



FIVE EASY STEPS

# WIDEX ZEN THERAPY

**WIDEX**

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**Disclaimer:**

The Widex Zen Therapy protocol is Widex's attempt to provide systematic guidelines for clinicians to manage people with tinnitus. It is based on Dr. Robert Sweetow's expertise and our cumulative research findings on the use of Zen, which are explained fully in the WIDEX ZEN THERAPY - MANAGING THE EFFECTS OF TINNITUS manual, and in an abridged version here.

Widex Zen therapy is not intended to be a substitute for individual medical advice, diagnosis, or treatment by a physician or any healthcare professional who is aware of the person's medical history. It is important that the person consult with a physician to rule out any medical treatable conditions before starting the Widex Zen Therapy. It should also be noted that Widex Zen Therapy is not a "cure" for tinnitus. Rather, it is a program designed to help people manage their reaction to this annoying symptom.

The individual person's response to Widex Zen Therapy may vary. Some require all components of the protocol while others may only require one or two components. Furthermore, some will notice immediate benefits while others may require a month or so to start noticing improvement. If a person with tinnitus notices any significant worsening in hearing, tinnitus or ear-related medical conditions during the Widex Zen Therapy, they should contact the healthcare professional immediately for appropriate resolution. Sometimes, referrals to other professionals may be necessary.

# INTRODUCTION

Widex Zen Therapy was first introduced by Widex in 2012. Since the initial introduction, the method has been widely accepted as a comprehensive and professional way of managing tinnitus. In 2022, Widex added a further development to support this program in the form of the new Widex SoundRelax™ fractal tones.

Widex Zen Therapy (WZT) provides systematic guidelines for tinnitus management by hearing care professionals (HCPs), often using Widex hearing aids equipped with Zen and SoundRelax technology. WZT is unique because it is an integrated program, addressing all major dimensions of tinnitus distress: the auditory aspects, attention and emotion. WZT includes various components that can be used individually or combined, depending on the needs of the individual tinnitus sufferer. People with tinnitus who have minimal or no negative reactions may not require all the components of WZT.

The **Widex Zen Therapy Five Easy Steps** manual condenses the elements of WZT, into a practical user-friendly guide on how to implement WZT in your clinic. If you prefer a more detailed description of WZT, please contact your Widex sales representative for additional resources.





# THE WIDEX ZEN THERAPY PROCESS

1

## INTAKE PROCESS

Learn about the person in front of you, by interviewing, counseling and using subjective questionnaires. This is so that you can plan the best possible treatment plan.

2

## ESTABLISHING A TREATMENT PLAN

Establish a treatment plan by using the information from the intake process to ascertain tinnitus distress level and plan the overall level of WZT components, as well as the treatment goals.

3

## UTILIZING THE COMPONENTS OF WZT

Choose the relevant components of WZT based on the individual client's needs: counseling, amplification, fractal tones, relaxation strategies.

4

## ASSESSING PROGRESS

Assess the individual client's progress based on improvement of quality of life and reduction of negative thinking about the tinnitus.

5

## FOLLOW-UP

Follow up on the progress of the individual client by scheduling a number of consultations to ensure that the client is supported throughout the process.

# WHAT IS WIDEX ZEN THERAPY?

WIDEX ZEN THERAPY (WZT) is unique because it is an integrated program addressing all major components of tinnitus distress: auditory, attention, and emotion. The overall objective of WZT is to ensure that **presence of tinnitus does not negatively impact the person's quality of life**. This is achieved by incorporating key treatment elements into one holistic approach. The following elements are included in WZT:

### COUNSELING:

Counseling is used to educate the client with tinnitus and assist in altering the negative interpretation of the tinnitus. Cognitive and behavioral intervention is used when appropriate.

### AMPLIFICATION:

Amplification is used to stimulate the ears and brain in order to reduce the contrast between the surrounding sound and the tinnitus, if hearing loss is present.

