my arm hurts!

what?
CHaTT – Cognitive Habituation Tinnitus Therapy
Auckland, New Zealand
March 10th, 2014

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New England Tinnitus and Hyperacusis Center, Director, Owner
Chairman of the Board, Tinnitus Practitioners Association
www.tinnituspractitioners.org
www.hearingbalance.com
“Live with it”
Masking
Hearing aids
Sound therapy
TRT
Counseling only
Mindfulness – stress relief
Sound therapy and counseling – CHaTT
Why counseling is important?

REACTION
REACTION
REACTION

35 mil.

1 - 2 mil.

10 - 15 mil.
If tinnitus is perceived as a benign non-threatening event, habituation occurs in a natural way.

However, if tinnitus is regarded as a threatening and annoying and distressing and un-invited and disturbing and anxious producing FEARFUL event, then habituation cannot occur naturally.

Bad reaction can be eradicated in a “forced”, learned approach (CBT). Therefore, once we learn that tinnitus does not have to be a threatening event, producing all of the above, then it becomes a non-threatening, not FEARFUL event. Ex. Lemon – lemonade – grapefruit. “Sour face to acceptable face”

And, when tinnitus becomes a benign event then HABITUATION becomes a natural phenomenon.
Understanding why some have an “acceptable” tinnitus while others don’t, points to the answer which lead to the logical method of treatment.

Since dB SL and Fs are same in each group, than it is the reaction or should we say OVER-REACTION which is the separating factor.

Does it then matter where the generator/s of the tinnitus is/are?

Therefore, all the roads lead to OVER-REACTION.
Negative interpretation of tinnitus evokes strong negative emotions which in turn increase threatening fearful feelings toward tinnitus. 

In turn, this leads to behavioral changes

The struggle with tinnitus and its consequences, becomes a significant load to the patient who exerts his/her mental and physical energy to combat all such emotions (trying to break a wall with your “head” instead of walking around the wall to smell the flowers on the other side of the wall)

Tinnitus starts to be perceived as a predator like event
Patient loses his/her “battle” with tinnitus and deprives himself of entering the “rose garden”. Grievance process!!!
Therefore, at least for now, the treatment becomes obvious,

*Change REACTION*  
*Change BEHAVIOR*

Which led to development of a treatment protocol which necessitated inclusion of a significant components of CBT

**Birth of CHaTT – Cognitive Habituation Tinnitus Therapy**

1st *tinnitus treatment program designed by an audiologist which combined sound therapy with Cognitive Behavioral Therapy as a counseling retraining support*
The Goal
The Effects of Tinnitus Separate the Groups

Feeling of depression
Feeling of tension
Feeling of irritability
Feeling of anger
Feeling of annoyance
Feeling of frustration
Feeling of loosing control
Feeling of anxiety
Feeling of helplessness
Feeling of hopelessness
And, how tinnitus affects one’s life

- Tinnitus affects sleep
- Tinnitus affects communication
- Tinnitus affects daily activities
- Tinnitus alters life style
- Tinnitus affects life’s pleasures
- Tinnitus affects relationships with others
- Tinnitus affects concentration
- Tinnitus affects work
In summary, Tinnitus Can Ruin Life!
I also have tinnitus and I feel like screaming.
Why do I feel the whole world is against me?
History

CHaTT is a product of over ten years working with T and SSD patients

CHaTT is taught through seminars presented by Tinnitus Practitioners Association

TPA was formed in January 2009

TPA became a non profit organization - September 2010

Completed more than 25 Education Courses

Over 200 members as of January 2014
Course Levels:

- Introductory – 0.1 CEU’s (Tier 1)
- Associate – 1.5 CEU’s (Tier 1)
- Fellow – 1.5 CEU’s (Tier 1) (attended Associate Course)
- Fellow Combination – 3.0 CEU’s (full course)
Cognitive Habituation Tinnitus Treatment (CHaTT) Uses the Best of all the Methods

CHaTT is an eclectic, patient based approach with elements of:
Masking – sound therapy
TRT - neurophysiological model,
CBT- counseling,
TAT- pictures and homework
Neuromonics- music
PTI- progressive adaptation of treatment
An Olympic tinnitus treatment program
<table>
<thead>
<tr>
<th></th>
<th># of patients</th>
<th>average THI/CRS (T)</th>
<th>% success*</th>
<th>length of treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRT(T)</td>
<td>127</td>
<td>64 (0-100)</td>
<td>89</td>
<td>16 ms</td>
</tr>
<tr>
<td>CHaTT(T)</td>
<td>121</td>
<td>72 (0-114)</td>
<td>94</td>
<td>12 ms</td>
</tr>
<tr>
<td>TRT(H)</td>
<td>68</td>
<td>58 (0-100)</td>
<td>100</td>
<td>8.4 ms</td>
</tr>
<tr>
<td>CHaTT(H)</td>
<td>56</td>
<td>84 (0-126)</td>
<td>100</td>
<td>6.2 ms</td>
</tr>
</tbody>
</table>

*Success - when THI ≤ 16 and CRS (T) ≤ 17 and when Khalfa ≤ 10 and CRS (H) ≤ 30 S ≤ 3, A ≤ 3, E.L. ≤ 3, % ≤ 30
Elements of CHaTT

a) Definitions
b) Types
c) Mechanism/s
d) Neurophysiological model (Dr. P. Jastreboff)
e) Role of:
   1. Plasticity of CNS
   2. Conditioned responses
   3. Habituation
   4. Neural mechanisms of perception
f) What is Limbic System and its role (4Fs)
g) What is ANS and its role
h) Pavlov and tinnitus
i) Stimulus – run – fear or stimulus – fear – run?
j) Role of cognition, perception and interpretation in “kindling” of tinnitus
h) What is stored gets recalled
Elements of CHaTT

CHaTT categories
6 T Categories
4 H Categories
  with separate categories for:
  1) Phonophobia
  2) TTTS
  3) Acoustic shock
  4) Misophonia
1) Hardware:
   a) amplification/hearing aids
   b) tinnitus broad band noise generators
   c) combination devices (HA + NG)
   d) various sound generators
   e) music, shaped music, zen sounds
   f) tinnitus assistive devices
Software:

