

**SIEMENS**

Hearing Training against Hearing Frustration –  
When High-Tech alone is not enough





# **Hearing Training against Hearing Frustration – When High-Tech alone is not enough**

Beethoven Discussions 2000

Bonn, 23rd March 2000

## About the Beethoven Discussions 2000

Studies in Europe and the USA show that user satisfaction with hearing instruments has increased significantly in the last years and that the quality of life for these people has improved considerably. Despite this positive trend, there remains a problem which needs to be addressed – too many hearing instruments end up in a drawer instead of in the ears of their owners. A study which was initiated by Siemens recently confirmed this problem.

### **What causes this contradiction?**

It is apparent that high technology products alone are not enough to provide complete satisfaction for many hard of hearing people. Experts know that a hearing impaired person who waits too long to get a first hearing instrument may have troubles adjusting to all the sounds which they have forgotten exist. These people must relearn the skill of hearing and communicating in order to fully benefit from their hearing aid.

As the worldwide leader in the area of hearing instrument technology, the Siemens Audiology Group recognized the need to address this issue and thus put together the program for the Beethoven Discussions 2000 with the help of the German Association of the Hearing Impaired (DSB). The goal is to make not only the hard of hearing and their friends and families aware of this problem and possible solutions, but also to increase awareness among professionals and healthcare policy makers in order to assure the best possible help for the hard of hearing.

The Beethoven Discussions were initiated by Siemens in 1997 to inform the public about various aspects of hearing loss and to overcome prejudices



against the hearing impaired. Each year the meeting brings leading experts from the medical and audiological community together with representatives of the industry to exchange views and discuss these topics with the journalists.

We would like to extend our special thanks to the experts who contributed their knowledge and experience to this meeting. The fact that some of them are themselves hearing impaired also added to the quality of the meeting as they were able to not only share their expertise but also their personal experiences. Without their continued support and commitment to this topic this conference booklet would not have been possible.

Erlangen, July 2000

A handwritten signature in black ink, appearing to read 'M. J. García', written in a cursive style.

**Maria-José García**

Marketing Manager

Siemens Audiology Group

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## The speakers



Harald Seidler, MD

*Dr. Harald Seidler is specialized in ear, nose, and throat medicine in Neunkirchen/ Saar, Germany. In 1996 he became President of the German Association of the Hearing Impaired (DSB), Berlin and has also been Chairman of the DSB regional group in Saar since 1992. He is a member of the ADANO commission "Audiometry and hearing prosthetics" and has been Vice President of the German Association to Promote the Hearing Impaired since 1999. He is a delegate of the State Medical Board of Registration of the Saarland. His lectures and publications deal especially with hearing impairment, tinnitus, and psychosomatic effects of hearing impairment as well as career and political issues for the hearing impaired. Dr. Seidler has been severely hearing impaired since he was four years old, and has been wearing hearing instruments for nearly 40 years.*

Professor Gerlinde Renzelberg

*Professor Gerlinde Renzelberg is a specialist for pedagogical Audiology and hearing/speech promotion of the University of Hamburg. Her work concentrates mostly on hearing impairment pedagogic. She is a lecturer for communications training*



*at the Academy for Hearing Instrument Specialists in Luebeck, Germany. This pilot program was initiated by the German Association of the Hearing Impaired (DSB) and is designed to continually educate hearing instrument specialists, hearing trainers and teachers. Professor Renzelberg has many years of experience in the area of pedagogic audiology. In 1980 she passed the deaf-mute teacher's exam and worked for many years in various departments of the Institute for Career Oriented Educational for the Hearing and Speech Impaired (BBW) in Nuremberg.*



Petra Speth

*Petra Speth is a consultant for tinnitus, noise hypersensitivity, hearing impairment and balance disorders in Aschaffenburg, Germany. For many years, she has been dealing with the subject of hearing training and cooperates with a hearing instrument specialists to integrate hearing training into the basic care of the hearing instrument wearers. After finishing her training as a registered nurse Ms. Speth worked as a hearing therapist at the Tinnitus Clinic in Bad Arolsen where she was involved in the development of a hearing training program as well as rehabilitation and retraining therapy. Petra Speth is also lecturer at the Siemens Academy.*



