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Please forward to friends and family!

Hearing Loss-Sound The Forgotten Stressor

This newsletter came about because of a social event in January of this year, when my wife and I were exposed to such high sound levels that we had to leave this event after only an hour and a half. I felt that this matter should be brought to all my patients' attention so you will not suffer hearing loss. The information I am about to give you came from the research paper that I just wrote and will be published shortly in a health journal.

In the title of this Health Bulletin sound (noise) is the forgotten stressor, which I wrote about in Newsletter #2-"Stress-General Adaptive Syndrome", this is the observation and research of one of the world greatest physicians Hans Selye, MD. As I stated sound is the forgotten stressor, because it was not mentioned in Selye's research or his book "The Stress of Life", which is listed under the title General Adaptive Syndrome (GAS), as Physical, Mental, Chemical and Thermal. Sound or noise was over looked, but I can assure you that it is occurring in your environment and life every day.

Now back to the social event that brought this matter to my attention. We were fortunate to arrive late by 45 minutes, because of the difficulty of finding the location of this event center. It should have been obvious to us, because the music could be heard out through two doors separated by at least at ten-foot-deep vestibule. Inside the lounge the sound levels were at least 85 to 90 decibels (dB). The definition of a decibel is a logarithmic unit defined so that an increase of 1 decibel represents multiplication of sound or signal power by about 1.258, width for sound, O decibels representing a pressure of 0.0002 microbar. So simply state decibel is how loud the sound is. You probably remember hearing in weather reports about atmospheric pressure are measured in millibars which is a unit of pressure per centimeter. With sound measured at microbars of pressure or 1/1000 of a unit of pressure, and the millibar is weather measurement of pressure 1/1,000,000. So the two factors to remember with sound is the loudness and the pressure the sound produces.

The sound level inside the lounge I estimated about 85 to 90 dB which is consider the NYC traffic levels inside your car, which may be loud but you can still hear one another speak. When the party began we were directed in to the party area, which was a very large room that could hold as many as 450 people. The sound levels when the DJ started playing music was off the charts and a hint for us was the silicone ear plugs provide for all the guests, by the event center. My estimation of the sound level was at least 125 dB, which is a level when pain begin in the ear. When the DJ was talking and making announcements he had to shout above the 125 dB level.

The tables for the guest were round and sat 8 people each, and our table was as far from the dance floor as you could be. It was impossible to withstand the sound level even with the ear plugs in place, and made it impossible to talk at the table without leaning toward the person you were trying to talk to. It was impossible to be comfortable for myself and my wife without covering our ears

with the palms of our hand or pressing a finger on top of the ear plug. I am now going to include OSHA noise chart to give you an idea of sound levels.

NIOSH-CDC-OSHA NOISE LEVEL & TIME EXPOSURE

Wisper Quiet Library at 6’	30 dB
Normal conversation at 3’	60-65 dB
Telephone dial tone	80 dB
City Traffic (inside car)	85 dB
Train whistle at 500’	90 dB
Jackhammer at 50’	95 dB
Subway train at 200’	95 dB
Level of sustained exposure hearing loss	90-95 dB

Hand Drill	98 dB
Power Mower at 3’	107 dB
Snowmobile, Motorcycle	100 dB
Power saw at 3’	110 dB
Sandblasting, Loud Rock Concert	115 dB
Pain begins	125 dB
Pneumatic riveter at 4’	125 dB
Loudest exposure with protection	140 dB

Jet engine at 100’	140 dB
12 Gauge Shotgun Blast	165 dB
Death of hearing tissue	180 dB
Loudest sound possible	194 dB

Hours per day	Sound Level
8	85 dB
6	86 dB
4	88 dB
3	89 dB
2	90 dB
1.5	92 dB
1	94 dB

.5	97 dB
.25 or less	100 dB
0	112 dB

A simple way to protect yourself and family is to get an (app) that allows the smartphone to be used as a sound meter, which forewarns you of dangerous noise levels. The above charts give you an idea of sound levels in the environment and time exposure to those level before hearing loss may occur. It is estimated that approximately 15% of Americans or 26 million people between the ages of 20 and 69 have high frequency hearing loss due to exposure to noise at work or during

leisure activities. Approximately 15% of American adults or 37.5 million aged 18 and over report some trouble hearing. Men are more likely than women to report having hearing loss. One in eight people in the US or 13%, which makes 30 million aged 12 years or older have hearing loss in both ears, based on standard hearing examinations. Finally about 2% of adults' age 45 to 54 have disabling hearing loss. The rate increase to 8.5% for adult's age 55 to 64. Nearly 25% of those age 65 to 74 and 50% of those who are 75 and older have disabling hearing loss.

These statistics should make you aware about the dangers of excessive noise and how to protect yourself and family with ear plugs and ear muffs to avoid prolong exposure to noise that will eventually cause hearing loss.