1) Instructive counseling  
   a) Conversational  
   b) Understanding Tinnitus Presentation (movie)  
   c) Understanding Tinnitus (PowerPoint Presentation)

Instructive (carrying a message, enlightening using pictures and analogies) 
Explains (teach, discuss, demystify, answer questions) 
Encourages (positive encouragement, identification, what tinnitus is and what tinnitus is not) 
Advises (use of sound, avoiding excessive noise, relaxation and sleep)
2) Cognitive Counseling (exploring thoughts and feelings about tinnitus)

a) 4 Ds (Deflect, Divert, Distract, De-stress; DEMOLISH)
b) Identify (recognition of the problem)
c) Identification of cognitive distortions
d) Neutralize negative thoughts and emotions
e) Taking down false perception and building new positive reality
f) Teaches attention control
g) Teaches relaxation
Habituation through irrelevance of the sound event
Irrelevance through counseling
Sound therapy an equal partner to counseling
ANATOMY, PHYSIOLOGY, COGNITION

Understanding Tinnitus
The Neurophysiological Model of Tinnitus points out that various centers of the brain are involved in tinnitus emergence.

- Habituation - First proposed by Jastreboff on October 12, 1988
- Habituation oriented therapy is based on a neurophysiological model of tinnitus
Tinnitus affects about 17% of the general population all around the world ...

Why does tinnitus induce distress in only 23% of the tinnitus population?

And why the psychoacoustical parameters of tinnitus sound are not related to tinnitus severity and/or the patient’s suffering, and it is not related to the treatment outcome?
The formation of the “feedback loops” between the auditory, limbic, autonomic nervous systems and cognitive centers are the crucial factors in the existence and degree of severity of tinnitus (installation of LCR).
The Limbic System

- provides connection between midbrain and cortex
- regulates motivational and emotional responses
- contributes to survival behavior (4 Fs)
  1. fight
  2. flight
  3. feeding and
  4. sex
- and it is important in memory and learning
- Emotions drive thoughts
- Thoughts have less influence on emotions
  (“Low Road” vs. “High Road”)
- LS says “TRUST BUT VERIFY”
Reticular Formation

ANS:

Sympathetic Nervous System
normal reaction becomes OVERREACTION

Parasympathetic Nervous System
Not enough of PNS, SNS wins
Autonomic Nervous System

ANS innervations, showing the sympathetic and parasympathetic systems, in red and blue, respectively
Networks

- Fear
- Anger
- Reward (Anticipation)
- Punishment
- Attention
Pavlovian Dog
Innate vs. Learned CR

Dog ➔ Meat ➔ Drooling
Dog ➔ Meat+Bell ➔ Drooling X
Dog ➔ Bell ➔ Drooling
Dog ➔ Bell ➔ Drooling
Dog ➔ Bell ➔ Drooling
Dog ➔ Bell ➔ No drooling?
Innate and learned conditioned response

Nice legs!! Does she have Tinnitus?
Habituation

In order to habituate perception, one needs to habituate reactions associated with the event and the corresponding emotion(s).

Habituation can only occur if there is awareness of the habituated event (therefore, masking will never produce habituation)

*Habituation, therefore, is an active process responsible for removing an awareness and the reaction (ANS) to a sensory event in the CNS and the brain*

*Habituation occurs as a natural process only to nonthreatening stimuli. Tinnitus needs to become an nonthreatening event. This can be accomplished using CBT*
Auditory & Other Cortical Areas
Perception & Evaluation (Consciousness, Memory, Attention)

Auditory Subconscious Detection/processing

Limbic System Emotions

Reactions

Autonomic Nervous System

Auditory Periphery Source

P Jastreboff, 1990
Patients are taught not to “run” which results in fear extinction which leads to elimination of perception. Patients are taught how to replace “tiger” with a “kitten”.

F.E.A.R.

L.O.V.E.
Auditory & Other Cortical Areas
Perception & Evaluation (Consciousness, Memory, Attention)

HP

Auditory Subconscious Detection/processing

HE

Limbic System Emotions

HE

Reactions

HR

Autonomic Nervous System

P Jastreboff, 1990
CHaTT teaches how to resolve the negative tinnitus associations involving three Loops

Subcortical (physiological) – mainly via sound therapy

Cortical (physiological) – mainly via counseling

Mind (psychological) – both, sound therapy and counseling
The neurophysiological model of tinnitus can not possibly undo all tinnitus loops to fully engage the habituation process.

However, with help from

Cognitive aspects, involving reaction to tinnitus, such process has a better chance to be facilitated. Remove FEAR. Make tinnitus a benign event.
CHaTT recognizes the role of cognitive behavioral therapy in the process of habituation.

In order to habituate perception (lose awareness) of a sensory event (internal or external), one needs to change some of the negative behavioral reactions and thoughts (model no running, no fear) associated with the given event (if one has continuously negative/distorted thoughts about tinnitus, one can not habituate it’s perception!!!)

Therefore, there is a need to first change behavior/reaction before the event (tinnitus) becomes an irrelevant event and habituation can occur. Restructuring TI.
MTL-Medial temporal Lobe memory system
LA- Lateral Amygdala
CE- Central Amygdala
B-Basal Amygdala

Joseph LeDoux, Synaptic Self, (modified by NB)
Role of Counseling

According to Joseph LeDoux “the absence of direct connection from PFC-L to the amygdala may be related to why talk therapy for some emotional conditions that involve amygdala are relatively inefficient (in terms of the amount of time required to achieve a therapeutic effect).

He states that behavioral therapy such as CBT is less dependent on conscious insight and more dependent on extinction (habituation) processes and on the development new associations, skills and habits. Some of these processes, especially extinction, involve the PFC-M.

The direct connection of the PFC-M with the amygdala may explain why CBT is more efficient for certain fear/anxiety related problems (such as tinnitus).