## **Why do so many Hearing Instruments end up in the Drawer?**

*Harald Seidler, MD*

*"In spite of the outstanding technology of modern hearing instruments there is a fundamental problem which no one seems to talk about. Whereas most people who get a new pair of glasses will immediately experience perfect compensation of their poor eyesight – most hearing impaired people have to re-learn how to hear in order to fully benefit from their hearing aid."*

## 1. Hearing Impairment in Germany

Approximately 15 Million hearing impaired people live in Germany. Not only hearing instrument wearers are included in that number, but also everyone with an acoustic communicational dysfunction. Some are impaired only in certain situations, (e.g. loud background noise) while others suffer in many situations, so communication becomes much more difficult for them. The majority of the hard of hearing suffer from an inner ear hearing impairment. That means that the part of the ear is damaged which is responsible for the transmission of sound waves and the conversion of the mechanical waves into electrical neural impulses. This type of hearing impairment can usually not be treated with surgery or medicine. Hearing instruments are the only option.

According to the hearing instrument specialist guild, there are presently 2,7 million hearing instrument wearers in Germany. Increasingly affected are older people. So, at least 40 percent of the population over 60 are medium to severely hearing impaired in Germany.



## 2. What can Modern Hearing Instruments do?

The satisfaction rate is about 64 percent with average hearing instrument technology (Kochkin 1997). Still, it must be differentiated in which situations hearing instruments reach satisfaction. One of the main areas is the improvement of speech comprehension in a quiet environment or the listening to music. State of the art hearing instruments also improve speech comprehension in situations with background noise. 74 percent of the hearing instrument wearers would recommend a hearing instrument to others (Sohn 1999). This situation was quite different only a few years ago.

## 3. Auditory Functions – Hearing Loss

It is important to note that the rehabilitation of the hearing impaired does not mean to just turn up the volume of the radio so they can hear again. There is a person between the ears, which means that the hearing impairment also has psychosocial repercussions.

### Experiencing new acoustic events ■

The hearing impaired will notice a person who enters the room from behind with delay, because they will not hear the opening of the door. They will be startled when a hand touches their shoulder because they are not prepared for it.

### Inability to follow the conversation ■

Many hearing impaired people do not understand all fragments of information. Their difficult task is to put the acoustic puzzle pieces together into a meaningful unity. This task often leads to being misinterpreted as being a slow. They need milliseconds to put the heard fragments of information into a meaningful context. This demands a great amount of concentration.

### Limitation of self-determination ■

A lack of important auditory functions often leads to feelings of insecurity. The selfconfidence of many hearing impaired people diminishes when they can not trust their ears. They are not sure if they will be reacting appropriately to the given situation. In extreme cases they need a constant companion to translate and explain everything that is being said.

### Role problems ■

If one considers that a majority of hearing impairments start at an advanced age, then it becomes clear that all areas of life are affected. When a manager in a conference gradually notices that he or she does not understand everything that is being said and increasingly gets lost in the discussion, he or she is faced with new problems that have to be overcome. One can easily feel unable to continue functioning in the same role.

### Withdrawal and depression ■

Unfortunately, most hearing impaired do not get offensive, but rather withdraw. That is why the German Association of the Hearing Impaired constantly recommends people to show openly their hearing impairment. Withdrawal with the excuse "I don't have to go there anyway" is basically the beginning of a very depressive attitude. Depression is very common, especially among the severely hearing impaired.

### Controlling emotions and hearing stress ■

Emotions are also affected. If one is not sure whether he or she understood correctly, not even laughing helps. The hearing impaired person will be afraid to laugh at the wrong moment or to give a wrong answer. In the course of time this leads to tension which in turn will result in the loss of the normal composure, increased nervousness, all the way to exhaustion. Hearing stress develops because the hearing impaired always have to be on the ball, in order to follow the conversation. A permanent, maximum concentration leads to exhaustion symptoms, many times to burn-out-syndrome.

### Articulation problems and missing speech melody ■

The severely hearing impaired, in particular, will develop articulation problems because they can no longer acoustically control their own voice. That means many hearing impaired people not only have problems in understanding, but often are not understood either.