## WIDEX ZEN THERAPY

### FRACTAL TONES

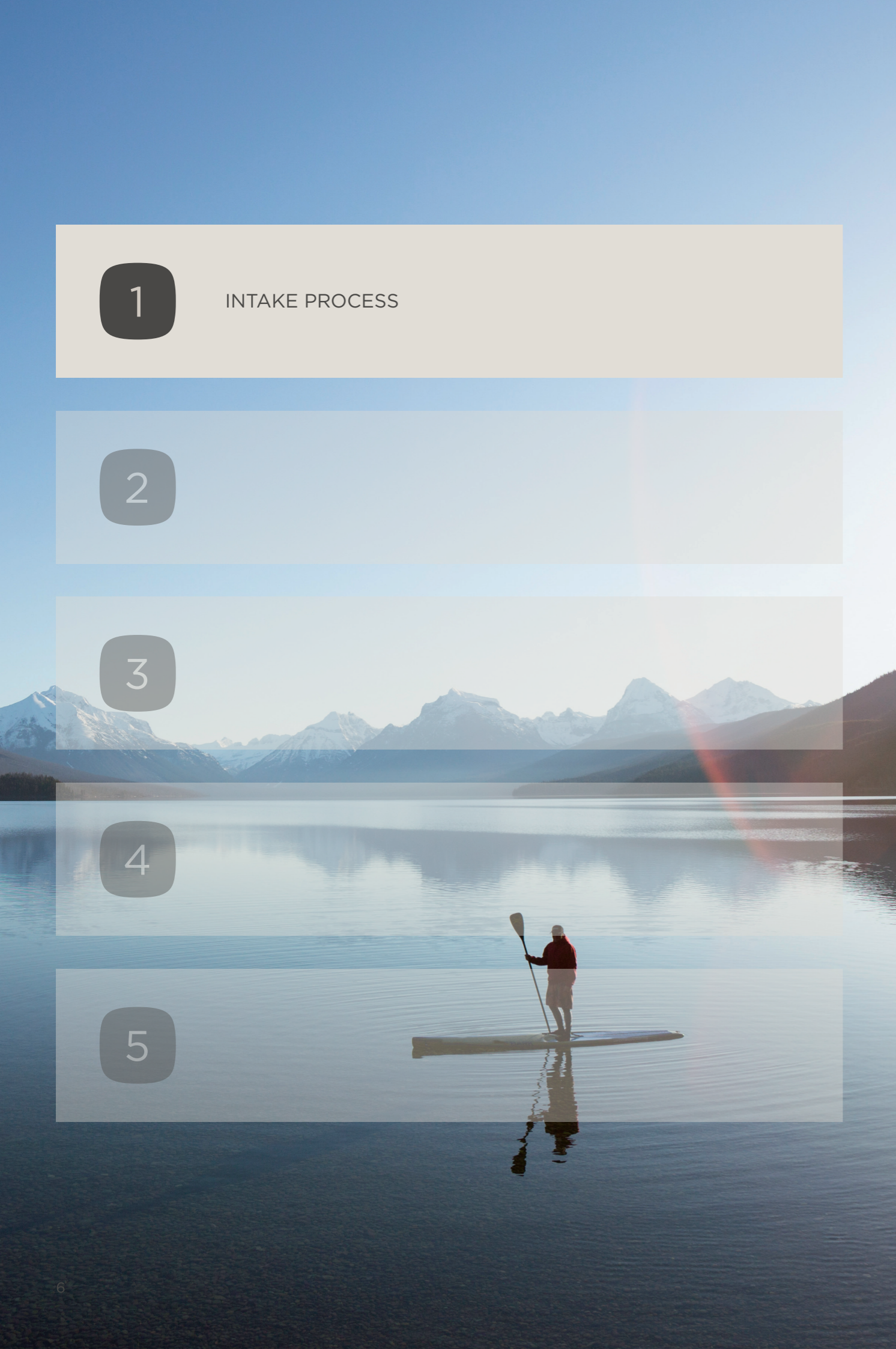
Fractal tones are a novel, proven acoustic stimulus delivered dichotically in a discreet, inconspicuous and convenient manner, via Widex hearing aids. Fractal tones are designed to both relax and provide acoustic stimulation.

### RELAXATION STRATEGY PROGRAM

The relaxation program is a strategy for utilizing behavioral exercises and sleep management in order to improve overall quality of life..

Figure 1. The components of Widex Zen therapy





1

## INTAKE PROCESS

2

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1

# THE INTAKE PROCESS

- LEARNING ABOUT THE PERSON IN FRONT OF YOU

Before you decide which components of WZT to incorporate in the treatment plan, you need to understand the history, needs, fears and expectations of the person with tinnitus, so that you can individualize the therapy. The first step in this process is to administer the intake questionnaires, perform an audiological evaluation, and an initial face-to-face personalized interview.

You can conserve time by sending the WZT Intake Questionnaire and the subjective tinnitus measures to the person before the appointment, or having the person complete it in the waiting area. Results can then be discussed directly with the person during the personalized interview.

### QUESTIONNAIRES

#### WZT Intake Questionnaire

The WZT Intake Questionnaire gathers information regarding the following topics:

- Tinnitus and medical history
- Previous treatment for tinnitus
- Lifestyle
- Reaction to tinnitus

### SUBJECTIVE SCALE MEASURES

Subjective tinnitus severity measures are designed to:

1. Quantify how the person is reacting to the tinnitus and how it is affecting quality of life;
2. Identify aspects of the tinnitus and related behaviors and attitudes that are most bothersome to the person;
3. Establish a baseline score from which you can assess progress.

This information is not only important for counseling purposes but also for establishing which components of WZT are necessary.

Two commonly used measures are:

#### Tinnitus Functional Index

The Tinnitus Functional Index (TFI) is useful for scaling the severity and negative impact of tinnitus, for use in intake assessment and for measuring treatment-related changes in tinnitus. It also provides comprehensive coverage of multiple tinnitus severity domains.

#### Tinnitus Handicap Inventory

The Tinnitus Handicap Inventory (THI) provides specific clinical classifications. The THI uses questions that assess three primary areas; 1) limitations (e.g. difficulty concentrating); 2) emotional issues (e.g. anger); and 3) catastrophic reactions (e.g. desperation).





Any of the above scales can be effectively utilized. It is however important to be consistent, in other words if the TFI is used to establish baseline, also use that scale to assess progress.

For your convenience, you can get copies of the Widex Intake Questionnaire and the various tinnitus subjective scales from your Widex sales representative.

## AUDIOLOGICAL EVALUATION

In addition to the information obtained from the questionnaire and subjective measures, it is important to obtain test information regarding the status of the person's hearing and auditory system.

Among the test procedures useful in the diagnostic audiological test battery are:

- **Audiogram** (to ascertain the degree and configuration of hearing loss as well as to identify potential causes of the tinnitus, e.g. hearing loss).
- **Tinnitus characterization** (tinnitus matching) establishes an acoustical representation of the person's perceived subjective experience. While not essential in determining the required components of the WZT, the process is appreciated by many people with tinnitus because it provides validation of their acoustical experience. It may also be useful to present a reproduction of the tinnitus experience to a

family member so that others have the general familiarity of what the person perceives.

