LEARNING OBJECTIVES

After this course learners will be able to define Widex Zen Therapy.

After this course learners will be able to explain the components of Widex Zen Therapy.

After this course learners will be able to describe various approaches of tinnitus management.
**PRINCIPLES OF TINNITUS REHABILITATION**

- **Counselling**
- **Sound Stimulation**
- **Habitation**
  - Amplified sounds
  - Environmental Noise
  - Music

**WIDEX ZEN THERAPY (WZT)**

1. **INTAKE PROCESS**
2. **ESTABLISHING A TREATMENT PLAN**
3. **UTILIZING THE COMPONENTS OF WZT**
4. **ASSESSING PROGRESS**
5. **FOLLOW-UP**
Habituation:
- The process of "ignoring" a stimulus without exerting any conscious effort.
- Ensuring that tinnitus does not negatively impact patient's quality of life.
- Reduce annoyance
- Improve relaxation and sleep
- Improve ability to concentrate
- Decrease sense of helplessness over their tinnitus
GOAL OF SOUND THERAPY

HABITUATION

Do you feel your watch? 
Do you hear the train?

WHERE TO START?

• Assessment - Where are we now?
• Create Goals – Where do we want to go?
• Have a (Treatment) Plan
• Verification - Are we there yet?
INTAKE PROCESS

- Medical Clearance
- WZT Intake Questionnaire
- Audiometric & Tinnitus Tests
- Subjective Scale Measures

AUDILOGIC EVALUATION

- Audiogram
- Pitch Measurement
- Imittance Testing
- Loudness Matching
- Minimum Masking Levels (MML)
- Loudness Discomfort Level (LDL)
- Residual Inhibition (RI)
- Otoacoustic Emissions (OAEs)
- Ultra High Frequency Testing
SUBJECTIVE SCALE MEASURES

Why use them?
- Establish baseline score
- Identify how tinnitus is affecting quality of life.
- Helps establish individualized goals.
- Track progress

[http://www.ohsu.edu/xd/health/services/ent/services/tinnitus-clinic/tinnitus-functional-index.cfm](http://www.ohsu.edu/xd/health/services/ent/services/tinnitus-clinic/tinnitus-functional-index.cfm)

TINNITUS DISTURBANCE LEVEL

General Guidelines

- Level 5 >77
- Level 4 58-76
- Level 3 37-57
- Level 2 18-36
- Level 1 0-17

Negative impact in patient's life
INITIAL INTERVIEW

- Review the results of the intake.
- Educate the patient regarding probable cause and course of the tinnitus.
- Provide appropriate reassurance.
- Establish individualized plan for the Widex Zen Therapy.

CREATING TREATMENT GOALS & REASONABLE EXPECTATIONS

- Create Measureable Goals – examples:
  - Improve sleep
  - Improve concentration
  - Improve ability to relax
  - Increase sense of control over tinnitus
  - Decrease attention directed to tinnitus

- Emphasize this is a journey and may take time
- Use information gathered during intake
- Focus on areas causing the most disturbance
- Utilize other professionals when appropriate
TINNITUS MANAGEMENT TEAM

COMPONENTS OF WIDEX ZEN THERAPY
COUNSELING

COGNITIVE BEHAVIORAL INTERVENTION (CBI)

- Address the emotions of tinnitus
- Explain the relationship between tinnitus, thoughts and emotions
- Identify maladaptive thoughts and behaviors
- Provide strategies for alternative thoughts and behaviors

*The suggested CBI activities are not intended to replace the services of a mental health professional.
COGNITIVE BEHAVIOR THEORY

The CBI model: Event-Thought-Emotion

Common misunderstanding: An event causes an emotion

PRIOR TO COGNITIVE BEHAVIOR INTERVENTION

Counsel about the following:

- Tinnitus is real, and not imagined.
- Tinnitus may be permanent.
- Reaction to the tinnitus is the source of the problem.
- Reaction to the symptom is manageable and subject to modification.
- If significance and threat is removed, habituation can be achieved.
EXAMPLE OF COGNITIVE THEORY

Someone grabs your arm from behind

"It's a thief!"

FEAR!

EVENT

THOUGHT

EMOTION

ALTERNATIVE THOUGHTS

Patient wakes up and hears tinnitus

"This is so stressful, I can't leave the house today!"

