effective way of protecting the ear from the noise. "While wearing the earplugs," Dr. Gordon-Salant says, "you can still hear the music quite well, but they reduce the sound level by nearly 30 dB, bringing the sound exposure to a safe level." So if the band is amplifying its music at 110 decibels, guests on the dance floor wearing earplugs hear the music at a level of 80 decibels, which is safe even for prolonged exposure. In fact, Dr. Gordon-Salant says, earplugs may be something the hosts want to consider when planning an event. "For my children's b'nei mitzvot, we had a pair of earplugs at each person's place-setting, and nearly every guest wore them."

Can We Lower the Volume?

But the most effective solution, of course, would be to simply avoid the problem in the first place by ensuring that music is played at safe levels. Is there any chance of musicians and DJ's lowering the volumes at our *semahot*?

The issue is more complex than it may at first seem. One former community DJ from Deal, NJ acknowledged the problem, but explained why bands feel it is important to turn up the amplifiers. "Everyone wants to feel the music," he says. "You want it to be there in your face... You're going to a wedding for the *simha* and one of the biggest parts is the music. It's a central part of the wedding or bar mitzvah, and people who want to dance want to hear the music loud. The young crowd wants to hear and feel the music. The presence of music definitely adds to the whole atmosphere and enjoyment of the party."

Business considerations also play an important role, he explained, particularly at weddings. It is generally the younger guests who – due to their higher energy levels and greater tolerance for noise – seem to enjoy high volume music. Unmarried guests – who, Gd willing, will be soon planning their own weddings – are the orchestra's target clientele, and it is therefore in its best commercial interest to meet their preferences rather than those of the grandmas and grandpas with low noise tolerance. In other words, high volume is an effective marketing strategy, as it appeals to the band's potential customers.

Another important factor is our society's general affinity for noisy, raucous environments. It is not just *semahot* that are getting noisier – so are ball games, parades and concerts. This trend is reflected in modern sound systems. The former DJ we spoke to noted that in the past, speakers would max out at 110-125 decibels, whereas today regular systems reach 132 – a level at which even brief exposure can damage the ear. From this standpoint, the bands playing at our *semahot* are simply a function of a society that craves noise.

The quality of the sound system also affects volume. The lower the system's quality, the higher the volume must be to produce a quality sound. Bands who invest in the higher grade systems can thus play great-sounding music at reasonable decibel levels, while those who settle on average quality systems feel they have no choice but to crank it up in order to compensate for the poor sound quality.

In all fairness, musicians and DJ's aren't the only culprits of "Jewish noisemaking." Dr. Gordon-Salant noted the potentially harmful effects of the congregational Megillah reading on Purim, where children are encouraged to

make as much noise as they can (which, as we all know, is a lot). “Those sound groggers at Purim are incredibly loud,” she says, “especially when everyone is using them at once during the reading of the Megillah. I have recorded these levels at about 96 dBA and higher.” Dr. Gordon-Salant recommends appointing somebody in the synagogue to signal to the children to start and stop, to limit the congregants’ exposure to harmful noise levels. The idea, after all, is to wipe out the wicked nation of Amalek, not our eardrums.

At weddings, we recite a blessing asking for the fulfillment of the prophecy, “Again shall be heard in the cities of Judea and the streets of Jerusalem the sound of jubilation, the sound of joy, the sound of grooms, the sound of brides, the sound of the marching of grooms from their canopy and of youths from their musical feast.” We indeed hope and pray that we can participate in many joyous celebrations that will still enable us to hear the festive, exuberant sounds of happiness, well into old age. With a bit of caution and, hopefully, a gradual change in our *simha* music culture, we will be able to enjoy the sounds of celebration today while ensuring our ability to do so for many years to come.

For further reading on the subject of hearing safety, visit: go.community.com/hearing

American Hearing Research Foundation: <http://american-hearing.org/disorders/noise-induced-hearing-loss/>

Dangerous Decibels: <http://www.dangerousdecibels.org>

Deafness Research UK: <http://www.deafnessresearch.org.uk>

Maximum noise exposure chart: http://www.engineeringtoolbox.com/noise-exposure-level-duration-d_717.html

Marek Roland-Mieszkowski, Ph.D., “Common Misconceptions About Hearing”: http://www.digital-recordings.com/publ/pdfs/misconceptions_hearing.pdf