Joseph LeDoux, Synaptic Self, 2002
Retraining of a behavioral reaction to tinnitus

Cognitive Behavioral Therapy recognizes the following factors:

- Rethinking of one’s distorted thoughts about tinnitus as an antagonistic and sometimes catastrophic stimulant
- Removal of fear of unknown
- Regaining attention control
Finally, the goal of CHaTT

- Moving people from one group – “Unacceptable Tinnitus”
  “Tinnitus bothers me a lot and interferes with my life” (the perceived strength of the tinnitus is not tolerable)

- To another group – “Acceptable Tinnitus”
  “I have tinnitus, but it doesn’t really bother me and it does not interfere with my life any more” (the perceived strength of the same tinnitus is being ignored)

Is to return to normal life…..
CHaTT Patient Flow

1. Tinnitus Phone Questionnaire (send appointment info)
2. Initial Consultation (review of ITQ, Patient’s letter, THI, CHaTT Reaction Score)
3. Audiological Evaluation
4. Explanation of the results of the audio testing
5. Explanation of tinnitus model
6. Development of Treatment Plan
7. Instructive and Cognitive Counseling
8. Implementation of Sound Therapy Plan
9. Follow up
10. Validation
Initial Telephone Screening Interview Form

Patient Name ___________________________________________ Date ________________________________

1. Are you calling today about a tinnitus or hearing problem? Tinnitus Hearing

2. Do you have tinnitus that is constant? Yes No

3. How long have you had tinnitus? <3 months >3 months

4. How much of a problem is your tinnitus?
   - no problem(0)
   - small problem(2)
   - moderate problem(4)
   - big problem(10)

5. Does the tinnitus affect your sleep?
   - never(0)
   - rarely(2)
   - some of the time(4)
   - often(6)
   - always(10)

6. Do you find everyday sounds uncomfortable? Yes(10) No(0)

7. Were you referred to our clinic, or, how did you find out about us?
   ___________________________________________
   ___________________________________________
   ___________________________________________

Total Score from questions 4, 5 and 6 ________.

- If 6 is 0 (answered no)
  - Schedule 2 to 4 hour evaluation appointment
    - 2 hours if the total of questions 4, 5 and 6 is <10
    - 3 to 4 hours if the total of questions 4, 5 and 6 is >10
  - Notify patient of initial evaluation fee
  - Notify patient of testing fees (which may be covered by insurance)
  - Send confirmation of appointment and forms

- If 6 is 10 (answered yes)
  - Refer to TPA Fellow Level Tinnitus Clinic
Screening Interview

- Creates the opportunity to provide a positive and sincere impression with the patient acknowledging their tinnitus concern and the ability of your practice to help them with their problem (train office staff, practice how to handle phone calls).

- Creates the opportunity to begin the determination of the extent of their problem.

- Provides insight to scheduling appointment or referral.

- Provides the opportunity to evaluate marketing effectiveness.
Initial Consultation

- Interview (review Initial Tinnitus Questionnaire)
  - History (medical, ear, hearing, tinnitus and sound tolerance)
  - Identify medical conditions which may cause, contribute to, or have an impact on the management of tinnitus
  - Determine the extent of the patient’s reaction to tinnitus

- Tinnitus Handicap Inventory
  - Standardized Inventory for pre and post testing

- Review “tinnitus letter”

- Probe for FEAR and catastrophic interpretation of tinnitus
Initial Tinnitus Questionnaire

Patient Name: __________________________ Date: __________________

Reason for today’s appointment: __________________________

Allergies to any medications, plastics, etc.? __________________________

Current medications: __________________________

Ear Health History

Have you been exposed to loud sounds/noise? □ Yes □ No □ If yes, explain __________________________

Have you ever had ear surgery? □ Yes □ No □ If yes, ear? □ Right □ Left □ type __________________________

Have you ever had any head/ear trauma? □ Yes □ No □ If yes, explain __________________________

Have you ever taken medication that had a toxic effect on your hearing? □ Yes □ No □ If yes, type __________________________

*Have you experienced any drainage from your ear(s) within the last 90 days? □ Yes □ No

If yes, □ Right □ Left □ Both __________________________

*Do you suffer from pain or discomfort in your ear(s)? □ Yes □ No

If yes, □ Right □ Left □ Both __________________________

Do you have temporomandibular joint (TMJ) disorder? □ Yes □ No __________________________

If yes, □ Right □ Left □ Both __________________________

Do you have a congenital or traumatic deformity of the ear? □ Yes □ No __________________________

If yes, describe: __________________________

Do you often have significant cerumen (earwax) accumulation in your ear canal? __________________________

□ Right □ Left □ Both □ Neither __________________________

*Do you suffer from acute or chronic dizziness? □ Yes □ No __________________________

Please list all major surgeries (Past 10 years):

__________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

Please list any serious illnesses (Past 10 years):

__________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

Are you diabetic? □ Yes □ No __________________________

Do you have high blood pressure? □ Yes □ No __________________________
Initial Tinnitus Questionnaire

Patient Name: ___________________________ Date: ______________

Reason for today’s appointment: ________________________________

Allergies to any medications, plastics, etc.? ______________________

Current medications: ________________________________________

---

Ear Health History

Have you been exposed to loud sounds/noise? ☐ Yes ☐ No If yes, explain ________________________________

Have you ever had ear surgery? ☐ Yes ☐ No If yes, ear? ☐ Right ☐ Left type? ____________________________

Have you ever had any head/ear trauma? ☐ Yes ☐ No If yes, explain ________________________________

Have you ever taken medication that had a toxic effect on your hearing? ☐ Yes ☐ No If yes, type? ____________________________

*Have you experienced any drainage from your ear(s) within the last 90 days? ☐ Yes ☐ No
   If yes, ☐ Right ☐ Left ☐ Both

*Do you suffer from pain or discomfort in your ear(s)? ☐ Yes ☐ No
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Do you have temporomandibular joint (TMJ) disorder? ☐ Yes ☐ No
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   If yes, describe: __________________________________________

Do you often have significant cerumen (earwax) accumulation in your ear canal?
   ☐ Right ☐ Left ☐ Both ☐ Neither

*Do you suffer from acute or chronic dizziness? ☐ Yes ☐ No

Please list all major surgeries (Past 10 years):
_____________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________

Please list any serious illnesses (Past 10 years):
_____________________________________________________________________________________________
_____________________________________________________________________________________________
# Initial Tinnitus Questionnaire

## Tinnitus

Tinnitus refers to any kind of sound in your head...ringing, hissing and so on. Think only about your tinnitus in regard to the following questions.