#### 4. Therapy with Hearing Instruments

Indication: Patients must be able to wear their hearing instruments and to use them. They must have made up their mind to accept the hearing instrument. They also must know that auditory cells can atrophy the longer they wait to get a hearing instrument. Even with an optimal hearing instrument fitting the optimal speech intelligibility can not be reached, for the auditory cells are simply not accustomed to hear certain sounds anymore.

The time spent wearing the instruments is also important. It does not make sense to wear the hearing instruments only while watching the news, and

then to lay them aside. The hearing training means that one wears the instrument throughout the whole day. The important thing here is to provide a binaural fitting, for one needs both ears to recognize from which direction a noise is coming from.



## 5. Where are the Difficulties?

### Unrealistic Expectations ■

Slight to medium severe hearing impaired usually adapt well to their hearing instrument, in particular those with modern technology. But the severe hearing impaired are often disappointed because they expect normal hearing.

### Acoustic overload ■

The hearing instrument neither solves all communication problems nor does it solve psychosocial problems. Without proper instructions it can create acoustic overload for many. After not hearing well for many years, these people suddenly, with the help of the modern hearing instruments, are able to hear everything. This may be considered nice for the moment, but in the long-term the person may be overwhelmed. They need structured assistance because they can not cope with the amount of incoming information. In other words: Hearing can be unlearned and therefore must be re-learned step by step.

## 6. The “Drawer Hearing Aids”

This development represents one of the biggest wastes. According to a study (Sohn 1999), 50 percent of hearing impaired older than 60 do not wear their instruments at all or not all day. The consequences can be dramatic: withdrawal, isolation and depression.

## 7. Possibilities of Rehabilitation

The objective of rehabilitation is not to restore normal hearing, but to gain an optimum communication competence with what is available. The hearing instrument is an important part of the rehabilitation of the hearing impaired, but not the only one.

### 1. *Support groups*

Support groups, such as the DSB help the inflicted to see their limitations in relative terms. Here, they have the chance to get to know others with similar or even worse hearing problems. In this circle of fellow-sufferers, openness is possible. Everyone can admit their hearing problems, because the others also do so. Within this group there is communication assistance. The sense of community is promoted and gives the opportunity to get politically and socially involved to help the hearing impaired as a whole.

## 2. *Communication training*

The hearing impaired should receive additional support with the help of communication training, so that the possibility for an optimum communication is given. Such training should include, hearing training, hearing tactics, lip-reading, sign language corresponding with pronunciation, and psycho-social- and technical consulting as well as speech education. Examples of communication training already exist in Denmark and Switzerland, where it is integrated as an important aspect of the fitting. First encouraging efforts are being made in Germany. In Saarland and in Baden Wuerttemberg for example, costs for communication training are totally or partially covered by the health insurance. Also, the possibility of an integrated fitting, initiated by the new health reform law, offers an important perspective, as it allows a

rehabilitative and medicinal care next to the technical fitting. If more than slight communicative problems are determined after the fitting, communication training should be urgently prescribed and implemented.



## 8. Conclusions

A communication training should be viewed as a further step towards the quality improvement within the fitting process. It means outpatient rehabilitation for the hearing impaired, because not every hearing instrument wearer can be sent to a rehabilitation clinic. The ENT-specialists and the hearing instrument specialists have to accept this reality – which is happening to an increasing degree. The objective is to see the hearing impaired as a complete person and not as a person with a technical problem needing to be solved. This will ultimately lead to a higher acceptance of the own hearing impairment. In order to make further progress we must strive for optimal rehabilitation for the people affected.



## **Hearing Poorly for too Long Means Forgetting how to Hear Correctly**

Professor Gerlinde Renzelberg

*"The ears belong to a human being who has individual needs and desires. This must be considered at each and every fitting. Unfortunately, a hearing impaired person is often treated only in medical or technical terms. In order to improve satisfaction, hearing instrument specialists should learn from the very start of their professional training about the need for a hearing training program based on individual requirements."*

■ “Unfortunately, my ears are like a wall through which it is difficult to have friendly communication. Otherwise – maybe – I would have had more trust in them.” ■

Ludwig van Beethoven to Bettina Brentano on August 11, 1810

Everyone can imagine how important hearing was for Beethoven. When he wrote these lines, he already had been severely hearing impaired for over ten years. He had been through and was still going through a process that is known to many people. Sad resignation replaced the attempts to hide the diminishing hearing ability. The unfulfilled hope to improve his hearing with therapeutic or technical aids began to increasingly bear down on him. Many letters as well as his note pads that he used at a later time, when he was nearly deaf, document this.

