



Chiropractic Newsletter

Your Amazing Body

Ring in the New Year!

The expression “Ring in the new year” comes from an old tradition in which church bells would toll at midnight, as though a person had died, to ring out the old year and then cheerfully chime to ring in the new year. While this tradition is no longer widely practiced, many will “ring” in the new year with all manner of noise. The fire siren in town may sound at midnight, or people may bang pots and pans or set off fireworks. And, of course, there is the old standby... the noisemaker. Yes, New Year’s Eve is a noisy occasion!!!

Here's the amazing thing, if you're like most people, you will actually have the pleasure of hearing all that noise!!! You may or may not like the noise but you will be able to hear it, and that alone is AMAZING!!! Our sense of hearing is one of the most incredible functions our body possesses.

The ear is made up of three separate areas each with its own special function. The outer ear captures the sound, the middle ear transforms the sound, and the inner ear processes the sound and sends it along to the brain for interpretation.

Your outer ear consists of the pinna (or auricle) and the ear canal. The pinna is the part you see on the side of your head. It's shaped the way it is specifically to enhance the collection of sound and then to funnel it into your ear canal which is the pathway to the middle ear. Interestingly, your sense of hearing is so special it comes with its own protective mechanism. Glands in the ear canal make earwax to protect the canal and prevent infections. AMAZING!!! Your body is SO smart!!!

Your middle ear is separated from your ear canal by your eardrum (a.k.a. tympanic membrane) which is a thin tissue that stretches tight across the canal essentially like the top of a drum and hence the name. Sound waves collected by the outer ear hit the eardrum causing movement which in turn vibrates three, tiny little bones in the middle ear: the malleus (a.k.a. hammer), incus (a.k.a. anvil) and stapes (a.k.a. stirrup). It's especially AMAZING that these tiny little bones are suspended and connected by tiny little ligaments that leave them free to vibrate to transmit sound from the eardrum to the inner ear.

To hear properly, the pressure on either side of your eardrum must be equal. Changes in elevation, for example when you fly or go up in the mountains, create pressure differences and you may feel your ears “pop.” This is the result of small tubes (Eustachian tubes) that connect the middle ear to the nose and act as a small pressure valve to reestablish the balance of pressure on either side of your eardrum. This AMAZING little tube is closed at rest, but opens upon swallowing to automatically adjust for small pressure changes without any conscious effort on your part.

Your inner ear is where the vibrations of those three tiny bones are changed into nerve signals. The cochlea, a snail-shaped coiled tube, contains the actual sensory organ of hearing. It passes the nerve signals to the cochlear (a.k.a. auditory) nerve which then transports the nerve signals to the brain where they are interpreted. Also in the inner ear are the semicircular canals. These canals are filled with fluid

and lined with tiny hairs. Their job is to assist you with balance.

So think about this: sound waves travel across the air, get collected by your outer ear, hit a tiny drum less than a half inch big, that vibrates three even smaller little bones. Those vibrations somehow magically get changed into nerve signals that your brain receives and interprets as any of countless sounds, maybe a whisper or a bird singing or a fire siren, someone banging pots and pans or a noisemaker. Absolutely AMAZING!!!

Of course, your ear is far more complicated than this simple explanation, and at any point along the

pathway, things can go wrong. In fact, 15% of the adults over the age of 18 have some hearing issues. It makes sense to take care of your hearing by avoiding super loud places and noises whenever possible and by keeping the volume on your electronics and specifically your ear buds to a sensible level.

It also just makes sense to keep your whole nerve system functioning optimally and your family chiropractor can help you with that. Take the time in the new year to be mindful of all the AMAZING things you can hear starting with the countdown on New Year's Eve and continuing right through a fabulous 2023!! Happy New Year!!!

—By Judy Nutz Campanale, DC, ACP