<table>
<thead>
<tr>
<th>How does the tinnitus sound?</th>
<th>Constant?</th>
<th>Intermittent?</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>In which ear is your tinnitus?</th>
<th>□ Right</th>
<th>□ Left</th>
<th>□ Both</th>
<th>□ Head</th>
<th>□ Other</th>
</tr>
</thead>
</table>

<table>
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<tr>
<th>How long ago did you notice the tinnitus?</th>
<th>□ Recently</th>
<th>□ 1-3 years</th>
<th>□ 3-10 years</th>
<th>□ More than 10 years</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Do you remember the onset of your tinnitus?</th>
<th>□ Yes</th>
<th>□ No</th>
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</table>

<table>
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<tr>
<th>Was it a sudden or progressive onset?</th>
<th>□ Sudden</th>
<th>□ Progressive</th>
</tr>
</thead>
</table>

<table>
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<tr>
<th>Was it related to any other medical or environmental condition?</th>
<th>□ Yes</th>
<th>□ No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>*Does your tinnitus pulse with your heartbeat?</th>
<th>□ Yes</th>
<th>□ No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>*Is your tinnitus triggered by head or neck movement?</th>
<th>□ Yes</th>
<th>□ No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Is there any one in your family who has/had tinnitus?</th>
<th>□ Yes</th>
<th>□ No</th>
</tr>
</thead>
</table>

<table>
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<tr>
<th>Have you consulted any other professional or tried any treatment for your tinnitus?</th>
<th>□ Yes</th>
<th>□ No</th>
</tr>
</thead>
</table>

If yes, explain________________________

**Does your tinnitus...**

<table>
<thead>
<tr>
<th>Make it difficult to fall asleep?</th>
<th>always</th>
<th>sometimes</th>
<th>never</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Make it difficult to concentrate while reading?</th>
<th>always</th>
<th>sometimes</th>
<th>never</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Make it difficult to relax in a quiet room?</th>
<th>always</th>
<th>sometimes</th>
<th>never</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Make it difficult to focus your attention away from your tinnitus?</th>
<th>always</th>
<th>sometimes</th>
<th>never</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Cause you to feel angry?</th>
<th>always</th>
<th>sometimes</th>
<th>never</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cause you to feel stressed?</th>
<th>always</th>
<th>sometimes</th>
<th>never</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cause you to feel sad?</th>
<th>always</th>
<th>sometimes</th>
<th>never</th>
</tr>
</thead>
</table>

## Sound Tolerance

Sound tolerance refers to how you react to sounds in your environment. Think only about your sound tolerance in regard to the following questions.

<table>
<thead>
<tr>
<th>Do you use ear protection (earplugs or earmuffs) specifically for tinnitus?</th>
<th>□ Yes</th>
<th>□ No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Do you have a decreased tolerance to sound (are sounds bothersome to you when they seem normal to other people around you)?</th>
<th>□ Yes</th>
<th>□ No</th>
</tr>
</thead>
</table>

**Does sound in your environment...**

<table>
<thead>
<tr>
<th>Cause an increase in your tinnitus?</th>
<th>always</th>
<th>sometimes</th>
<th>never</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cause you to avoid going certain places?</th>
<th>always</th>
<th>sometimes</th>
<th>never</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cause you to feel irritated?</th>
<th>always</th>
<th>sometimes</th>
<th>never</th>
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Initial Tinnitus Questionnaire

Tinnitus

Tinnitus refers to any kind of sound in your head…ringing, hissing and so on. Think only about your tinnitus in regard to the following questions...........

How does the tinnitus sound? ________________________________ Constant? Intermittent?

In which ear is your tinnitus? □ Right □ Left □ Both □ Head □ Other

How long ago did you notice the tinnitus? □ Recently □ 1-3 years □ 3-10 years □ More than 10 years

Do you remember the onset of your tinnitus? □ Yes □ No

Was it a sudden or progressive onset? □ Sudden □ Progressive

Was it related to any other medical or environmental condition? □ Yes □ No

*Does your tinnitus pulse with your heartbeat? □ Yes □ No

*Is your tinnitus triggered by head or neck movement? □ Yes □ No

Is there anyone in your family who has/had tinnitus? □ Yes □ No

Have you consulted any other professional or tried any treatment for your tinnitus? □ Yes □ No

If yes, explain ________________________________

Does your tinnitus....

Make it difficult to fall asleep? always sometimes never

Make it difficult to concentrate while reading? always sometimes never

Make it difficult to relax in a quiet room? always sometimes never

Make it difficult to focus your attention away from your tinnitus? always sometimes never

Cause you to feel angry? always sometimes never

Cause you to feel stressed? always sometimes never

Cause you to feel sad? always sometimes never

Office Use Only (2)___ (1)___ (0)___ Total________
Sound Tolerance

Sound tolerance refers to how you react to sounds in your environment. Think only about your sound tolerance in regard to the following questions....

Do you use ear protection (earplugs or earmuffs) specifically for tinnitus? □ Yes □ No

Do you have a decreased tolerance to sound (are sounds bothersome to you when they seem normal to other people around you)? □ Yes □ No

Does sound in your environment....

Cause an increase in your tinnitus? always sometimes never

Cause you to avoid going certain places? always sometimes never

Cause you to feel irritated? always sometimes never

Hearing

Hearing refers to your ability to detect sounds in your environment or your ability to understand the speech of other. Think only about your hearing in regard to the following questions...

When was your last hearing exam? ___________________________ By whom? ___________________________

What were the results? __________________________________ Recommendations? ___________________________

Have you ever worn hearing aids? □ Yes □ No

*Have you experienced a sudden hearing loss? □ Yes □ No

Does your hearing....

