

# The Causes of Stuttering and Addressing Stuttering in a Reconstructive Way

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**Abstract:** Stuttering is a variety of problems in language communication, where the core problems are repetitions of sounds and silent blocks, and the rest of the problems are caused by the core problems. A new set of smooth expression speech system is established on the basis of 20 cases of stuttering addressed by Xian Wai Earbuds Company, which uses the auditory delayed feedback to achieve the simple pronunciation mode without being affected in speech pronunciation, and reconstruct coordination between brain and pronunciation organs.

## 1. Logical Relationship of Stuttering Problems

Stuttering shows a lot of problems, but the core problems are repetitions of sounds and silent blocks, and the rest of the problems are caused by these two problems. Some stutterers show personality and psychological problems, which is due to the communication disorder caused by stuttering, resulting in long-term inability to communicate with others, and bringing about an impact on personality and psychology.

## 2. Causes of the Core Problems of Stuttering

Repetitions of sounds is a phenomenon that a sound or word is repeated many times, which is transformed from the phenomenon of reduplicated words in early childhood language. Reduplicated words are words used by repeated Chinese with two or more glyphs and meanings, such as “Bei Bei (cup)” and “Hua Hua (flower)”. The input of reduplicated words is helpful to children’s phonetic learning before the age of 2, but it will hinder phonetic development after the age of 2 [1], and irregular repetitive pronunciation will be formed if they are not corrected.

Silent blocks is a phenomenon that the brain wants to express a word, but the vocal organs can’t make a sound. The generation of speaking sound is that the airflow exhaled from the lungs reaches the larynx through the bronchus, which causes the vocal cords in the larynx to produce sound, and then is tuned by the oral cavity or nasal cavity. The pronunciation of each

word is the result of the coordinated movement of the pronunciation organs, so there will be an upper limit of the number of words and speed of speech. When the number of words that the brain wants to express and the speed of speech exceed the upper limit allowed by the pronunciation organs, the phenomenon of silent blocks will appear.

Some people can improve the coordination of pronunciation organs through speaking training, and improve the number of words and speed of speech, greatly reducing the phenomenon of silent blocks, which can also prove this view from the other side.

### 3. How Core Problems Cause Other Speaking Problems

In order to solve the problem of repetitions of sounds and silent blocks, the stuttered people would do some extra behaviors to develop speaking habits when stuttering occurs. For example, in order to solve the problem of repetitions of sounds, they would combine the repeated sounds into one to form an elongated sound. Under the circumstance of silent blocks, they would speak hard, which makes some words sound particularly louder, and even use their extra body movements to adjust their speech, such as clapping hands and stamping feet.

Stuttering can also cause some specific words to be difficult or obscure to pronounce, which is due to the long-term silence caused by stuttering, resulting in pronunciation degradation due to the lack of exercise of these words, and even mispronunciation. People with fluent pronunciation but lack of communication would have the same problem.

### 4. How to Construct a New Speech System through Auditory Delayed Feedback

The process of speaking and vocalization can be summarized as follows: the airflow exhaled from the lungs reaches the larynx through the bronchus, which causes the vocal cords in the larynx to vibrate and produce sound, and then tunes it by the oral cavity or nasal cavity. Stuttering is caused by the influence of emotion, habit or other external factors on vocal organs, which leads to abnormal pronunciation. Therefore, when establishing a speech pronunciation that is not affected by the outside world, there will be no stuttering.

With the help of in-ear monitors (auditory delayed feedback), a self-monitoring

pronunciation system can be established, to perform the pronunciation correction by monitoring the wearer's own speech, so as to achieve the simple pronunciation mode that the speech pronunciation is not affected by the outside world.

When exercising to improve the undisturbed pronunciation style and stable structure, factors such as emotions and habits and speech can be recombined, to realize normal speech language communication.

## 5. Reconstruction of the Speech Execution Process

The first stage is to reconstruct the simple pronunciation, which is carried out in the way of reading the article word by word. There should be a pause in the middle of each word, which is used to listen to the in-ear monitors, and to correct the pronunciation to be a simple one that is not affected by emotions and habits, and will not be too long, too fast, too light or too hard.

The second stage is to improve the coordination between pronunciation organs, which can then support the increase of speaking words. The foundation of the new pronunciation mode is that the pronunciation organs establish a new coordination relationship, and the higher the coordination relationship, the more words can be spoken. The way to improve coordination is to talk a lot and do it in a normal communication environment. Speaking is a two-way communication of information, reading aloud is a single communication, and the goal of addressing stuttering is two-way communication.

The third stage is to resume pronunciation changes, which is carried out in normal communication and speech. At this stage, it is necessary to lower the speed and number of words, so as to improve the ability to control speech. On the basis of stabilizing the speaking process, the influencing factors such as emotions and habits should be recombined with speaking, and the progress of combination should be appropriate and orderly instead of being radical.

After the speech training time is over, in-ear monitors can be removed and the living environment can be resumed.

## 6. Precautions after speaking normally

According to the case feedback, there are two weeks of integration period and half-year of observation period after the reconstruction speech is completed.

During the two weeks of integration into life, the stuttered people should adapt to the changes in psychology and life after their speech changes, and maintain the combination of emotions, habits and other factors and speech on the basis of normal speech.

During the half-year of observation period, the speech will completely return to the cadenced pronunciation. At this stage, if the stuttered people add emotions and habits to their speeches too quickly or too much, stuttering will reappear. In this case, they need to take two hours to practice simple pronunciation, so that speaking can return to the state after pronunciation training and reintegrate into life.

[1] Peng Xiaohong, Bai Xiaofang. On the reduplication of words in early Chinese-speaking children [J]. Journal of Southwest Jiaotong University (Social Science Edition), 2014, 15 (06): 44-48 +122.

[2] Cases Video Recording of Using Xian Wai Earbuds to Address Stuttering  
<https://www.bilibili.com/video/BV1mU4y1A76x/>