### 1. Implications of Hearing Loss

Beethoven’s fear to be considered incompetent was deep from the very beginning of his suffering. The knowledge of the loss of easy (verbal) communications turned him into a misanthropist.

Today we know that results of hearing defects can cause a broad spectrum of impairments and handicaps. To follow on from previous passages, it is not necessarily the primary hearing disorder that troubles the afflicted, but more so the secondary repercussions on the psychosocial and emotional levels.

## 2. Age and Fitting of Hearing Impaired People

Interesting is not so much the age of the afflicted, but each individual's hearing age. This refers to the point in time when first hearing experiences were made. For the hearing impaired this often means the time of the fitting with a first hearing system and possibly habilitative or rehabilitative measures to stabilize or regain auditive awareness. Therefore, the hearing age only correlates with the actual age in a few cases.

The attempt to roughly categorize according to real age, onset of the hearing impairment and registration may put it into concrete terms. The stereotype sounding explanations are purposely chosen and are supposed to serve as a clarification.

**Example A**

Age: 2 years old (severely hearing impaired from the time of birth)

Fitted with Hearing instrument: at 6 months

Hearing age: 1,5 years

A hearing impaired child is diagnosed and treated prior to language acquisition. The two auditory pathways undergo some essential, delicate maturing phases during the first two years. This knowledge together with the technical advancement of hearing systems and the interdisciplinary cooperation and intervention of parents, pediatric audiologists, hearing-instrument specialists and teachers during the early treatment stage, enable the child's acquisition of hearing- and speech skills. These skills could only have been dreamed of, without today's knowledge about hearing threshold.

In this case, the real age and the hearing age are very close together.

**Example B**

Age: 5 years (severely hearing impaired since birth)

Fitted with hearing instrument: at age 5

Hearing age: 0

A child is severely hearing-impaired since birth. The hearing impairment was not diagnosed. The child is regarded as being retarded. Treatment did not begin until the child was five. The most essential stages of the hearing- and speech development, and worse the emotional development are over. The hearing age is 0. Hearing must still be learned, and: "Being different" must be accepted.

### **Example C**

Age: 18 years (hearing impaired since the age of 14)

Fitted with hearing instrument: at the age of 14

Hearing age: 4 years?

A young man became hearing impaired during his puberty and was fitted right away. The language development is completed. Phonetic- and sound patterns are present. However, the hearing instruments are in a drawer. Maybe he already has been through a "career" during which he was being regarded to as arrogant, maybe communication shy, or even as being unwilling to work.

He may be only little integrated into a professional or social life. The hearing age can not really be counted because he refused to wear the hearing instrument.

### **Example D**

Age: 45 years (hearing impaired for 3 years)

Fitted with hearing instrument: at age 45

Hearing age: ?

A man, in midst of his professional - and social life, at the peak of his career, loses his hearing. Despite immediate intervention, a new professional reorientation might be necessary. The risk of withdrawal from a (seemingly) stable family and society, the withdrawal from the afflicted and from society becomes increasingly visible. A crisis! The search for a new identity begins.

### 3. Overload and Disappointment

Today, hearing instruments, also fully or partially implantable hearing systems and other assistive listening devices are available at a high standard. However, between the ears exists a human with all the momentary moods, specific needs and individual demands.

Despite medical and technical know-how many hearing impaired people still have difficulties to adapt to their new acoustical environment after the fitting. Next to the personal circumstances which have been discussed, two possible factors can be seen as causes: overload and disappointment.

Hearing impaired people are often stressed when sudden sounds break through their usual silence. They fight against the irritating roars and hammering which they can no longer or not yet categorize. This phenomenon can be observed in children and adults alike, although completely different explanation patterns could apply.

If hearing impressions were already present, maybe the new sound perception might just not be able to be integrated into memories of acoustic sound experiences of older days. Misinterpretations are often the results of blurred perceptions. Disappointment replaces illusions. By the time the hearing instrument is degraded to a drawer instrument, its owner already has been through a rough time of acceptance and rejection, between euphoria and resignation.