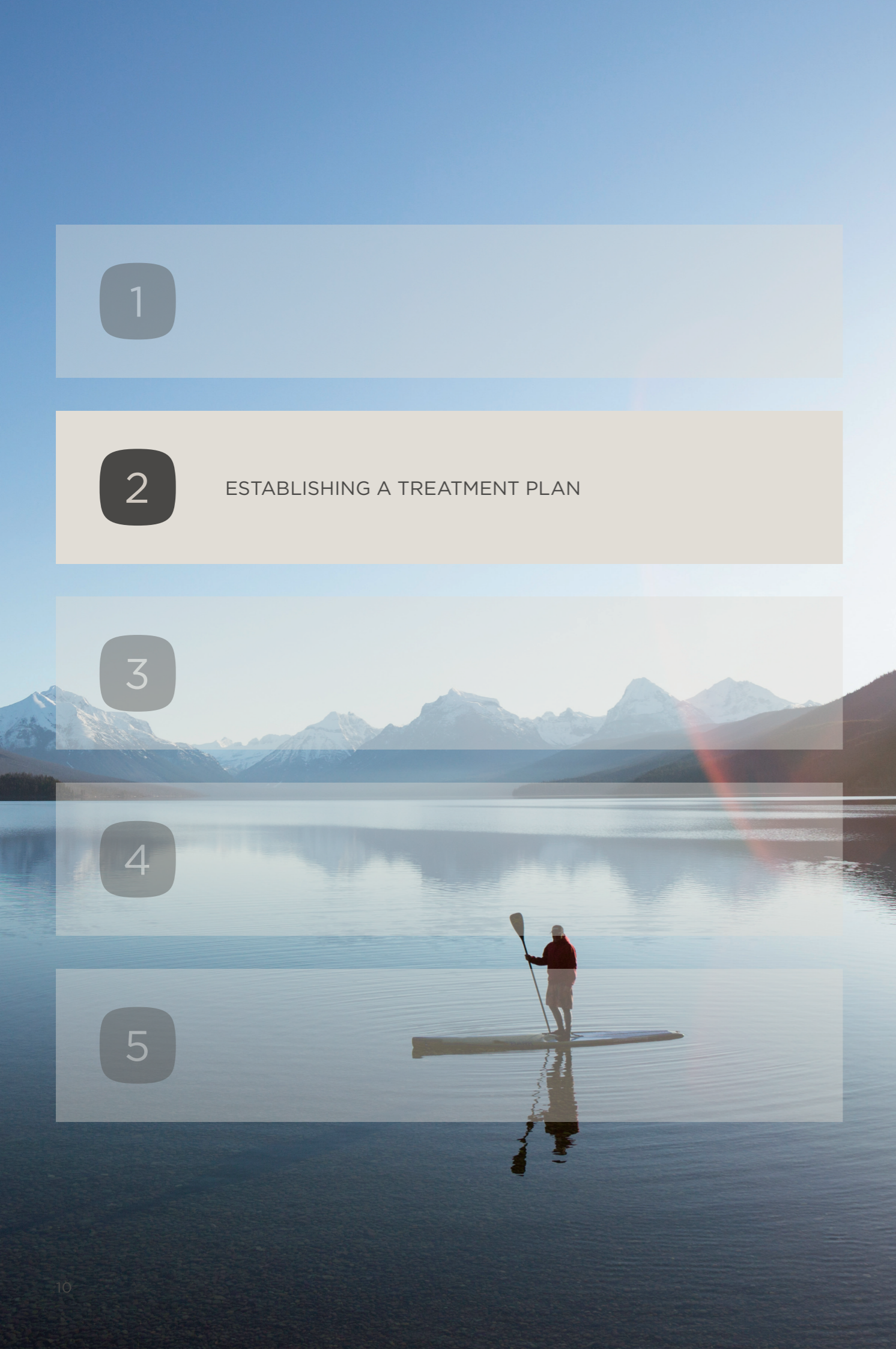
- If **other audiological procedures** utilizing high intensities (e.g. immittance, acoustic reflexes, LDLs, etc.) are employed for diagnostic purposes, proceed cautiously to minimize risk of exacerbating the tinnitus or raising the person's anxiety over further damage.

## INITIAL INTERVIEW

Once the intake questionnaires and audiological evaluation has been completed, the initial interview is performed. This is a dialogue with the client, to ensure that you have all of the information you need to create a treatment plan. In the interview, you:

- Review the findings
- Educate the person regarding the probable cause and potential development of the tinnitus
- Provide appropriate reassurance that the tinnitus does not represent a grave illness or a progressive condition (based on the outcome of an already conducted medical examination)
- Establish the individualized plan for the WZT.





1

2

ESTABLISHING A TREATMENT PLAN

3

4

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## 2 ESTABLISH A TREATMENT PLAN

Based on the intake process, you now have an understanding of the person in front of you. Together, you share responsibility for the treatment process. The problems, expectations and hopes related to tinnitus are known to you and you are aware of what the unique problem is. This knowledge, combined with the review of not only the total scores, but the individual responses to the questionnaire and subjective scales (TFI, THI), will facilitate the choice of an appropriate treatment plan. It is the knowledge conveyed to you by the person that provides the foundation for all the recommendations you choose to put forward.

### TINNITUS DISTURBANCE LEVEL

Based on the individual responses in the intake process, it is possible for you to ascertain at which level of distress the person is and how to best facilitate habituation of the tinnitus. There are basically three different types of people with tinnitus for whom WZT may be appropriate:

1. People for whom tinnitus is the main focus with associated significant emotional distress in their lives.
2. People for whom tinnitus is the main focus, but without significant associated emotional distress.
3. People for whom hearing loss is the main focus and tinnitus is secondary. The tinnitus does not cause significant emotional distress.

Figure 2 provides a general guideline using the subjective scale score to help determine at which level of tinnitus distress the person in front of you most likely is experiencing. Keep in mind that this is just a guideline and that there is substantial overlap between the cutoff scores and classifications.

