

Why is Tinnitus so annoying?

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Mini Review

Animals have their hearing as a warning system for the first line of defence, which raises the alert. In humans, except from the basic innate “animal” reactions, we have our thoughts and feelings, with our sentiments and communication between people predominating. There is a short interval between the detection of sound by the cochlea and the perception of sound by the auditory cortex. However, during this time many types of interactions take place. A quarter of a second is a long time for a fast computer, but for our brains as well. Humans not only hear the sound, but can also be affected both physically and emotionally in many ways. There is no human being who has not felt the pleasant, striking feeling on his back at the sound of a charming music.

We do not fully know the connections and interactions between the auditory tract and other parts of the brain. The way we operate is even less understood. Suffice it to say that abnormal electrical activity at any point from the cochlea up to close to the auditory cortex can have many different effects between them.

The changes in electrical activity occurring for any reason on the acoustic path are perceived by the brain as sound, even though there is no new sound in the environment. The auditory cortex “does not recognize” that this activity is not external. It just processes it as sound. Similarly, the brain stem does not know that this new electrical activity is not a threat; it simply reacts as if it were a threat. Compare this to what would happen if someone were to hit you in the eye: besides the pain, you would almost certainly see a glow. They wouldn’t have shined a light on the eye, but the difference in electrical activity in the visual system is perceived by the visual cortex as “light”. In classic migraine, where the blood flow in the visual cortex is impaired, the flashes are common experience.

To hear “sounds” when no one is there can trigger other symptoms due to the continuation of early warning effect that makes the person be in a constant vigilance. Patients may be marginal, moody, irritable and unable to concentrate. If the occurrence of

tinnitus is associated with an unpleasant event, such as an accident, an explosion, a lesion of the spinal column, a death in the family, that usually worsens the effect. Other factors that increase the level of overall activity of the brainstem, such as anger, malaise or fatigue when there is a need to remain vigilant, can increase the perception of tinnitus and the problems they create. Of course, to be thinking about these sounds tends to make them worse.

The discomfort caused by tinnitus may begin to affect patients psychologically, depending on the characteristics of their personality. Some people have life organized and well-structured and are frustrated when they can’t make tinnitus leave. The more they concentrate to make them disappear, the worse they get, which leads to more anger, especially at night when it is quiet. Many patients get up, turn on the radio, television, washer, dryer to remove the noise or they might leave the house.

There are others who despair that their world will never be quiet again and are afraid that they will hear this noise everywhere they go and can fall into severe depression. Many more have great difficulty sleeping and lack of sleep and the need to function the next day leaves them exhausted, which often tends to increase the perception of tinnitus. Many patients have the idea that they have a brain tumour or some other incurable disease which onsets with this noise. Indeed, in past centuries the noises in the head were considered to be the devil’s work. Generally, patients may be affected in different ways, depending on the effect of tinnitus on each person.

Not all forms of tinnitus last long. Most people who go to clubs or concerts with very loud music develop tinnitus, but soon these sounds are reduced and eventually disappear. Some people have a more relaxed personality and just accept the sound as “something new” or “something to do with old age” and so quickly reconcile with their noises.