#### 4. Learning how to Hear and how to Ignore

The question, whether hearing can be (re)learned, depends on the individual and the factors that exist around him or her. On a medical and technical level, one can see the challenge of providing adequate fitting that is based on a comprehensive diagnosis, involving all available knowledge. On a pedagogic-psychological side it is very important to introduce subtle dimensions of sounds and noises so they can be refilled with known meanings.

Besides hearing (classifying acoustic perception into specific, defined events), an important goal is to relearn how to ignore – to recognize momentary, unimportant sensations. To the hearing impaired, this so-called semi-conscious hearing could be a chance to make hearing situations easier – a break in constantly demanding intense concentration. To get this unconscious process off the ground, long and intense phases of a conscious connection to the acoustic reality are necessary.

For people who were not fitted with hearing instruments, this means taking on hearing as a challenge. For those who were fitted late, it means accepting hearing in its changed form.

Some short quotations, taken from a poll, on the occasions of the Beethoven Discussions, show how significant a constant linkage to acoustic reality can be to (convinced) hearing instrument wearers.

■ I never dared to not wear my hearing instrument for longer periods of time, not even when I was sick. I plugged them in now and then, just to stimulate the auditory nerve.

■ Once, when I forgot my hearing instrument on a trip, I was very unhappy. At home it took nearly a day until I regained the complete hearing ability. I was really shocked.

■ In the morning I have to tune in, first with soft noises, then with louder noises. I can never make phone calls in the morning, immediately after getting up. Everything sounds tinny and blurred.

With the feeling for the significance of hearing, another aspect becomes clear. To learn how to hear is not a onetime event. Wanting to hear and being able to hear also means a never-ending re-acceptance of a noisy environment.

Or in other words: It is about a lasting connection to the outside world.

## 5. Success Factor Hearing Training

The question of who should be responsible to educate the hearing impaired to make the most of their residual hearing and their hearing instrument. It is the responsibility of all those, who contribute to the education process, and ultimately the hearing impaired themselves.

In this context "hearing training" is a learning situation controlled from outside, where an attempt is made to build a logical correlation of acoustical events. The question is whether a process, controlled from outside and under artificial conditions, offer the stimulating basis to gain auditive structures?

Real stimuli undergo a different psychic assessment at any given time. Something heard might seem interesting in one minute, but could just as easily get lost due to an amusing conversation at the next table. What is fascinating today might become insignificant tomorrow. What catches someone's attention, does not necessarily reach someone else.

What actually moves a person is difficult to capture in experimental situations. Hearing can not be stimulated causal-mechanically from the outside.

Hearing must be experienced and understood as an existential need.

The hearing instrument specialist must have a great deal of understanding for the problems of the hearing impaired. (This requirement also applies to every other person that is involved in the educational process.) If a patient is asked to hear, the hearing instrument specialist must also be able to listen. They must be able to comprehend the human as a whole - not just a neuro-psychological process that can be documented in the form of a graph. The fitting with a hearing instrument resembles a long, adaptive process that is never really entirely finished. If the focus of the fitting is on the recognition of individual needs and the motivation of the patient to want to hear, this is an important step towards a successful hearing training.



A renowned hearing instrument specialist put it simply: "Hearing training means wearing hearing instruments."

## 6. DSB-Pilot Project

A pilot project at the Academy for Hearing Instrument Specialists in Lübeck, initiated by the German Association of the Hearing Impaired (DSB) is using for the most part the aspects mentioned in the previous text.

The program is for competent hearing impaired and non hearing impaired experts with qualifications in education for the hearing impaired, pedagogics, sociology, psychology, ENT-health care, acoustics and/or audiology.

Besides insight into manual systems, sign language and body language as well as the impartings of lip-reading tactics, the focus is on the methods to acquire hearing- and communication competence.

The DSB's goal is to certify communication trainers and communication therapists who are qualified to pass on these strategies to school children. The general strategies in the dealing with hearing impairments can be taught in individual or group settings. The limitations of technology, medicine and communication should also be made clear. But most of all, it is important to encourage everyone to accept and take part in this great challenge.