### DETERMINING THE OVERALL LEVEL OF COMPONENTS OF WIDEX ZEN THERAPY

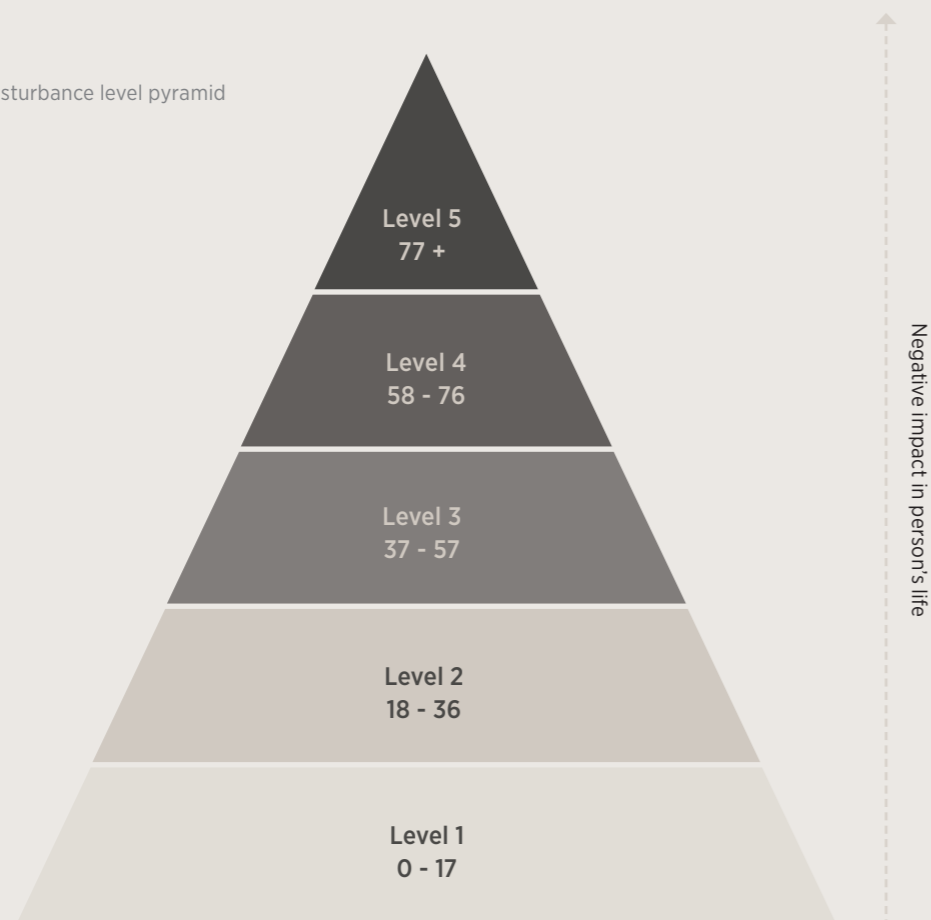
Experienced tinnitus practitioners will often determine which WZT components are required based on the intake process. However, for those clinicians who are new to the process, it may be helpful to utilize the baseline subjective scale score for making this determination. Guidelines for which components to incorporate into the individual treatment plan can also be seen in Figure 2.

Persons who have significant tinnitus-related distress will most likely require extensive management of their attitudes and behaviors. For these individuals, several of the WZT components are appropriate, such as extensive counseling, cognitive behavioral intervention, amplification/avoidance of silence, Zen and SoundRelax options (fractal tones and/or noise) for passive listening and relaxation exercises.

Those who do not have emotional distress from their tinnitus will most likely benefit from being provided with simple reassurance, basic instructional counseling about the cause and likely course of the tinnitus, hearing aids (when the amount of hearing loss warrants amplification) and/or Zen/SoundRelax options for quiet environments.



Figure 2. Tinnitus disturbance level pyramid



- Level 5**  
Catastrophic tinnitus reaction

Instructional and adjustment-based counseling  
Cognitive behavioral intervention  
Amplification (when hearing loss exists)  
Zen and SoundRelax tones (all day)  
Relaxation exercises (2 – 3 times per day)
- Level 4**  
Severe negative tinnitus reaction

Instructional and adjustment-based counseling  
Cognitive behavioral intervention  
Amplification (when hearing loss exists)  
Zen and SoundRelax tones (all day)  
Relaxation exercises
- Level 3**  
Moderate negative tinnitus reaction

Instructional and adjustment-based counseling  
Cognitive behavioral intervention  
Amplification (when hearing loss exists)  
Zen and SoundRelax tones (all day)  
Relaxation exercises (optional)
- Level 2**  
Mild negative tinnitus reaction

Instructional and adjustment-based counseling  
Amplification (when hearing loss exists)  
Zen and SoundRelax tones (quiet environments)  
Relaxation exercises (optional)
- Level 1**  
Minimal/no tinnitus reaction

Instructional counseling  
Amplification (when hearing loss exists)  
Zen and SoundRelax tones (quiet environments)



### TREATMENT GOALS

When discussing the outcome of the treatment it is important to have realistic goals. The treatment goals themselves are based on the themes discovered in the intake process. Examples of realistic goals are:

- Decreasing tinnitus awareness and/or annoyance
- Increasing sense of control over tinnitus
- Improving ability to concentrate regardless of tinnitus
- Improving ability to fall asleep and stay asleep
- Hearing speech and conversation more clearly
- Decreasing anxiety and stress levels and enhance ability to relax
- Improving overall quality of life

Generally, the criteria for determining whether the person is progressing are based on improvement of quality of life and reduction of negative thinking about the tinnitus, rather than on changes in the perceived loudness of the tinnitus.



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2

3

### UTILIZING THE COMPONENTS OF WZT

4

5

## 3 UTILIZING COMPONENTS OF WIDEX ZEN THERAPY

Depending upon the individual client's needs, different components of WZT are relevant.

- Counseling (instructional and adjustment-based)
- Cognitive behavioral intervention
- Amplification
- Zen and SoundRelax tones
- Relaxation

### COUNSELING

Counseling requires establishing a trusting relationship with the person with tinnitus. The client needs to understand that you care about more than simply the hearing status. Your role is to guide the person through a journey based on scientific evidence, in order to reach a status where the tinnitus is not negatively affecting quality of life. Be honest and supportive, providing hope, but not promising goals you cannot achieve. Inform the person that progress will not only be based on the tools and techniques you will provide, but also on the person's active participation and willingness to engage in attitude and behavioral adjustments.

