

BY DR. NORMA RIVERA MRAZ

Dr. Norma Rivera Mraz earned both her Bachelor of Arts (1985) and Master of Arts (1987) degrees from the University of Florida. She earned her Doctor of Audiology degree (2004) from the Arizona School of Health Sciences. After 10 years practicing audiology in Florida, she moved to Atlanta, GA in 1997, where she focused her efforts in the treatment of individuals who are afflicted with tinnitus and hyperacusis (abnormal sensitivity to sound).

Dr. Rivera Mraz currently owns and operates Mraz Audiology Consulting, Inc., which specializes in hearing conservation, hearing loss, tinnitus, and hyperacusis. The patient population served is newborn to adults. Mraz Audiology Consulting, Inc. focuses on providing the highest quality of care and professionalism to address each patient's individualized hearing healthcare needs. Dr. Rivera Mraz speaks fluent English, Spanish, and Sign Language.



OUR EARS HEAR-OR DO THEY?

We live in a world that is rich with sounds, from soft like a whisper to loud like a jet turbine engine. Sound can have so much meaning and evoke emotion—the sound of a gentle kiss on the cheek or a siren screeching as it passes by.

Hearing is one of our 5 traditional senses and is where sound is perceived. Humans are capable of hearing from 20Hz (very low bass) to 20,000Hz (very high pitch). Everyday conversation generally falls in the frequency range of 250Hz to 8000Hz.

Equally important is how we hear

Since childhood, we have been taught that we hear with our ears, but that is only partially correct. The ears are merely the end organs that take external sound vibrations, and through an intricate and sophisticated process, convert them to mechanical information in the middle ear, which then travels through the inner ear where tiny hair cells are stimulated that send impulses the hearing nerve to the auditory cortex in the brain—the hearing center. In other words, if sound doesn't reach the auditory cortex of the brain – no sound is heard.

Here are some facts we know:

Statistics show that approximately 40 million adults in the United States report some degree of hearing loss. Hearing loss due to aging (presbycusis), affects approximately 35% of individuals over 60 years of age. Unfortunately, what used to be considered an older person's problem is quickly becoming a serious issue with today's youth.

What can be done to protect your hearing?

Research shows that exposure to excessive noise levels are the leading cause for permanent damage to the ear resulting in hearing loss and tinnitus, which is a ringing in the ears. The average conversation is around 65 decibels (dB) which is how sound intensity (loudness) is measured. A concert or leaf

blower is 115dB, whereas a firearm is 135dB. Sound levels exceeding 100dB for more than 30 minutes continuously is dangerous to our ears. There are 3 highly effective options for hearing conservation. First, turn the volume down. It is a simple solution if you can control the sound source. The rule of thumb is if you are 3 feet away and have to raise your voice in order for the other person to hear you, than it is too loud. Second, walk away. The more distance between you and the offensive sound, the better. And third, wear proper ear protection.

There are different types of ear protection that are designed for specific environments. Ear muffs or plugs are great for mowing the lawn because they dampen excessive noise levels. However, if you are attending a concert, sporting event, movie theatre, or any desired noisy event than you will want to wear a different form of ear protection that is conducive to that particular environment, such as musician plugs. Musician plugs offers a flat attenuation of the sound while maintaining the integrity of the sound – basically, speech and music sounds clear without being muffled. These types of ear plugs are available in non-custom form found at major music stores and you don't have to be a musician to wear them. They can also be custom made to fit your ear comfortably and aesthetically by your local audiologist.

But I love my music LOUD!

In our society, the definition of "fun" is often equated with "volume." Simply put, the louder it is, the better. So let's consider a sporting event ... fans in the stands are encouraged to "get LOUDER," "break the sound barrier," "scream and shout"... all good as long as everyone understands the consequences. Everyone should be entitled to go out and have a great time, no one is suggesting otherwise, but everyone should also be

empowered with information that helps them make informed decisions so they can choose how they wish to (safely) participate in these types of activities. Let's also consider a child attending an event who is innocently following the guidance of the adult. If the person behind them starts blowing some obnoxious instrument like a plastic horn or vuvuzela, or screams out loud at levels that are toxic to the hearing system, than this child never stood a chance nor were they protected from what could eventually result in permanent hearing loss and/or tinnitus.

It is interesting to note that in preparation for a December Monday Night Football game, head coach Sean Payton contacted Brett Favre to ask him how he combatted the loud noise levels inside the Seahawks stadium that was purposefully designed to acoustically enhance the sound levels (exceeding 120dB) making it difficult for the team to hear themselves inside the huddle and while they played. Favre told him to order custom



noise reduction ear plugs – as a result, 20 pair were ordered for the team! While it is true that for most, it will take repetitive exposures of excessive noise levels over a period of time before permanent damage to the hearing system is done, there are many for whom it takes only one assault to change their world and turn it upside down.

Be wise and choose to properly protect your ears from dangerous noise levels. There are no second chances. Hearing the world and people around you in its natural splendor for many years to come is not only priceless, but a gift easily worth giving and protecting. Happy Holidays!



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TINNITUS – HYPERACUSIS – MISOPHONIA
HEARING LOSS – HEARING AIDS
HABLAMOS ESPAÑOL

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