Fearful and hopeless

"Seeing my friends may help me ignore it."

Hopeful and optimistic

EVENT

THOUGHT

EMOTION
COMPONENTS OF WIDEX ZEN THERAPY

Low Compression Threshold
Multi-Segmental Compression
Sensogram
Broad Bandwidth
Flexibility and Control

IDEAL CHARACTERISTICS OF AMPLIFICATION
AMPLIFICATION

Widex Technology –
- 60% of those with tinnitus receive relief with hearing aids
- Patients with tinnitus are best served with devices having:
  - Low compression thresholds
  - Broad frequency responses
  - Precise gain at affected frequencies
  - Flexible acoustic options

- These properties are all Widex Signature Features!

COMPONENTS OF WIDEX ZEN THERAPY

- Counseling
- Amplification
- Relaxation
- Fractal tones (Zen)
APPLICATIONS OF MUSIC IN THERAPEUTIC CONTEXTS

- Focus attention and arousal
- Relaxation/meditation
- Stress reduction
- Pain management
- Sleep facilitation
- Enriched learning environment
- Enhance memory and creativity
- Children with developmental disorders (and ADHD)
- Alcoholic/depression

THE BRAIN ON MUSIC

The Brain's Reaction to Music
The Brain's Reaction to Different Types of Music
FACT: One of the only activities that activates, simulates and uses the entire brain is LISTENING TO MUSIC!

WHAT ABOUT MUSIC FOR TINNITUS?

- Kochkin, Tyler, and Brown (2011) concluded that amongst various treatment methods, the two that revealed substantial tinnitus amelioration were hearing aids (34%) and music (30%).
IS TRADITIONAL MUSIC THE ANSWER?

- Active listening
  - Tendency to arouse

- Passive listening preferable
  - Capitalize on brains natural ability to habituate

- Previously recorded music may:
  - Evoke memories
  - Create unwanted distraction

INTRODUCING... ZEN

- Introduced in 2008 (WIDEX MIND)
- Available in all current Widex products (levels & styles)*
- Clinically proven tool for tinnitus management
- Passive listening
- Tempo at or near resting heart rate
- Fluidic melodic movement
- Variety of pitches
- Utilizing FRACTAL TONES

* Exception = Micro-CIC
WIDEX ZEN TONES – FRACTAL TONES

- Continuous “chime-like” musical tones
- Patented by Widex

FRACTAL ALGORITHMS
- Never ending pattern
- Ensure predictability without repetition
- Random patterns
- Musical characteristics optimized for relaxation
- Element of uncertainty
- Recognizable pattern that never repeats itself

BENEFITS OF FRACTAL TONES

- Randomized tones based on the relaxing properties of music
- Activate many neural structures
- Promote passive listening
- Facilitate habituation
- Have a calming rather than alerting effect

BOTH AUDITORY STIMULATION AND STRESS MANAGEMENT CAN BE ADDRESSED
WIDEX ZEN TONES
FLEXIBILITY IN PROGRAMMING

- 2 ZEN Programs - available
  - Mics on/off
  - Noise on/off

- Modification Options
  - Tempo: Slower = Calmer, Faster = Active
  - Pitch: Low = Soothing, High = Alerting
  - Volume: Softer to Louder

- ZEN+ = 3 additional ZEN Programs
  - Timer
  - Frequency Shaped Noise
  - Independent Volume Adjustment of ZEN

ZEN TONES

The pitch, tonality, dynamic range and default tempo of the 5 Zen styles.

<table>
<thead>
<tr>
<th>Fractal Style</th>
<th>Default Pitch</th>
<th>Tonal Dynamics</th>
<th>Dynamic Range</th>
<th>Default Tempo</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQUA</td>
<td>Low</td>
<td>Major</td>
<td>Broad</td>
<td>Fast</td>
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<tr>
<td>CORAL</td>
<td>Medium</td>
<td>Minor</td>
<td>Restricted</td>
<td>Medium</td>
</tr>
<tr>
<td>LAVENDER</td>
<td>High</td>
<td>Major</td>
<td>Broad</td>
<td>Slow</td>
</tr>
<tr>
<td>GREEN</td>
<td>Medium</td>
<td>Minor</td>
<td>Broad</td>
<td>Medium</td>
</tr>
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<td>SAND</td>
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<td>Broad</td>
<td>Fast</td>
</tr>
</tbody>
</table>
ZEN NOISE: KEY POINTS