There are typically two types of counseling involved: instructional and adjustment-based. **Instructional counseling** entails providing information directly related to the person's hearing loss and tinnitus and an explanation of the relationship between tinnitus, hearing loss, and stress.

Instructional counseling may include the following:

- Review the WZT intake questionnaire and severity scale results, as well as the audiological evaluation results.
- Present the basic overall facts of tinnitus and provide reassurance.
- Discuss basic anatomy of the peripheral and central nervous system and establish the relationship between hearing loss and tinnitus.

- Discuss other factors that may be contributing to the tinnitus.
- Describe the physiologic relationship of emotions to the perception of tinnitus and the fact that there is a clear feedback loop between tinnitus distress and increased tinnitus.
- Explain the natural process of habituation.
- Explain to the person that the objective of the WZT is to address all the components that produce tinnitus distress:
  - Initiate tinnitus habituation by helping the brain to reclassify the tinnitus as an unimportant signal.
  - Provide amplification and use of fractal tones to stimulate the brain.
  - Relaxation exercises to reduce stress.
  - Sleep exercises to facilitate sleep.
- Establish realistic expectations for the outcome of the treatment.

**Adjustment-based counseling** is bi-directional. That is, it firstly helps you to understand the person's perspective and thereby what they bring in terms of experiences, knowledge, opinions, feelings and prejudices towards tinnitus. Secondly, it helps the person identify and challenge irrational and maladaptive thoughts, beliefs, attitudes, and behaviors that contribute to distress and fear of tinnitus.



## COGNITIVE BEHAVIORAL INTERVENTION

Cognitive behavioral therapy (CBT) is commonly utilized for treating depression, anxiety, and tinnitus. When people are in distress, their thoughts may be distorted in an unrealistic and unhelpful manner. CBT helps people identify and evaluate the validity of their maladaptive thoughts and behaviors via numerous techniques and through a potentially time intensive approach. Therefore, it is beyond the scope and expertise of many hearing care professionals.

In order to address these important aspects of maladaptive thoughts and behaviors in the tinnitus treatment, Cognitive Behavioral Intervention (CBI) has been incorporated into WZT. CBI is, like CBT, designed to identify unwanted thoughts and behaviors hindering natural habituation, challenge their validity, and replace them with alternative and logical thoughts and behaviors. The objective is to remove inappropriate beliefs, anxieties and fears

and to help the person recognize that it is not the tinnitus itself that is producing these beliefs, but the person's thoughts and reactions. It is basically a condensed version of CBT focused on logical counseling well within the scope of practice of trained hearing health care professionals. CBI, like CBT, is based on cognitive theory. Cognitive theory states that the thoughts we have regarding situations or events influence how we feel emotionally. In other words, it is not the event (in this case, presence of tinnitus) itself that creates our emotional response but the content of the thoughts concerning the tinnitus that creates the emotional response (and subsequent behaviors) (see Figure 3).

The integration of CBI is best implemented when combined with strategies to enhance the ability to relax and reduce stress. Tools to achieve this will be described later in this manual.

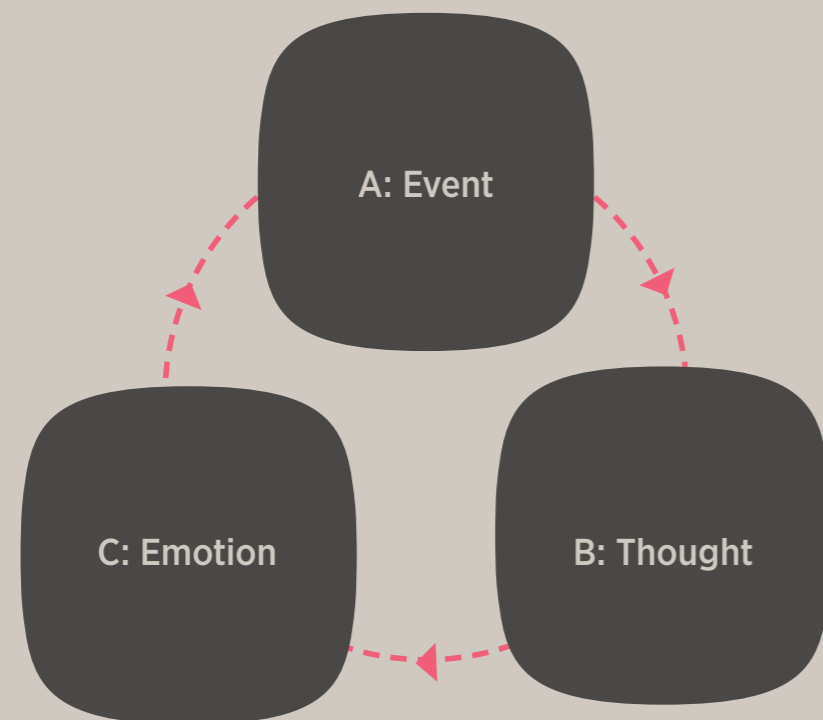


Figure 3. A refers to the situation or event a person experiences. B refers to the thoughts, beliefs, and perceptions the person has about the situation and C refers to the emotional state (Henry, Wilson, 2001).





**The basic processes in CBI are:**

- 1. Explain the rationale** behind the CBI to the person and introduce the concept and description of maladaptive thoughts (also called cognitive distortions). It is more likely that people will use the techniques if they understand why these techniques are being suggested.
- 2. Identify negative thoughts (see Table 1)**  
The person needs to understand that the way they think about tinnitus impacts emotions, and subsequently physiologic reactions. Thus, it is essential to distinguish between the tinnitus itself, thoughts, concerns, and fears about the tinnitus, and emotions, reactions, and behaviors.
- 3. Identify and challenge maladaptive negative thoughts (see Table 2)**  
Ask the person suffering from tinnitus to look at their own negative thoughts, identify thought errors, and then produce alternative thoughts.