Then! – Maybe – more people than in the past will be able to find the confidence to gain new experiences, in themselves and their environment.





## Hearing Training in Practice

Petra Speth

*“Initially, all expectations are directed towards the hearing instrument, which is supposed to compensate for the hearing loss. By examining the hearing processing, the role of the hearing instrument is put into the proper perspective. This perspective is extremely important to the motivation and satisfaction of the user of a hearing instrument.”*

## 1. Hearing Training as Early as Possible

The first experiences that are made with a hearing instrument are critical to the future acceptance or rejection. Those who have been hearing impaired for a long period of time before wearing a hearing instrument will be overwhelmed by the loud hearing impressions. Everything seems to be too loud; unpleasant background noises, such as traffic noise, step into the foreground disproportional. The statement from a hearing impaired: "I felt completely overwhelmed by the flood of noises. This is not how I imagined the "new hearing" would be."

The well meant advice from the hearing instrument specialist about the handling of the hearing instrument is easily forgotten, and the unpleasant experience remains. This negative hearing impression complicates the further progress of the fitting process.

Positive experiences are the key. ■

During the hearing training, the hearing instrument wearer is carefully introduced to this new hearing situation. The hearing impressions are chosen carefully. Especially in the beginning. The objective is to collect positive experiences with the hearing instrument. This means to hear again noise, signals and sounds that could not be heard without a hearing instrument. It is a great joy, even a deep inner movement, if one can again hear the chirping of birds or the tapping of raindrops on the windows.

With this positive experience, one can now approach difficult and unpleasant noises.

## 2. The Way to Understanding is through Interaction

Superficially, the fitting processes is a technical task to find the optimum adjustment of the hearing instrument during consulting with the specialist.

This can create the impression that only the ear with its ability to function has to be improved. The afflicted, as well as their family and their personal surroundings, expect that the hearing instrument will bring back the hearing ability and the re-integration into the world of the “good hearing.”

The complexity of the hearing impairment, which especially influences the social lifestyle, is forgotten. The hearing impaired still do not hear the way they did before the hearing loss, despite the hearing instrument.

The main focus during the hearing training is on the hearing impaired individual – not the person reduced to a hearing impairment. This requires a good amount of empathy and readiness to talk.

### Hearing as a Competitive Sport ■

A prerequisite of empathy is experience. One needs to be able to know how the other person feels. A somewhat accurate idea about the situation of hearing impaired people can be acquired through literature. But one’s own experience is always the best teacher. All people who are together with a hearing impaired person should close their ears with earplugs just once for one whole day and experience various aspects of life. Of course, this hearing experience is not equal to the individual hearing perceptions that hearing impaired deal with every day, but it does allow a small personal insight into

their difficult life. More so, it makes us aware of how much these people have to accomplish day by day. They are “competitive sportsmen” in hearing.

#### Working like Partners ■

Partnership lays the foundation for a successful hearing training. The consulting and guidance is based on attitude, which shows respect and appreciation towards hearing impaired people. With such a basis, the problems of hearing impairment can be conveyed and accepted much easier.

### 3. How is a Hearing Training Conducted?

#### Motivation to wear a hearing instrument ■

At the beginning of the hearing training the reasons that lead to wearing a hearing instrument, are determined with the help of a questionnaire. A discussion about this takes place afterwards. The reasons vary: For some it was the wish of family members who were aggravated by constant questions. For others it was the own dissatisfaction with their present situation because they could not understand everything that was being said during conversations among friends.

The individual attitudes towards hearing impairment can be critically observed in a group discussion. Fears of not being attractive anymore, to be considered dumb, old, handicapped or other existing prejudices are commonly heard. For example, the neighbor who also has a hearing instrument, but isn't happy with it - could hear much better without it. There are also concerns that the hearing will deteriorate with the hearing instrument because the hearing is no

longer trained, or there are unrealistic expectations to be able to hear just as good as before. It is particularly important to analyze these thoughts and discuss them in a group. These misconceptions must be corrected and the people educated about the real value of the hearing instrument. This way a realistic foundation for the motivation to wear a hearing instrument can be laid.