- Zen noise: White Noise modified by Sensogram and ear canal acoustics
  - Can be presented in any combination
    - With or without Zen Tones
    - With or without amplification (master program)
    - Zen noise & Zen tones & amplification

- Zen Shaped Noise
  - Frequency response from 90 – 10,000Hz is controlled by HHP
  - High pass, low pass or narrow notch filter responses
  - Automatic loudness equalization when frequency bandwidth is changed

ZEN AVAILABILITY: BEYOND

- Available in all levels of technology
  - 440,330 and 220
  - IDR 108dB in all levels of technology
- Tri Link Technology for
  - Pure link (2.4 GHZ)
  - WidexLink™ (wireless communication between ears and accessories)
  - T-Coil
- Beyond app
- Zen app with direct streaming
ZEN AVAILABILITY: UNIQUE

- All levels of technology
  - 440, 330, 220, 110
- All models
  - RIC, BTE and Custom
- IDR= 108 dB in all levels of technology
- WidexLink™
- Streaming from Zen app via DEX Accessories

VERIFYING ZEN

1. Zen tones should be audible, but relatively soft
2. Zen tones should not interfere with conversational speech
3. Zen tone volume is sufficient to just begin to decrease annoyance level of tinnitus
COMPONENTS OF WIDEX ZEN THERAPY

- Counseling
- Amplification
- Relaxation
- Fractal tones (Zen)

MANAGING TINNITUS

RELAXATION EXERCISES
- Stress Reduction
- Progressive muscle relaxation
- Deep breathing
- Guided imagery

MANAGING SLEEP
- No distractions
- Standard bedtime
- Set your alarm
- Walk or exercise
- Comfortable bedroom temperature
- Use a fan or white noise machine
- Close your curtains/drapes
- Change the number of pillows
- Don’t watch TV, eat or read in bed
- Sleep on your back or on your side
MINDFULNESS

- A type of meditation
- Focus on being present in the moment without judgment
- Encourages the patient to take ownership of the tinnitus.
- Choose not to react to tinnitus with stress or anger.

HOLISTIC APPROACH

- Overcome Auditory Deprivation
- Amplification
- Sound Therapy
  - Acoustic Distraction
- Counseling
- Relaxation Exercises
- Sleep Improvement
- Mindfulness
- Lifestyle Changes
- Sleep Improvement Strategies
- General Health & Wellness
**WIDEX ZEN THERAPY**
A COMPREHENSIVE PROGRAM

Most Effective Amplification
- Low compression threshold
- Broad frequency response
- Precise gain

Multiple Sound Stimulation Options
- Adjustable Zen Fractal Tones
- Zen Broadband Noise
- Use with or without amplification

Affordable, Flexible & Wearable
- All price point
- All styles

Fitting and Counseling Tools
- WZT Manual
- Flipchart
- WZT step by step overview
- WZT fitting guide checklist
- DVDs
- CDs
- Printed Patient Exercises
- Widex Press

**WIDEX ZEN THERAPY**
Integrated tinnitus treatment program
- Encompassing all components of tinnitus treatment
- Designed to:
  - Minimize the negative impact
  - Assist in habituation
EVIDENCE TO SUPPORT FRACTALS AS SOUND THERAPY

- Kuk (2008) demonstrated that fractal tones enhanced relaxation.
- Sweetow (2010) determined that fractal music can provide relief for many tinnitus sufferers.
- Kuk et al (HR 2010) reported tinnitus reduction in all survey respondents.
- Sekiya (2013) recommended the use of fractal music in combination with amplification, broadband noise, and TRT.

TAKE HOME POINTS

- Keep programming easy and light
- Minimize fine tuning of Zen at initial fit
- Beyond App can help the patient fine tune for themselves
- Zen App promotes relaxation and stress reduction
- All Widex hearing aids offer low kneepoints and extended bandwidth which are idea for patients that suffer from tinnitus
- Offering Zen can set you apart