If the person is unable to do so, gently guide the person in the right direction. Note that it is not essential for the person to initially accept the alternative thought, only to acknowledge that it is a possible option.

If the person with tinnitus persists in maintaining maladaptive thoughts, it may be helpful to politely, but firmly, challenge the negative thoughts by asking questions such as:

- What evidence do you have to back up your statement?
- Are you considering all the facts?
- Is there anything you might do differently about these situations?

- 4. Identify maladaptive behaviors and list alternative solutions (see Table 3)**  
Not all of the steps and worksheets described above are necessary for each person. Tailor the CBI to the needs of the person based on that individual's maladaptive thoughts and behaviors.

Event	Thought	Feeling
Invitation to a social gathering	I can't go. My tinnitus will get worse.	Hopelessness, despair, frustration
Tinnitus is getting louder	I can't go on with this. I would rather be dead.	Depression, suicidal feelings

Table 1. Examples of identifying negative thoughts.

Negative thought	Thought error	Alternative thought
My life used to be perfect before I had tinnitus – now I feel like it is horrible.	All or nothing thinking	Life is never perfect and everyone struggles with something. I've learnt to handle problems before and I can do it now. I still have so much to enjoy in life (like my grandchildren).
I was having a good time at the party, but hearing my tinnitus ruined everything.	Mental filter	Many people struggled to hear at that noisy party but still had a good time. I could have moved toward a corner of the room that wasn't so noisy.

Table 2. Examples of thought errors and alternative thoughts.

Maladaptive behavior	Alternative strategy
When I hear my tinnitus in the morning, I stay in bed all day, avoiding sound, and feeling depressed.	Being active makes me think less about my tinnitus. I should go to a mall, put on other sounds in my house so that the tinnitus isn't so apparent, and do anything except nothing!
I have trouble falling asleep so I lie in bed worrying about how I will feel tomorrow.	If I can't sleep in 30 minutes, I will get up and read on the sofa, or will watch some quiet TV show, or get some extra work done that I have been putting off.

Table 3. Examples of maladaptive behavior and alternative strategies.

**AMPLIFICATION**

Hearing aids can be very effective in decreasing the perception of tinnitus because:

1. They increase stimulation sent to the cochlea and auditory cortex and ultimately may minimize the brain's attempt to "overcompensate" for the lack of stimulation;
2. They may mask or partially mask tinnitus;
3. They may reduce contrast between tinnitus and silence.

While most well-fitted, high quality hearing aids can help tinnitus sufferers with hearing loss, Widex hearing aids are particularly effective because of their low compression thresholds, broad bandwidth, precision fitting procedure (Sensogram), and in-situ verification (SoundTracker).

**Compression threshold (CT)**

Many tinnitus treatments advocate the avoidance of silence. Therefore, in order to minimize these situations, maintaining some background sound is advisable. Widex hearing aids have the lowest CT in the industry, thereby producing more gain for even the softest inputs. Therefore, if the person suffering from tinnitus is in a quiet environment, rather than perceiving silence, the hearing aid will provide amplification to reduce the contrast of the tinnitus to the background environment.

**Bandwidth**

Tinnitus is typically most pronounced within or near the frequency range of the hearing loss, and it is believed that at least part of the reason for perceiving tinnitus is due to the brain's attempt to overcompensate for the lack of sound from the impaired auditory system. Therefore, it makes sense to amplify sound in the entire hearing loss region. It is best to utilize hearing aids that amplify the broadest bandwidth possible to provide high frequency input to the auditory system.

**Sensogram and Sound Tracker**

In order to provide auditory stimulation, it is necessary to ensure that amplification is actually being received at the eardrum. The Widex Sensogram and Sound Tracker ensure that the settings programmed into the hearing aids are actually being received by the listener. In addition, you should choose to perform the Sensogram in as many bands as possible when:

- There is hearing loss at inter-octave frequencies,
- There is a sharply sloping hearing loss (i.e. differences of > 10 dB between frequencies),
- The tinnitus pitch match occurs at frequencies other than 500, 1000, 2000 or 4000 Hz.

Use of probe microphone measures can also provide the needed information.



Other fitting considerations	
Earmold coupling	Keep the ear canal as open as possible, without sacrificing important acoustic information.
Expansion	Expansion is not optimal for those with tinnitus, as it minimizes gain for soft inputs.
Noise reduction	Noise reduction can be useful for comfort. It may also provide reassurance to those clients concerned about the potential harmful effects of noise exposure and amplification.
Soft level noise reduction	Consider keeping the soft level noise reduction deactivated in other hearing aid programs (automatically deactivated in Zen/SoundRelax programs), so that soft sounds can be heard.
Multiple programs	Multiple programs are often beneficial for those with tinnitus, because some programs can be set to maximize speech perception, others to maximize tinnitus reduction or relaxation, and so forth.
Sound diary	Logging the actual use of the hearing aid allows you to discuss the client's actual wearing pattern when they return for a follow-up appointment.
Maximum output and IG loud settings	Many people with tinnitus have loudness perception issues, including a fear of excessively loud sound. Set the maximum power at a level below the personal loudness discomfort level.
Feedback management	The client may be uncomfortable with the high intensity sounds that may be generated during the feedback test.
Acclimatization	If loudness concerns persist, consider adjusting acclimatization settings.

## ZEN AND SOUNDRELAX FRACTAL TONES

Tinnitus and stress are highly correlated. When stress increases, the perception of tinnitus typically increases, and when tinnitus increases, stress often increases. Thus, there is a vicious cycle for which any disruption might be beneficial. Listening to music can result in physiological changes correlated with relaxation and stress relief and thus break the vicious cycle. Music is believed to be helpful in reducing stress because of the wide range of neural structures that are activated.

However, it can be argued that the use of music for subconscious relaxation and reduction of stress, should not be actively distracting. Also, since there are personal preferences, neutral music should not have emotional associations.