Limit or hamper your personal or social life? always sometimes never

Cause you to hear people but not understand what they are saying? always sometimes never
Initial Tinnitus Questionnaire

Hearing

Hearing refers to your ability to detect sounds in your environment or your ability to understand the speech of others. Think only about your hearing in regard to the following questions...

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What were the results? ____________________ Recommendations? ____________________

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* Have you experienced a sudden hearing loss? ☐ Yes ☐ No

Does your hearing...

Limit or hamper your personal or social life? always sometimes never

Cause you to hear people but not understand what they are saying? always sometimes never

What do you consider is your main problem? Hearing ☐ Tinnitus ☐ Sound tolerance ☐

If you answered “tinnitus” as your main problem...

What percent of the time are you aware of it? ___________

How strong, or loud was your tinnitus, on average, over the last month? “0” would be “no tinnitus” and “10” would be “as loud as you can imagine.”

(Severity)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
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<th>10</th>
</tr>
</thead>
</table>

How much has tinnitus annoyed you, on average, over the last month? “0” would be “not annoying at all” and “10” would be “as annoying as you could imagine.”

(Annoyance)

<table>
<thead>
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<th>10</th>
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</thead>
</table>

How much did tinnitus impact your life, over the last month? “0” would be “not at all”, “10” would be “as much as you could imagine.”

(Effect)

<table>
<thead>
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<th>6</th>
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</thead>
</table>

Have you experienced any stressful events within the last 12 months?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

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________________________________________________________________________

Additional Information:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
What do you consider is your main problem?  Hearing ☐  Tinnitus ☐  Sound tolerance ☐

If you answered "tinnitus" as your main problem...

What percent of the time are you aware of it? __________

How strong, or loud was your tinnitus, on average, over the last month? "0" would be "no tinnitus and "10" would be "as loud as you can imagine."

(Severity)

1  2  3  4  5  6  7  8  9  10

How much has tinnitus annoyed you, on average, over the last month? "0" would be "not annoying at all" and "10" would be "as annoying as you could imagine."

(Annoyance)

1  2  3  4  5  6  7  8  9  10

How much did tinnitus impact your life, over the last month? "0" would be "not at all"; "10" would be "as much as you could imagine."

(Effect)

1  2  3  4  5  6  7  8  9  10

Have you experienced any stressful events within the last 12 months?

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

Additional Information:

__________________________________________________________________________

__________________________________________________________________________
Developed by Newman, Jacobson, Spitzer (1996)
Standardized Test
Consists of Three Subgroups
  (F) Functional, (E) Emotional, (C) Catastrophic
THI Categories:
  0 – 16   NORMAL
  18 – 36   MILD
  38 – 56   MODERATE
  58 – 100   SEVERE
Questions from the Initial Tinnitus Questionnaire (ITQ)

7 Questions

Score: always=2, sometimes=1, never=0 (from 0 to 14)

Add Totals of ITQ and THI Score = CHaTT Reaction Score (CRS)
<table>
<thead>
<tr>
<th>Condition</th>
<th>CRS</th>
<th>THI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>0 to 17</td>
<td>(0 to 16)</td>
</tr>
<tr>
<td>Mild</td>
<td>18 to 45</td>
<td>(18 to 36)</td>
</tr>
<tr>
<td>Moderate</td>
<td>46 to 71</td>
<td>(38 to 56)</td>
</tr>
<tr>
<td>Severe</td>
<td>72 to 97</td>
<td>(58 to 100)</td>
</tr>
<tr>
<td>Profound</td>
<td>98 to 114</td>
<td>(none)</td>
</tr>
</tbody>
</table>
Sound Tolerance History

Patients perception of tolerance to sound

Influence on tinnitus?
  a) decreases tinnitus
  b) increases tinnitus; Short or over night

Avoidance of normal activities
Use of ear protectors?
Hearing History

Patient’s perception of hearing

Use of amplification

Extent of hearing on life activities
Patient’s description of the main problem
Hearing
Tinnitus
Sound tolerance

If tinnitus, % of time of awareness

If tinnitus, degree of reaction to the tinnitus
Annoyance (A)*
Severity (strength) (S)*
Effect on Life (E)*
Degree of reaction (CHaTT Reaction Score)
Pertinent information related to the cognitive aspects of counseling (perception, stressful life events, FEAR factor)
Audiological evaluation
Hearing Evaluation

Pure tone audiometry
Tympanometry
MCL
LDL
OE distortion product
Audiological Evaluation

Patient Name ___________________________ Date ___________________________

Audiologist ___________________________ Audiometer ______________________

Pure Tone Legend

- = Right Ear  Δ = Masked R  L = Loudness Discomfort Level  C = Acoustic Reflex Contralateral
κ = Left Ear  ρ = Masked L  M = Most Comfortable Level  I = Acoustic Reflex Ipsilateral
↓ = No Response

LEFT EAR
Frequency in Hertz (Hz)

RIGHT EAR
Frequency in Hertz (Hz)

Listening Levels in Decibels (dB)

Masking Levels RIGHT EAR
AC  ____________  ____________  ____________
BC  ____________  ____________  ____________

Masking Levels LEFT EAR
AC  ____________  ____________  ____________
BC  ____________  ____________  ____________

Speech Reception Thresholds

PTA  2 FREQ  3 FREQ

Speech Discrimination

MCL  UCL

Tympanometry

Type

Vol. (ml)  Comp. (ml)  Pressure (daPa)

Left

Right

Otoacoustic Emissions

L Present Absent Diminished
R Present Absent Diminished
White Noise Threshold
Tinnitus Pitch Matching
Tinnitus Loudness Matching
Minimal Masking Levels
Residual Inhibition
# Tinnitus Evaluation

