Tone Deafness â€“ the Causes

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One might think that there must be hundreds of thousands it not millions of people who are tone deaf or as some say, incapable of â€œcarrying a tune.â€• And that is true to a certain extent since it is estimated that two to five percent of the population is considered to be medically tone deaf. However, there are varying degrees of tone deafness. For example, a person who simply sings off key, even frequently, may not be truly tone deaf, at least not medically speaking. Moreover, there are numerous other possible reasons for his or her inability to sing on key.

The first step to understanding tone deafness is to examine the causes. Some people may be at a club when someone asks them what they think of the band. While the band may be quite good or perhaps even very good a person who is tone deaf might think them to be average or perhaps just okay. This is usually because they are not able to distinguish between musical notes that may differ only slightly, thus the melody and intricacies of a song is may not be distinguished, as well.

In the medical community tone deafness, sometimes referred to as â€œtune deafnessâ€• is known as â€œamusia.â€• In music it is characterized by a cognitive inability to discriminate between musical notes, or to identify changes in melody, despite having â€˜normalâ€™ hearing. Technically speaking, it is an auditory processing disorder in which the internal hearing of the individual lacks the ability to recognize when his or her pitch deviates from the desired note to be sung.

Though these deficits can be caused by organic trauma, such as a brain injury, or some combination of genetic and environmental factors, research has shown that tone deafness is largely hereditary. This hereditary factor can be borne out by looking at how many star singing performers have offspring that go on and have a fabulous career of their own.

Normally the brain processes sounds in a series, with the front and parietal cortices receiving signals that have been previously processed it in the auditory cortex. The tone deaf brain has a disrupted path for this information, meaning the wrong note never gets to the auditory cortex and therefore is never consciously recognized.

Studies have shown that while poor singers were equally accurate as good singers in recognizing or indentifying changes in pitch, they were dramatically worse than good singers at vocally reproducing notes. Whatâ€™s really interesting about this phenomenon is that while tone deaf individuals have the ability to hear the differences in musical notes, they do not have the ability to produce good music.

When all is said and done, it seems that neither tone deafness nor poor perception of sound is the likely cause of bad singing. Furthermore, in the general population, most bad singers can discern musical notes without difficulty. It has also been concluded that poor motor control doesnâ€™t necessarily explain the difference either, since bad singers have a comparable vocal range as a good â€œuntrainedâ€• singer.

One of the studies conducted also showed that most â€œpitch poorâ€• singers are more than just a little of when asked to repeat notes, even when they are given just a few notes in sequence or just a jingle note. In most cases, they were off by a semitone or more, therefore singing a dramatically different note than what they were hearing.

What Causes Pitch Errors?

Unfortunately more often than not, people confuse all persistent pitch problems with tone deafness.

However, these problems that that cause an individual to have poor music perception and thus sing poorly can be traced to a number of different factors. In some cases a person canâ€™t sing back notes quickly or accurately after they have heard them. This can be attributed to bad hearing or bad memory. Poor control of the vocal system can also hinder their ability to produce a note, even though they heard it correctly.

Another reason some people who are not medically tone deaf sing poorly is really quite simple, and that is that they havenâ€™t made a conscious effort to actually LEARN TO SING. Without proper coaching and a desire to learn the singing voice will most always fail to live up to its full potential.

Some people, perhaps even at an early age, have been told they canâ€™t sing, carry a tune or theyâ€™ve been told their voice is unpleasant or perhaps even annoying. This kind of criticism and mockery can wound someone psychologically and cause them to develop a defeatist attitude and in the end accept that they canâ€™t sing no matter what they might try.

Singers who have developed severe constrictions of the vocal tract over the years may also find themselves â€œpitch challenged.â€• The consequences of these constrictions often make the singing voice sound even worse because tone is made to sound unpleasant. This, in turn, can make the singer self-conscious about singing in front of others which makes them nervous and more likely to hit sour notes. This may lead to an extreme loss of confidence and can make the singer give up any hope of correcting the way that they sing by means of their hearing.

Many untrained singers develop a comfort zone that they prefer that usually involves singing in the middle and lower parts of their ranges. This too can cause a psychological â€œhang upâ€• that may make a singer nervous and apprehensive about their ability to hit the higher notes. Even if they do try, they usually, either consciously or subconsciously, sing a few notes below the correct pitch.

Out of the many causes of pitch error, the one most common amongst new students is the incorrect navigation of register shifts. Since they are untrained, or not properly trained they tend to get stuck at the same pitch and canâ€™t seem to get any higher because they donâ€™t or canâ€™t stretch the voc enough to produce the desired note. Proper training, including a study of vowel modification is almost always successful in eliminating these problems, enabling the singer too gradually and smoothly transition into the higher register without a noticeable register break or a pitch error.

Another source of unplanned pitch deviation amongst singers, especially new students is poor breath management. Proper breath management allows the singer to steadily regulate the flow of air leaving the lungs, as when the singer moves suddenly and air is pushed out rapidly. If this is air flow is not properly regulated it can not only affect the tone of the voice it can affect pitch, as well. Whenever a sudden and unexpected burst of air meets the fully approximated and vibrating vocal folds, the amount of subglottic air pressure is dramatically increased. This typically causes the vocal folds to respond by vibrating at a faster rate, which causes the pitch of the voice to automatically rise.

Get a Diagnoses

Researchers at The University of Newcastle-upon-Tyne in England offer an online test to determine if a person is medically tone deaf. To test your ability to perceive music visit: http://www.delosis.com/listening/home.html.

The test is limited in scope as it only provides a score to indicate whether or not an individual can accurately perceive changes in pitch. It does not offer an explanation for why pitch problems occur or identify technical problems that may be addressed through vocal training. Participating in the test is still a good place to begin, but keep in mind a low score doesnâ€™t necessarily mean an individual canâ€™t take steps to improve their pitch perception and still be able to LERN TO SING on tune.

Unfortunately, there is no known cure for tone deafness. However, for those who are not medically tone deaf, there are numerous things that can be taught to help improve or even eliminate pitch

problems. We will discuss those methods to correct an individualâ€™s singing technique in depth in an upcoming article.

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Ken Tamplin Vocal Academy - Learn how to sing better with the Most powerful and effective a singing lessons online and get a vocal teachers and a vocal coach.

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