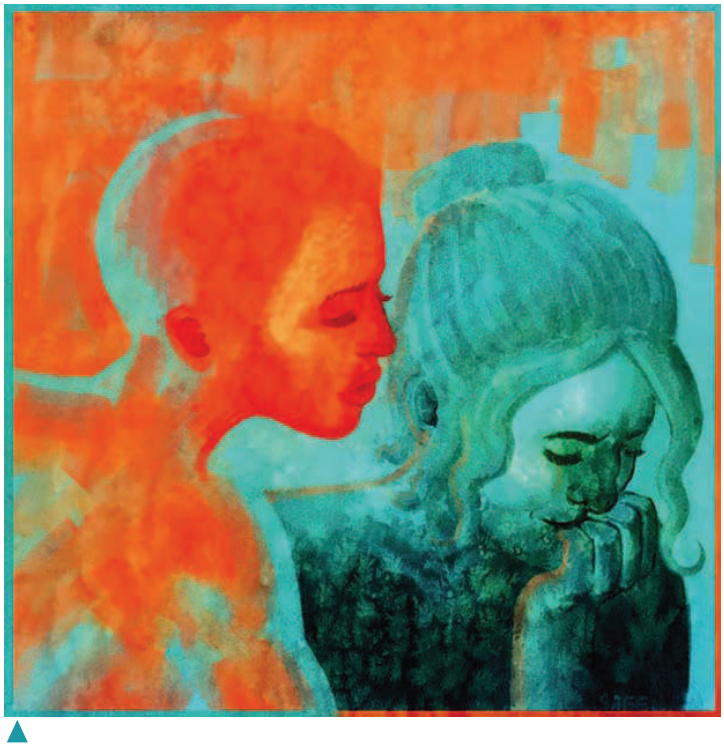
HYPERACUSIS: choose treatment over coping

April 24th the Nederlandse Vereniging voor Audiologie (NVA) held its spring meeting. The afternoon was dedicated to hyperacusis, a complex and elusive phenomenon that challenges audiologists around the globe. A large audience was treated to up to date information on the subject. Dr. Bas Franck showed evidence that noise generators can be effective. Dr. Arno Lieftink warned against negative information: *"Treatment is possible in many cases. It can have a devastating effect on patients if they are told that they 'just have to learn to live with it'."*

By **Alinda Wolthuis**
alinda.wolthuis@edpsante.org



Teacup-Elbows

Stress and hearing damage can be an important trigger for hyperacusis, or worsen it.

First speaker was Dr. Ir. Emile de Kleine of the University Medical Center in Groningen. He referred to Dr. David M. Baguley, who in 2003 defined hyperacusis as an 'unusual tolerance to ordinary environmental sounds', or as 'consistently exaggerated or inappropriate responses to sounds that are neither threatening nor uncomfortably loud to a typical person'. Sounds in general, rather than specific sounds, are problematic. This distinguishes hyperacusis from phonophobia (fear of sound) and misophonia (dislike of sound).

Prevalence

It is unclear how many people suffer from hyperacusis, De Kleine said. In theory, 2% of the population could be suffering from it, but he cannot confirm this number from his practice. Frequently used for the purpose of diagnostics are the 'Uncomfortable Loudness' (UCL) measurements and 'Categorical Loudness Scaling', as well as the Hyperacusis Questionnaire and the Multiple-Activity Scale for Hyperacusis. Still, hyperacusis remains elusive in diagnostics and treatment. De Kleine mentioned that earplug treatment, if used in moderation, may help the patient.

Medical entity

Next Prof. Dr. Robert Stokroos of Maastricht University Medical Center shed light on hyperacusis as a medical entity. He defined the phenomenon as hypersensitivity to certain frequencies and volume ranges in normal hearing persons. The etiology of hyperacusus resembles the pathophysiology of tinnitus and of chronic pain syndroms. Several ENT-related clinical pictures in the middle ear and the inner ear can be related to hyperacusis. Hyperacusis is also associated with certain brain disorders or dysregulations. Stokroos presented a protocol to es-

tablish or exclude a related medical condition in patients with idiopathic hyperacusis. He stressed that treatment options are limited.