Explaining the hearing processing in a way that can be understood ■

Who is really aware, that hearing does not happen in the ears alone, but takes place in the brain? Hearing must be learned which means we also unlearn the hearing. This happens if a hearing impairment is present. The brain, more so the part that is in charge of the hearing memory, forgets what noises, signals, and sounds sound like.

A comprehensive education about the process of hearing makes it possible to understand the necessity for a hearing training. "Initially, all expectations are directed towards the hearing instrument, which is supposed to compensate for the hearing loss. By examining the hearing processing, the role of the hearing instrument is put into the proper perspective. It is a "HEARING-instrument" not a COMPREHENSION-instrument."

A hearing instrument creates a new hearing situation ■

The hearing situation changes with the hearing instrument: Everything sounds different and the brain can not yet fully recognize and categorize the noises. The hearing instrument amplifies the frequencies, which were heard less or much softer. This means, that missing frequencies are heard louder than

before. For example, the noise caused by friction of one's own clothes is heard louder. The old hearing impression is not yet replaced by the new hearing impression. The brain has to be retrained.

The hearing training supports the brain during the retraining process! ■

The auditive center in the brain must, with the help of the hearing instrument, relearn the new hearing impressions. With the hearing training, one relearns how to categorize and to differentiate noises, to push unpleasant noises into the background, to bring the useful sounds into the foreground and to adjust to the new volume. The hearing training helps the auditive center to adapt faster and easier to the new hearing situation with the hearing instrument.

Practical hearing exercises ■

The exercise program is set up in a way, so that the noise recognition and categorizing takes place at the beginning of the hearing training. Acoustic stimuli must be processed correctly. The hearing impressions have to be re-identified, coded and interpreted. Only in the last third of the hearing training is the area of speech covered. The exercises are conveyed in a playful way, so that hearing can be experienced with fun and joy.

Practical hearing exercises during the hearing training ■

■ **Hearing with and without a hearing instrument**

Listening to the rush of a stream or the chirping of birds from a CD first without a hearing instrument, then with a hearing instrument: the hearing impaired are asked to describe the hearing impressions and find that with the help of the hearing instrument, they can hear the sounds again. This exercise enables a real “wow” effect and promotes the motivation to wear the hearing instrument. After all, it’s benefit can be heard.

■ **Re-discover every day noises and experience through hearing**

Participants listen for noises in a quiet surrounding. The purpose is to identify the sounds and to get accustomed to them again. What does the own voice sound like? Which sounds can be heard in one’s own apartment?. What does the flushing of a toilette sound like?

■ **Training directional hearing**

The participants sit in the center of a room with their eyes closed. The trainer produces a noise and changes position. They point to the direction of the noise.

■ **Recognizing similar sounding noises**

Playing memory with the sense of hearing: Various noises are made. The goal is to recognize similar sounding noises, as every noise is made twice.

### ■ Differentiate individual noises in noisy environments

One person stands in a fixed place. With eyes closed, another person finds the first person by following the calls of his/her name. The difficulty is to filter out disturbing background noise and to recognize the voice of the leading person out of several other voices.

### ■ Hearing and understanding speech

All participants listen to speech in a room with very little background noise. With the help of their individual audiographs they find out that everyone has a different audio pattern, thus has a different ability to understand. The group tries several other communication strategies to see which additional help is useful, such as lip-reading.

### ■ Rules for the hearing impaired and their families

Same behaviours are necessary to support the conversational situation.  
(Compare with p. 42)

## 4. Reactions

Personal experiences show how important hearing training is for the hearing instrument wearer.

“I forgot how much I couldn’t hear anymore. With the hearing training, I experienced the benefits, that the hearing instrument could offer me. Without the hearing instrument I misinterpreted the roar of water as just a strange noise, that I could not classify. The hearing training made me really aware of the sound difference.”

“Thanks to the intensive hearing training I discovered noises that were long forgotten, for example the dripping of a water faucet or the chirping of birds.”

“In the beginning of the hearing training, many times I did not know what direction the noises came from. Now I can recognize the direction of the noise much better, and I feel much safer in traffic.”

“With the knowledge that my brain has to re-adjust to the new volumes, it became much easier to take up the challenge of loud situations. To my astonishment, my own perception of loudness changed.”

