

"C.A.P.P.E." — A Strategy for Counselling Tinnitus Patients

Richard H. Nodar, Ph.D.

The Cleveland Clinic Foundation, Cleveland, Ohio, U.S.A.

Abstract: This paper presents a simple, straightforward vehicle for counseling tinnitus patients when discussing probable cause. The five stress factors are: **Chemical, Acoustic, Pathologic, Physical, and Emotional (C.A.P.P.E.)**.

Key Words: Tinnitus, Counseling Tinnitus Patients, Tinnitus and Stress, Causes of Tinnitus

INTRODUCTION

As I discussed the application of a new classification system¹ with several of my colleagues, I explained my approach to discussing the probable cause of tinnitus to my patients. Further, I employ the same format when indicating cause in my classification system. My colleagues requested that I write the mnemonic down for them, with a brief explanation of each descriptor. The initials **C.A.P.P.E.** (pronounced cape), help me remember, and focus on what I describe as the five stress factors which may cause, or aggravate existing tinnitus. Over the thirty-four years that I have been interested in tinnitus, I have found that a very high percentage of my patients are very curious, well read, and constantly seeking an answer or answers to the question, "Why did this happen to me?" Often, when **C.A.P.P.E.** is presented, there is understanding, acknowledgment, acceptance, and concurrence.

Background

This approach has its origins dating back to the early 1970's². Investigating the occurrence of tinnitus in school-aged children, we discovered several interesting facts:

1. Apparently, no one had ever asked them if they had noises in their ears, such as ringing, clicks, etc.,
2. They wrote paragraphs, and even pages, to explain what they heard, and

3. Patterns emerged which were too obvious to ignore.

On a questionnaire, presented to 2000 children over a three year period, we asked three questions:

1. Do you have any noises in your ears, such as ringing, buzzing, or clicks?
2. If so, how would you describe them?
3. When do you hear them?

Most surprising is the amount of time the children took to write their answers. However, their responses rendered information we knew, yet it had never been presented in such a straight forward manner. Answers to the question, "When do you hear them?" were similar to the following:

"When I practice my trumpet in a practice room"

(**Acoustic stress**).

"When I run the mile (in track) my ears ring"

(**Physical stress**).

"When I didn't do my homework and I think the teacher is going to call on me"

(**Emotional stress**).

In later studies we looked at additional factors^{3,4} and although the results were encouraging, they were not conclusive regarding all five factors. However, clinical research is always in need of laboratory support.

Stress Factors

The five stress factors that are explained as possible causes, or aggravators of existing tinnitus are: **Chemical Stress, Acoustic Stress, Physical Stress, Pathological Stress, and Emotional Stress**. Once these have been outlined to the patient, a broad explanation is given for each factor. Although the professional is aware of the

Reprint requests: Richard H. Nodar, Ph.D., The Cleveland Clinic Foundation A-71, 9500 Euclid Avenue, Cleveland, Ohio 44195, U.S.A. Tel: 216-444-6693

multitude of elements which fall under each factor, we usually keep our explanation lucid and limited. Further, it is difficult to come up with a possible trigger which cannot fit into these five areas. We explain each factor to our patients as follows:

Chemical Stress It is well documented that certain drugs may cause or aggravate tinnitus. Aspirin, and other medications when taken in high doses — also certain drugs used in chemo-therapy for cancer.

Acoustic Stress Exposure to very loud sounds, such as rock music, chain saws, and weapons, may cause one's ears to ring.

Physical Stress Fatigue can contribute to the perception of tinnitus. Often, at the end of the day, tinnitus may seem louder, or more irritating.

Pathological Stress Disease, ranging from a simple sinus condition to an acoustic tumor can be the source of tinnitus. A sensorineural hearing loss represents a degree of damaged hair cells in the inner ear, and this could be the source of tinnitus. Further, vascular disorders may result in pulsatile tinnitus.

Emotional Stress There are times when a single, distressing, emotional event can cause or intensify the annoyance of tinnitus.