An alternative approach to pre-recorded music that incorporates the benefits and rules of music but avoids these potential limitations is the use of fractal tones. **Fractal technology** (Zen and SoundRelax tones) ensures that no sudden changes appear in tonality or tempo. They repeat enough to sound familiar and follow appropriate rules, but vary enough to not be predictable.

Widex offers a comprehensive palette of fractal tones. There are five available Zen tone styles and a further eight SoundRelax tone styles. Each of them can be further adjusted for tempo, pitch and volume. The basic spectrum and intensity level will be based on the Sensogram, so you don't need to make extensive initial adjustments to the settings.

Having choices has been proven to be important in a series of experiments at Widex and multiple universities. The 13 Zen/SoundRelax styles differ in terms of pitch, tonality, dynamic range, and tempo. Table 4 and 5 provide an overview of the differences between the various Zen/SoundRelax styles.

In addition, a broadband and wave noise option is available that can be used either with the Zen/SoundRelax tones, or alone.

The Zen/SoundRelax signals and noise can also be played with the hearing aid microphone on or off. This option may be useful when initially combined with the Zen/SoundRelax tones, or in lieu of the Zen/SoundRelax tones for those people who do not find the fractal tones pleasant.

FRACTAL STYLES	DEFAULT PITCH				TONALITY		DYNAMIC RANGE		DEFAULT TEMPO		
	LOW	MEDIUM LOW	MEDIUM HIGH	HIGH AND REVERBERANT	MAJOR	MINOR	RESTRICTED	BROAD	SLOW	MEDIUM	FAST
AQUA	●				●		●		●		
CORAL			●			●		●	●		
LAVENDER			●		●			●			●
GREEN				●	●		●			●	
SAND			●		●			●			●

Table 4: The pitch, tonality, dynamic range and default tempo of the five Zen styles.

FRACTAL STYLE.	DEFAULT PITCH			DYNAMIC RANGE		DEFAULT TEMPO			TIMBRE				DEFAULT WAVES	
	LOW	MEDIUM	HIGH	RESTRICTED	BROAD	SLOW	MEDIUM	FAST	CLEAR	SOFT/PURE	FLUTES	ORGANIC	ON	OFF
SUMMER	●			●			●					●	●	
BREEZE	●			●		●				●				●
SPRING			●	●			●			●			●	
WINTER		●			●		●		●					●
BLOSSOM		●			●		●				●		●	
AUTUMN		●		●			●					●	●	

Table 5: The pitch, tonality, dynamic range and default tempo of the SoundRelax styles

\* The noise soundscapes (Swells, Seaside) do not include tones and are therefore not represented on this table.

The greatest success with persons suffering from tinnitus will often be attained when the hearing care professional exercises flexibility in order to fit the individual person's needs. For example, some people will demonstrate a clear preference for a different tempo or pitch, which can easily be adjusted. Some people may also need individual changes in their Zen/SoundRelax program set-up.

People should be discouraged from making frequent changes to the volume of the programs. Basically, they should set it and forget it. There may be situations, however, when they either want the microphone off (for quiet relaxation – and this is the only time when active listening is recommended) or the Zen/SoundRelax tones or noise off (for critical hearing periods).

People who initially do not like the Zen/SoundRelax tones, or feel they interfere with their ability to concentrate or understand speech, should be instructed to turn the Zen/SoundRelax on for a few hours a day (the time can be broken up into shorter periods, but never < 15 minutes) for the first two weeks, with the understanding that if they still don't like it after two weeks, it will be turned off. People should always use the Zen/SoundRelax tones or Zen noise when their tinnitus is highly bothersome.

One additional point should be made. It is widely believed that the central nervous system increases its internal gain when it is cut off from expected auditory stimulation. In addition, the perception of tinnitus is usually most prevalent in quiet environments. Therefore, it is highly recommended that persons with tinnitus should be instructed to avoid silence as much as possible when they are engaging in their quest to habituate to tinnitus. When not wearing hearing aids or being exposed to the Zen/SoundRelax option, they should maintain some extent of sound stimulation, which may take the form of background sound from radio, TV, or a fan.

Widex has developed two step-by-step fitting guides to support you in fitting Widex hearing aids for a client with tinnitus. These can be obtained from your Widex sales representative.



## RELAXATION STRATEGY PROGRAM

Relaxation exercises are an important component in the integrated WZT. The Zen/SoundRelax acoustic signals will provide the listener with a relaxing background, but if the person with tinnitus is going to truly break the vicious cycle of tinnitus and stress, proven relaxation exercises should be used. Therefore, we suggest that each person who has a negative reaction to tinnitus or who demonstrates the need for stress reduction, be prescribed and taught relaxation techniques. While there are numerous good relaxation techniques, we will focus on three simple but effective procedures, each of which only require 5 - 10 minutes of training and less than 20 minutes of practice per day. Remind the person with tinnitus that the WZT is designed to address not only the acoustic aspect of the tinnitus, but the emotional and attention as well. Use of these exercises has been shown to aid in focus, concentration, and stress relief. The exercises listed below are also available in the Widex Zen - Tinnitus Management App for smartphones and tablets.

### EXERCISES AND TIPS

Before starting the exercises, make sure that the client is:

- Sitting in a comfortable chair,
- Wearing loose, comfortable clothing,
- That the environment is quiet and that the client won't be distracted,
- Listening to the Widex Zen or SoundRelax tones via their Widex hearing aids or the Widex Zen - Tinnitus Management App. \*

## EXERCISES

### Progressive Muscle Relaxation

Time required: 5 minutes

Progressive muscle relaxation is a process in which the muscles are tensed and then consciously relaxed again, all while breathing deeply. The purpose of progressive muscle relaxation is to help the client learn what it feels like when their muscles are tensed, so that they can relax them when they feel the stress tension coming on in the future.