Noise generators

Dr. Bas Franck of Pento AC Twente then addressed the issue of noise generators. Can they be effective in treating hyperacusis? Franck referred to various methods for diagnosis and revalidation of hyperacusis. *"A person with hyperacusis is abnormally sensitive to all kinds of sounds"*, he said. *"One of the possible treatments is auditive desensitization by noise generators. Therapy resembles Tinnitus Retraining Therapy with the use of noise generators and directive counseling."*

Franck elaborated on the effectiveness of revalidation with noise generators. His conclusion: *"We have strong indications that in cases of serious hyperacusis, revalidation with noise generators is effective. We advise against intensive use of hearing protection. We say 'yes' to sound stimulus and 'no' to reduction of acoustic stimuli."* The use of noise generators should be accompanied by cognitive behavioral therapy. Several challenges lay ahead, said Franck. *"A very practical problem is, how noise generators could be financed, because the indication 'hyperacusis' does not entitle to reimbursement of noise generators. The same goes for cognitive behavioral therapy."*

Speaking of children, he mentioned their parents: *"Sometimes not the child is the problem, but the parent. We must accept this and find a way to deal with this."* He concluded by saying that the use of a noise generator does not need to go on infinitely: *"A few months can be enough."*

Psychology and physiology

Subject of Dr. Arno Lieftink of Erasmus MC Rotterdam and UMC Utrecht was: 'Hyperacusis – control or treatment?' He defined hyperacusis as a collective term for a number of hearing problems related to sensitivity and intolerance to noise in various forms. In his presentation, Lieftink focused on the psychological aspects, but stressed that the audiological aspect is just as important. *"When it comes to hyperacusis we must always take emotions and behavior into account"*, he said. *"We agree on this with Baguley and Andersson: addressing hyperacusis must always involve the classical auditory system as well as systems of emotion and behavior. Treatment of hyperacusis covers therefore both physiology and psychology."* Besides an ENT doctor, at the Erasmus MC and Utrecht MC an audiologist, a psychologist and a social worker are involved in treatment.

There is still a lot unclear about hyperacusis, Lieftink said. *"Is it a phenomenon with various gradations or a collection of different forms of noise intolerance? Hyperacusis can go hand in hand with tinnitus, cochlear damage, pain and hypersensitivity. It can be one sided, double sided or in the head. Most of the time there is psychopathological co-morbidity: patients are sensitive to stress, have social phobias, are insecure, have anxiety disorders, are mentally surcharged or have a control fixation. In sixty percent of the patients an anxiety disorder can be diagnosed."*

Lieftink assumes that tinnitus and hyperacusis are possible consequences of one and the same neurobiological mechanism, where the auditory system develops a strong activity and response to auditory stimuli. Stress and hearing damage can be an important trigger, or worsen it.

Treatment or coping

The two options regarding hyperacusis are either to tell the patient to learn to live with it or to treat the patient's reaction to noise and relation with sounds. *"The NVVS incites patients to learn to live with it. I think this approach is too negative. Multidisciplinary, individual treatment enables significant improvement in nearly all cases. In many cases even total control is within reach."* He observes that by psycho education, EMDR, CGT, AGT, relaxation, desensitization, mindfulness, sound enrichment and/or behavioral activation two third of the patients experienced reduction of the problems. *"The attitude of the specialist is important. He must be understanding and acknowledge the problem, but focus on treatment rather than on coping strategies. The focus must shift from the ears to the head and behavior"*, he says.

He mentioned a case. *"A twenty year old female student had two years before, at a loud party, acquired left-sided hyperacusis. The ENT doctor advised her to wear an earplug and cope with it. The hyperacusis soon got worse. She started to skip classes and didn't leave the house anymore. After seeing us, she was cured entirely within three months."* Lieftink says negative information can have a devastating effect. *"I would always advice treatment over coping."*

> "In many cases even total control is within reach."

Medication

Dr. Ines Sleeboom van Raaij of Kentalis addressed hyperacusis from the psychiatry perspective. Besides an intake by the ENT doctor and physical examination, a psychiatric or psychological intake can be advisable, she said. *"Hyperacusis often comes with psychiatric disorders. Treatment frequently consists of a combination of behavioral therapy and systematic exposure to noise or other psycho-therapeutic treatments. Medication used is normally the same as used with tinnitus. There is, however, little empirical evidence that this medication is effective and we know little of its working in cases of hyperacusis."* Sleeboom warned for anti-depressants: one of the side effects is tinnitus. But she also could give hope to people who do not respond to any therapy whatsoever: certain benzodiazepines seem to give relief to these patients. ■