### **Desyncra**<sup>®</sup> FOR TINNITUS

### CR® Neuromodulation New Horizons for Tinnitus



#### Un-Train the Tinnitus Brain

Reduce tonal tinnitus activity with non-invasive neuromodulation therapy





Desyncra™ for Tinnitus delivers therapy via an iPod and custom designed open-fit, high-frequency earphones

#### **Clinical Success**

The Desyncra<sup>™</sup> CR<sup>®</sup> Neuromodulation technology was developed through research and is supported by a range of published studies.

Detailed summaries of these publications are available on the Desyncra<sup>™</sup> website.

#### **Desyncra™ for Tinnitus**

Desyncra<sup>™</sup> for Tinnitus offers a unique, scientific solution to tinnitus.

The noninvasive, targeted therapy is designed to change the patterns in neural tinnitus networks, and "un-train" the patient's tinnitus brain.

## Sustained relief through long lasting changes in the neuronal behavior.

#### **Reduced Symptoms**

Patients report improved symptoms, such as reduced loudness and annoyance.

Similarly, clinical studies show significantly improved THQ, THI and VAS scores, representing relief from tinnitus and improved quality of life.

By 2016 over 3,000 tinnitus patients had been treated with the Desyncra<sup>™</sup> for Tinnitus therapy.



#### Patented Technology

Desyncra<sup>™</sup> for Tinnitus was developed in Germany by Professor Peter Tass. The patented Desyncra<sup>™</sup> CR<sup>®</sup> Neuromodulation technology has also been applied in the treatment of Parkinson's disease, migraine and epilepsy.



#### **Un-Train the Brain**

The patient's improved symptoms also present themselves in EEG imaging, showing reduced delta wave activity across neuronal networks.

Elevated activity in certain brain waves is associated with tinnitus. A reduction of the hyperactivity in the these brain waves is observed after Desyncra<sup>™</sup> for Tinnitus therapy.

Brain imaging shows reduced delta wave activity across tinnitus neuronal networks.



Figure 2: Brain imaging shows reduced pathologically synchronized neural behavior after therapy

This is a reflection of how neuronal networks have been "un-trained" after therapy.

Desyncra<sup>™</sup> CR<sup>®</sup> Neuromodulation therapy is now being applied beyond tinnitus to other neurological pathologies, including Parkinson's disease, epilepsy and migraine.

#### Audiology and Neurology Converge

Recent developments in neuroscience have led to a clearer understanding of the neuronal activity behind tinnitus. Neurons in the auditory cortex become hyperactive and synchronized with sympathetic responses from neighboring neurons. This synchronized behavior is perceived by patients as tinnitus.



Figure 3: Desyncra<sup>™</sup> CR<sup>®</sup> Neuromodulation disrupts the pathologically synchronized neuronal behavior

# Desyncra<sup>™</sup> for Tinnitus applies CR<sup>®</sup> Neuromodulation to disrupt the hyperactive, synchronized neuronal behavior behind tinnitus.

The Desyncra<sup>™</sup> for Tinnitus therapy applies CR<sup>®</sup> Neuromodulation technology to disrupt and "desynchronize" the pathological, neuronal behavior. Initially a partially synchronized state is achieved, and ultimately a non-synchronized or "desynchronized" state emerges as the therapy continues.



#### Neurotherapy on an iPod

Desyncra<sup>™</sup> for Tinnitus offers a unique, scientific solution to tinnitus.

The noninvasive, targeted therapy is designed to change the patterns in neural tinnitus networks, and "un-train" the patient's tinnitus brain.

### **Audiologist Administered Therapy**

Desyncra<sup>™</sup> for Tinnitus is administered by an audiologist or medical professional. It includes a therapy plan with periodic follow-up visits to ensure the daily therapy is optimally adjusted throughout the treatment period.

The identification of the pitch of the patient's tinnitus tone is a key component of the therapy visits and the Desyncra<sup>™</sup> software guides the patient and audiologist to accurately determine the pitch.





Figure 4: Desyncra<sup>™</sup> for Tinnitus device is programmed by an audiologist or medical professional

#### Periodic follow-ups ensure the Desyncra<sup>™</sup> algorithm is always optimized throughout the therapy.

Follow-up visits allow the audiologist to periodically check the pitch of the tinnitus tone, so that the Desyncra<sup>™</sup> algorithm can adjust the therapy accordingly.

Desyncra<sup>™</sup> has a simple to use interface coupled with intuitive iPod hardware, that ensures both patients and professionals quickly benefit from the Desyncra<sup>™</sup> technology.

#### Discover more at desyncra.com



Desyncra Inc. 1137 Pearl St # 201 Boulder, CO 80302 United States

Office: 720-389-0669 Toll Free: 844-444-2266



info@desyncra.com

Desyncra<sup>™</sup> for Tinnitus has FDA clearance and carries the CE Mark.