METHOD

Utilization of C.A.P.P.E. as part of the counseling for tinnitus patients has proven very useful. One may expand or limit the discussion of each factor. Table 1 presents some examples of each factor gleaned from the literature, our research and clinical experience.

Table 1. Examples of a few possible stress factors causing, or contributing to the aggravation of tinnitus. Note: these may occur alone or in combination with the others.

C.	Chemical Stress
	Salicylates
	Ototoxic diuretics
	Ototoxic antibiotics
	Chemotherapy drugs
	Caffeine
	Alcohol
A.	Cocaine
	Oral contraceptives
	Acoustic Stress
	Noise exposure:
	Impact
	Prolonged

P. **Pathologic Stress**
Sensorineural hearing loss
Conductive hearing loss
Mixed hearing loss
Diseases
Acoustic tumors

P. **Physical Stress**
Fatigue:
Daily
Exercise
Strain

E. **Emotional Stress**
Depression
Anxiety
Sadness
Grief

Earlier, we introduced a classification system for tinnitus¹. One of the factors to be considered is **Cause**. Probable cause of tinnitus I often the most difficult to pinpoint. Frequently, there are obvious causative events or conditions. However, the clinician may explore these five stress factors with the patient in an effort to determine which is (are) the most likely. In my hands, the patient is counseled following all tests, trials, and explanations regarding coping strategies, relaxation exercises and instrumentation. Our approach includes a frank discussion, which must demonstrate compassion and understanding and relate test and trial results. The discussion regarding our classification (**ABC-C-CLAP**) discloses what we know or surmise about their tinnitus: 1. A, B, or C = Their tinnitus is in one ear, (Tinnitus Aurium), both ears (Binaural Tinnitus), or head noises (Tinnitus Cerebri).

2. The Cause of their tinnitus. This is where we introduce **C.A.P.P.E.**
3. The Composition of their tinnitus (A single tone, a complex tone, a noise, etc.).
4. The Loudness of their tinnitus (Determined subjectively on a scale of 1 to 10, and on an audiometer using dB HL)⁶.
5. The degree of Annoyance of their tinnitus (subjective scale only).
6. The Pitch of their tinnitus (Subjective: High, low, etc., and in a "pitch match")⁶ using an audiometer. Most of the information is not new to the patient, it is simply in a format that informs them that we know it too and, to a small degree, we have attempted to quantify their tinnitus.

However, **C.A.P.P.E.**, and its utilization places possible cause and/or probable cause in a format that the patient can relate to, and may even expand upon, by recalling an event, disorder, or condition which corresponds to the onset of their tinnitus. We explain that the causative agent need not have occurred at the moment of tinnitus onset, but may have occurred close, in time, preceding the tinnitus by: seconds (as in acoustic stress), minutes (as in physical stress), hours (as in chemical stress, days or weeks (as in emotional stress), months or longer (as in pathologic stress).

The important ingredients during the counseling sessions are compassion and time. We are convinced that the clinician is the single, most critical factor in the management of tinnitus patients. Their recovery and their attitude regarding their care giver are very closely linked. C.A.P.P.E. has assisted us as an important element of our counseling session. Hopefully, it can be incorporated into your counseling sessions as well.

REFERENCES

1. Nodar RH: Tinnitus reclassified: New oil in an old lamp. *Otolaryngology Head and Neck Surgery* 114:582-585, 1996.
2. Nodar RH: An investigation of the incidence of tinnitus aurium in school aged children. *Journal of Auditory Research* 12:133-135, 1972.
3. Nodar RH, Hughes GB: Tinnitus: Annoyance and stress. American Auditory Society Annual Convention, San Antonio, TX. November, 1992.
4. Nodar RH, Hughes GB: Tinnitus aurium: Phenomenon or phenomena? American Academy of Otolaryngology - Head and Neck Surgery, Washington, D.C. Poster. September, 1992.
5. Nodar RH, Graham JT: An investigation of the frequency characteristics of tinnitus associated with Meniere's disease. *A.M.A. Archives of Otolaryngology* 82:28-32, 1965.