1. Starting from the head down, focus on a particular group of muscles.
2. Take a deep breath over a span of eight seconds and tighten these muscles while doing this. For example, pull your face into a grimace to tighten your facial muscles.
3. Release the muscles suddenly, while slowly breathing out. Feel how the tightness and pain flow out of the muscles while doing this.
4. Repeat the above steps in this order: neck, shoulders, chest, stomach, right arm and hand, left arm and hand, buttocks, right leg and foot, and left leg and foot.
5. After all the muscle groups have been completed, relax for 10 - 15 seconds and then repeat the whole exercise. It shouldn't take more than five minutes to complete the whole exercise.
6. When the whole exercise is finished, count to 20 and get up slowly.

\*Widex SoundRelax tones are only available via Widex hearing aids. If listening to tones is too distracting for the client during the relaxation exercises, they can be switched off.



### Deep Breathing

Time required: 5 - 7 minutes

Practicing deep breathing has a multitude of benefits, including decreasing stress, lowering blood pressure, and improving the well-being of those with anxiety and depression. Deep breathing acts as a signal to the brain to relax, which could in turn reduce how bothersome the tinnitus is to the client (as we know that being stressed and tense worsens tinnitus).

1. Exhale completely through the mouth.
2. Inhale through the nose for four seconds - make sure that the client is using a "longer" count here, for example counting: 'One-thousand-one, one-thousand-two...'
3. The client should hold their breath for four seconds.
4. Exhale through the mouth for six to eight seconds.

Repeat this cycle 20 times.

### Guided Imagery

Time required: 5 - 7 minutes

It is best to do this exercise directly after having finished the deep breathing exercise. Guided imagery is an exercise in which one imagines oneself in a very relaxing environment and has also been shown to promote relaxation, decrease stress, and lower blood pressure.

1. Keep the eyes closed after finishing the deep breathing exercise. If the client can, they should continue with deep breathing while completing the Guided Imagery exercise.
2. Imagine that they are in the most relaxing environment (for example, lying on the beach, floating in water, or floating on a cloud).
3. Try to imagine with all of the senses what it feels like to be in this environment - imagine the smell, the sound, the feel on their skin, the taste (if applicable).
4. Zen/SoundRelax tones or their own relaxing imagery sound (e.g. fire crackling, ocean waves, babbling brook) can be played while doing this exercise.
5. When finished, count to 20 and then slowly get up.



## TIPS

### Improving your sleep

One of the most common side effects of tinnitus is having difficulty falling or staying asleep. Research has shown the importance of good sleep – ideally an average of eight hours per night for adults.

Without sufficient sleep, we have a lack of energy, memory and concentration difficulties, and are at risk for various other health conditions. It's important to address the sleep difficulties because these will have an effect on the client's ability to cope with their tinnitus. Here are some suggestions to help the client manage any sleep problems:

- They should have a standard bedtime – if this is difficult, set an alarm for 15 – 20 minutes before bedtime, so that they're reminded to start their bedtime routine.
- Set a bedtime routine, for example taking a warm bath or listening to Zen/SoundRelax tones before bed.
- Exercise or go for a walk for at least 10 minutes a day – but don't do this right before bedtime.
- Make sure that the bedroom is dark enough to sleep and that the temperature is comfortable.
- They should sleep on their back or side – try to avoid sleeping on the stomach.
- Avoid watching TV, reading or eating before going to bed.
- When they climb into bed, take a deep breath and relax. Feel the muscles loosen up and focus on pleasant thoughts.
- Using a fan or a white noise machine to 'mask' the tinnitus might be useful.
- Avoid foods and drinks that contain caffeine – remember that caffeine is not just in coffee, but also soft drinks, tea, and hot chocolate, to name a few.
- If they find themselves feeling very tired during the afternoon, try to avoid the temptation to take an afternoon nap, because this will impact how tired they feel later on when trying to fall asleep.
- If they still feel that they can't fall asleep, rather get up and do a quiet activity until they feel sleepy and relaxed again. Lying awake in bed will probably make them feel a bit tense, because they are trying so hard to fall asleep.





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## ASSESSING PROGRESS

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## 4 ASSESSING PROGRESS

The criteria for determining whether the person is progressing are based on improvement of quality of life and reduction of negative thinking about the tinnitus, but NOT on changes in the perceived loudness of the tinnitus. Progress is best quantified by comparing the baseline subjective score to current scores. Therefore, it is recommended to have the person fill out these scales before therapy begins, and at two weeks, one month, three months and six months following the beginning of therapy. This can be done during appointments or by mail.

Other things that your client with tinnitus can look for:

- An overall reduction in the time spent feeling bad about having tinnitus

Example: if the client originally reported thinking about tinnitus 90% of the time, it would be an improvement if it is now only 60% of the time.

- An increase in the intervals between episodes of thinking negatively about the tinnitus

Example: if the client initially indicated that not more than one hour passes between episodes of thinking about the tinnitus, but now reports that several hours go by before they think about it - that is an improvement.





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FOLLOW-UP

## 5 FOLLOW-UP SCHEDULE

The requirement for follow-up services is typically higher for people with tinnitus than for people with hearing loss alone. These follow-up consultations are very important because there are likely to be peaks and valleys in progress and it is crucial to reassure them of your professional support.

Typically, it is beneficial to phone the person with tinnitus 2-3 days after the fitting. Further appointments (which should be scheduled at the time of the fitting) should be confirmed during which the TFI, THI (whichever was used for baseline measures) is administered and progress is reviewed. Finally, keep in mind that all phases of the Widex Zen Therapy should be discussed: cognitive behavioral monitoring, hearing aid usage, fractal tone usage, and adherence with the relaxation exercise regimens. In addition, of course, consultations will be important to answer ongoing questions and make necessary adjustments.

A reasonable follow-up schedule should include appointments following the initial fitting at 2 weeks, 1 month, 3 months, 6 months, and one year.





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