## Patient Name __________________________ Date ____________

<table>
<thead>
<tr>
<th></th>
<th>Initial Visit</th>
<th>Follow-Up Date:</th>
<th>Follow-Up Date:</th>
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<tbody>
<tr>
<td><strong>White Noise Threshold</strong></td>
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<td>L</td>
<td>dB</td>
<td>dB</td>
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<tr>
<td>R</td>
<td>dB</td>
<td>dB</td>
<td>dB</td>
</tr>
<tr>
<td>B</td>
<td>dB</td>
<td>dB</td>
<td>dB</td>
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<tr>
<td><strong>Tinnitus Pitch Match</strong></td>
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<td></td>
</tr>
<tr>
<td>L</td>
<td>Hz</td>
<td>Hz</td>
<td>Hz</td>
</tr>
<tr>
<td>R</td>
<td>Hz</td>
<td>Hz</td>
<td>Hz</td>
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<tr>
<td><strong>Loudness Match</strong></td>
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</tr>
<tr>
<td>L</td>
<td>dB</td>
<td>dB</td>
<td>dB</td>
</tr>
<tr>
<td>R</td>
<td>dB</td>
<td>dB</td>
<td>dB</td>
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<tr>
<td><strong>Minimum Masking Levels</strong></td>
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<tr>
<td>RR</td>
<td>dB</td>
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<td>RL</td>
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<tr>
<td>LL</td>
<td>dB</td>
<td>dB</td>
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</tr>
<tr>
<td>LR</td>
<td>dB</td>
<td>dB</td>
<td>dB</td>
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<td><strong>Residual Inhibition</strong></td>
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</tr>
<tr>
<td>L</td>
<td>sec/min</td>
<td>sec/min</td>
<td>sec/min</td>
</tr>
<tr>
<td>R</td>
<td>sec/min</td>
<td>sec/min</td>
<td>sec/min</td>
</tr>
</tbody>
</table>

**Results:**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

**Recommendations:**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
DEVELOPING CHaTT’s
INDIVIDUALIZED TREATMENT PLAN
CHaTT Recommends

All patients receive counseling (**Software**)
  Instructive counseling (explain, demystify, make patient understand what tinnitus is and what is not)
  Cognitive counseling (e.g., ANTS, Attention Control, relaxation)

All patients receive sound therapy (**Hardware**)
  Assistive Sound Therapy (w or w/o amplification)
  Possibly Amplification
  Possibly Tinnitus or Hearing/Tinnitus Devices
Categories are determined by

Presence of tinnitus
Presence of hearing loss
Presence of sound sensitivity
Degree of reaction to tinnitus
## CHaTT Categories

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>TINNITUS</th>
<th>HEARING LOSS</th>
<th>SOUND SENSITIVITY</th>
<th>REACTION (Reaction Score)</th>
<th>INSTRUMENTATION</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>Mild (18-45)</td>
<td>Assistive Sound Therapy AC, Relaxation</td>
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<tr>
<td>2</td>
<td>yes</td>
<td>no (subjective)</td>
<td>no</td>
<td>Moderate (46-71)</td>
<td>Sound Generators Basic Combination Devices Neuromonics Assistive Sound Therapy AC, Relaxation, 4Ds</td>
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<tr>
<td>3</td>
<td>yes</td>
<td>no (subjective)</td>
<td>no</td>
<td>Severe (72-97)</td>
<td>Sound Generators Basic Combination Devices Neuromonics Assistive Sound Therapy AC, Relaxation, 4Ds</td>
</tr>
<tr>
<td>4</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>Mild/Moderate (18-71)</td>
<td>Hearing Instruments Assistive Sound Therapy AC, Relaxation, 4Ds</td>
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<tr>
<td>5</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>Severe (72-97)</td>
<td>Hearing Instruments Combination Devices Assistive Sound Therapy AC, Relaxation, 4Ds</td>
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<tr>
<td>6</td>
<td>yes</td>
<td>yes/no</td>
<td>no</td>
<td>Profound (98-114)</td>
<td>Sound Generators Hearing Instruments Combination Devices Assistive Sound Therapy AC, Relaxation, 4Ds</td>
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</tbody>
</table>
## CHaTTT Categories

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>TINNITUS</th>
<th>HEARING LOSS</th>
<th>HYPERACUSIS</th>
<th>REACTION (Reaction Score)</th>
<th>INSTRUMENTATION</th>
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<tbody>
<tr>
<td>7</td>
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<td>no</td>
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<td>Sound Generators Neuromonics</td>
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<td></td>
<td>Assistive Sound Therapy Relaxation</td>
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<tr>
<td>8</td>
<td>yes/no</td>
<td>No (subjective)</td>
<td>yes</td>
<td>Severe/Profound (72-114)</td>
<td>Combination Devices</td>
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<tr>
<td></td>
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<td></td>
<td>Assistaive Sound Therapy Relaxation</td>
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<tr>
<td>9</td>
<td>yes/no</td>
<td>yes</td>
<td>yes</td>
<td>Mild/Moderate (18-71)</td>
<td>Sound Generators Neuromonics</td>
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<td>Assistive Sound Therapy Relaxation</td>
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<tr>
<td>10</td>
<td>yes/no</td>
<td>yes</td>
<td>yes</td>
<td>Severe/Profound (72-114)</td>
<td>Sound Generators Neuromonics</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Assistive Sound Therapy Relaxation</td>
</tr>
</tbody>
</table>
Determine Category

Consider appropriate elements of plan for your patient
Case Study 4

- Patient – 54 year old female – progressive hearing loss – found clinic via internet
- Complaint – mild tinnitus progressively getting worse until very recently when her mother passed away is a more significant issue
- Interview – Can divert attention away from it when she is at work, but, finds it difficult to concentrate at home in quiet. Wearing binaural CIC hearing aids for 2 years. Denies dizziness. No history of noise exposure. Two pregnancies, each time hearing getting worse. No ototoxic drugs. Describes tinnitus as “sizzling, frying.” Both ears? Subjective reaction - Tinnitus is very disturbing in the evening, interferes with his social activities.
- Time of awareness 40%
- Severity/Annoyance/Effect 4/4/4
- Reaction score THI = 52, ITQ = 10  CRS=62

- AC/BC – Binaural SNHL R 40dB at 4k, L 45dB at 4k
- Speech Discrim – R 92%, L 88%
- MCL @ .5, 1k, 2k, 4k and speech R & L 60/65/70/75 and 70dB
- LDL @ .5, 1k, 2k, 4k and speech R & L 80/90/90/90 and 90dB
- Tymp – Type A
- Acoustic Reflexes – R & L Present ipsi 85-95, contra 90-95
Case Study 4

- Tinnitus Pitch Match (NBN) – R at 5750 Hz, L at 6150 Hz
- Tinnitus Loudness Match – R at 6 dB SL, L at 5 dB SL
- MML (WN) - R ipsi= 55 dB HL, L ipsi= 60 dB HL, R contra= 70 dB HL, L contra = 75 dB HL
- WN Threshold – R and L 30 dB HL

- OAE – WNL with reduced emission in the R and L at 4k, 6k, and 8k

  Tinnitus       yes
  Hearing Loss   yes
  Hyperacusis    no
  Reaction       62 mild/moderate (18-71)

CHaTT Category 4
Case Study 5

• Patient – 58 year old female – sudden hearing loss – referred by out of state ENT
• Complaint – bilateral tinnitus left worse than right
• Interview – hears T all the time, difficulty sleeping, concentrating, feels life is ruined. Wears binaural ITC hearing aids for 1 year. Denies dizziness. No history of noise exposure. No ototoxic drugs. Describes tinnitus as “crickets”. Both ears Subjective reaction - Tinnitus is very debilitating, interferes with her daily activities, with her life!!.
• Time of awareness 100%
• Severity/Annoyance/Effect 9/9/10
• Reaction score THI = 86, ITQ = 10 CRS=96

• AC/BC – Binaural SNHL  R SRT= 35dB HL, L SRT=45dB HL
• Speech Discrim – R 96%, L 88%
• MCL @ .5, 1k, 2k, 4k and speech  R 60/65/70/75 and 70dB, L 60/75/80 and 75dB
• LDL @ .5, 1k, 2k, 4k and speech  R & L 80/90/90/90 and 90dB
• Tymp – Type A
• Acoustic Reflexes – Present ipsi 85-95, contra 90-95
Case Study 5

- Tinnitus Pitch Match (NBN) – R at 4250 Hz, L at 5000 Hz
- Tinnitus Loudness Match – R at 10dB SL, L at 14dB SL
- MML (WN) – R ipsi= 55dBHL, L ipsi= 70 dB HL, R contra= 70 dB HL, L contra = 85 dBHL
- WN Threshold – R 30dB L 45 dB HL
- OAE – WNL with reduced emission in the R and L at 4k, 6k, and 8k
  
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Tinnitus</td>
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</tr>
<tr>
<td>Hearing Loss</td>
<td>yes</td>
</tr>
<tr>
<td>Hyperacusis</td>
<td>no</td>
</tr>
<tr>
<td>Reaction</td>
<td>96 severe (72-97)</td>
</tr>
</tbody>
</table>

CHaTT Category 5
Case Study 6

- Pt. is a 41 male with left unilateral tinnitus post scuba diving. Pt. had a “negligible” T prior. Had problems with decompression and next day T was unbearable.
- Time of awareness 100% of waking time
- Severity/Annoyance/Effect on Life 10/10/10
- Reaction score THI = 100, ITQ = 14 CRS=114

- AC/BC – WNL  NIHL at 4KHz of 20dB HL in both ears
- Speech Discrim – R 100%, L 100%
- MCL @ .5, 1k, 2k, 4k and speech R & L 55/55/55/65 and 60dB
- LDL @ .5, 1k, 2k, 4k and speech R & L 85/85/90/85 and 85dB
- Tymp – Type A
- Acoustic Reflexes – Present ipsi 75-90, contra 80-95
Case Study 6

- Tinnitus Pitch Match (NBN) – L at 12000 Hz
- Tinnitus Loudness Match – L at 5dB SL
- MML (WN) - L = 10 dB HL, R contra= 55 dB HL,
- WN Threshold –R and L 10 dB HL
- OAE – WNL with reduced emission in the L at 4k, 6k, and 8k and at 4k in the R

Tinnitus: yes
Hearing Loss: no
Hyperacusis: no
Reaction: 114 profound (98-114)

CHaTT Category 6
Reactions to Tinnitus

- Thoughts and Emotions
- Hearing
- Sleep
- Concentration
- Stress
CHaTT’s 4Ds

Four main CHaTT components:

**Deflect** our Automatic Negative Thoughts (ANTS)

**Divert** our Attention
- Attention Control

**Distract**
- External sound, different activity

**De-Stress**
- Relaxation
Identifying Cognitive Distortions

The patient “letter”
Send in prior to or bring in to the initial appointment
Review before appointment or, before second appointment

Evaluations
THI questions
Initial Tinnitus Questionnaire, tinnitus questions with “always” as response

Conversations
Red flags

Self recognized
Identifying Cognitive Distortions
12 Common Distortions
Replace Xs with Ys (WISE)

Change Negative Thoughts

- What kind of thoughts have you had about your tinnitus?
  - Situations where tinnitus is bothersome
  - Thoughts and beliefs about tinnitus
  - Feelings about tinnitus

YOU₁       YOU₂
X₁ -------- Y₁
X₂ -------- Y₂
X₃ -------- Y₃
Xₙ -------- Yₙ
BAD       WISE
Thoughts  Thoughts
the night

I lost control
Homo Sapiens are very particular about AC
Tinnitus patients lose their ability to control events on a conscious and subconscious level
LS is not very “happy” about this loss
Too much attention is given to tinnitus
All other events are dismissed and tinnitus play “the numero uno” role, it is the leading character in the patient’s life play
Regaining AC is therefore very important
“Chinese torture”
And the feared ultimate loss of control is DEATH
A name for pleasured anticipation is excitement
A name for negative anticipation is anxiety.
Anticipation is an expectation; for a reward or for punishment.

Anxiety is responsible for constant engagement of SNS

It is an emotion involving irritation, fear of the future and fear of the unknown, and

Having to wait causes a heightened stage of arousal/alertness which can not be sustain 24/7.

Anticipation of tinnitus occurring will produce tinnitus to occur
From an evolutionary perspective the ability to anticipate danger has a distinct advantage for survival. It would maintain our ANS always “ready” to confront a predator. Therefore, it would keep our ANS, LS, cortical networks continuously at high alert in the presence of an unacceptable predator (tinnitus).

Anticipation can be driven by Innate CR or by LCR
NO SOUND
BRAIN

SOUND
BRAIN

SOUND/TINNITUS
BRAIN

RANDOM ACTIVITY

AN

PATTERN

AN

PATTERN

AN

EAR

NO SOUND

SOUND

NO SOUND

LIMBIC SYSTEM

ANS
1. In this example we have no sound entering the ear.
2. However, there is always some random spontaneous activity in the ACNS.
3. When the auditory brain looks at this normal, random neuronal activity it interprets this as no sound.
1. In the second example there is a sound entering the ear.
2. This creates neuronal activity which has a neuronal pattern in the ACNS which is specific to the input sound.
3. Our brain recognizes all sensory modalities input based on pattern recognition.
1. In the last third example there is no sound entering the ear, however, the brain perceives sound (tinnitus).
2. In order for the brain to perceive sound there need to be a neuronal pattern present in the ACNS.
3. How did it get to be in the absence of a real external sound entering the ear?
4. (Example with listening to a radio and the station is fading away).
AND NOW LET’S PRAY

FOR THE TINNITUS TO GO AWAY. AMEN AND AMEN.
Pessimist is a person who from two bad things chooses both.

Tinnitus patient is a person who from two bad things chooses all three?!!!
You are not in control with what has already happened; however, you are in total control with what can happen with what happened.

You are not in control with events which are around you, however, you are in control with what you going to do with it.

Baumanisms, 2010
### Follow Up Schedule - Associate Level

<table>
<thead>
<tr>
<th>Category</th>
<th>2 wk (1 hr)</th>
<th>4 wk (30m)</th>
<th>6 wk (30m)</th>
<th>3 mo (30m)</th>
<th>6 mo (30m)</th>
<th>12 mo (1 hr)</th>
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<tbody>
<tr>
<td>1</td>
<td>Counseling ✓</td>
<td></td>
<td>Counseling ✓</td>
<td></td>
<td>Counseling ✓ Audio Re-evaluation</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Instrument Fitting</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Optional</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Instrument ✓ Counseling ✓ Audio Re-evaluation</td>
</tr>
<tr>
<td>3</td>
<td>Instrument Fitting</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Counsel</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Instrument ✓ Counseling ✓ Audio Re-evaluation</td>
</tr>
<tr>
<td>4</td>
<td>Instrument Fitting</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Optional</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Instrument ✓ Counseling ✓ Audio Re-evaluation</td>
</tr>
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<td>Instrument Fitting</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Counsel</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Instrument ✓ Counseling ✓ Audio Re-evaluation</td>
</tr>
<tr>
<td>6</td>
<td>Instrument Fitting</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Counsel</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Instrument ✓ Counseling ✓</td>
<td>Instrument ✓ Counseling ✓ Audio Re-evaluation</td>
</tr>
</tbody>
</table>

**Add Give Follow-up Questionnaire At 6 months!**
Validation

- Follow up Questionnaire
- Standardized Testing
- Real Ear Measurements
- Lifestyle Changes
Follow-up Questionnaire

Patient Name: ________________________________ Date: __________

How does the tinnitus sound? ____________________________ Constant? Intermittent?
In which ear is your tinnitus? Right Left Both Head Other ______________________

Does your tinnitus.....
1) Make it difficult to fall asleep? Always Sometimes Never
2) Make it difficult to concentrate while reading? Always Sometimes Never
3) Make it difficult to relax in a quiet room? Always Sometimes Never
4) Make it difficult to focus your attention away from your tinnitus? Always Sometimes Never
5) Cause you to feel angry? Always Sometimes Never
6) Cause you to feel stressed? Always Sometimes Never
7) Cause you to feel sad? Always Sometimes Never

Score answers to the questions using the following points: Always = 2 Sometimes = 1 Never = 0
Add all scores for the ITQ Total Score.

Sound Tolerance refers to how you react to sounds in your environment. Think only about your sound tolerance in regard to the following questions.....
8) Do you use ear protection (earplugs or earmuffs) specifically for tinnitus? Yes No
9) Do you have a decreased tolerance to sound? That is, are sounds bothersome to you when they seem normal to other people around you? Yes No

Does sound in your environment.....
10) Cause an increase in your tinnitus? Always Sometimes Never
11) Cause you to avoid going certain places? Always Sometimes Never
12) Cause you to feel irritated? Always Sometimes Never

Hearing refers to your ability to detect sounds in your environment or your ability to understand the speech of others. Think only about your hearing in regard to the following questions....
13) Does your hearing.... limit or hamper your personal or social life? Always Sometimes Never
14) Cause you to hear people but not understand what they are saying? Always Sometimes Never
<table>
<thead>
<tr>
<th>What do you consider is your main problem?</th>
<th>Hearing</th>
<th>Tinnitus</th>
<th>Sound Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you answered “Tinnitus” as your main problem... What percent of the time are you aware of it?</td>
<td></td>
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<tr>
<td>How strong, or loud was your tinnitus, on average, over the last month? “0” would be “no tinnitus and “10” would be “as loud as you can imagine.” (Severity)</td>
<td></td>
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<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How much has tinnitus annoyed you, on average, over the last month? “0” would be “not annoying at all” and “10” would be “as annoying as you could imagine.” (Annoyance)</td>
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<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How much did tinnitus impact your life, over the last month? “0” would be “not at all”; “10” would be “as much as you could imagine.” (Effect)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tbody>
</table>

Additional Information:

For Office Use Only

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Severity (S)</th>
<th>THI Score</th>
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<tbody>
<tr>
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<tr>
<td>Annoyance (A)</td>
<td>ITQ Score</td>
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</tr>
<tr>
<td>Effect (E)</td>
<td>CHATT Reaction Score</td>
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