“My selfconfidence is much higher and I demand certain rules from my fellow men for a better hearing situation”

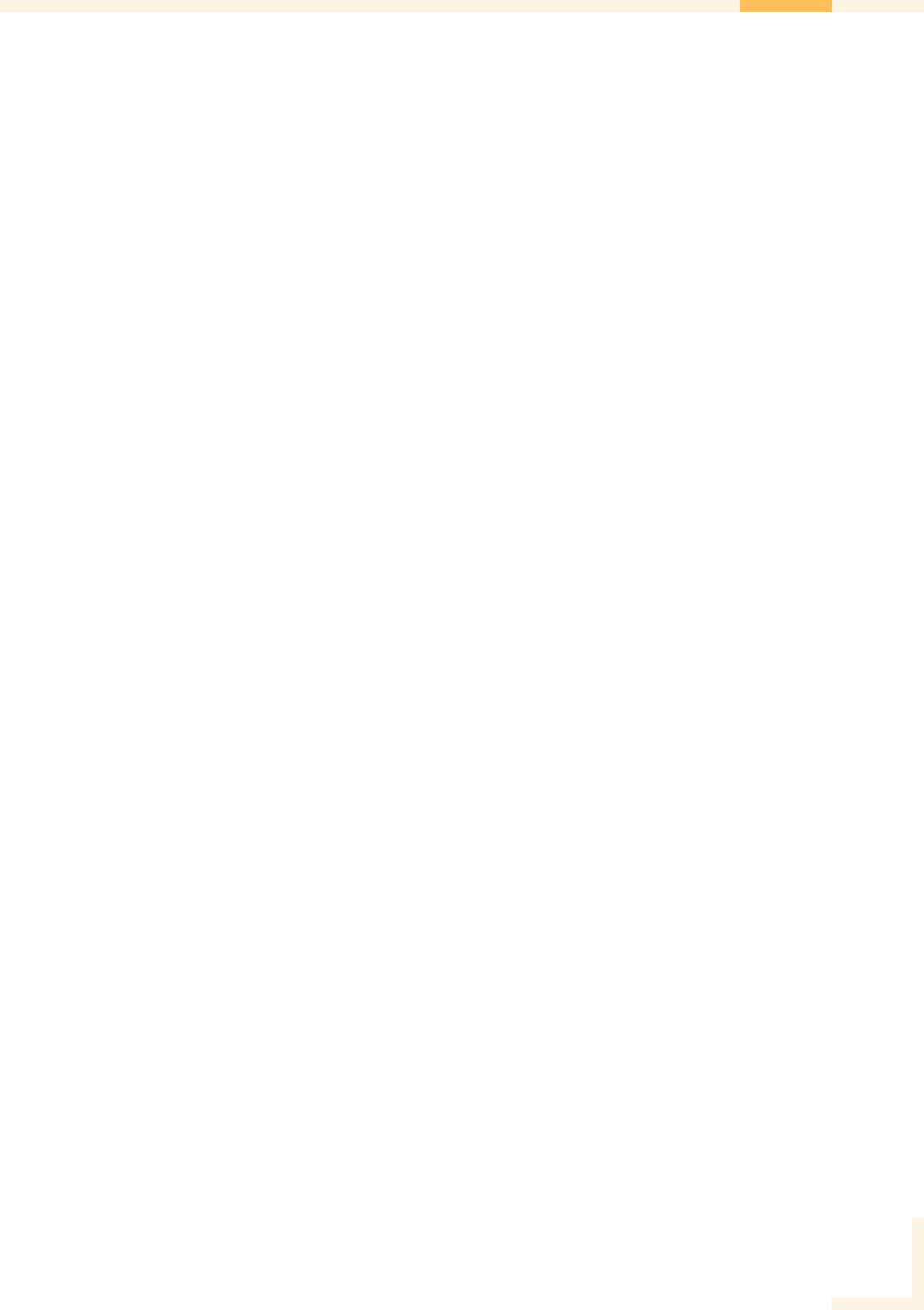
“I hadn’t been wearing my hearing instrument for one year. With the help of the hearing training, I was able to accept my hearing instruments in the second attempt, and getting used to the new hearing situation became easier as well. I am so glad, that I found out about the hearing training, and I wished this opportunity would be given to others at a much earlier stage of their hearing impairment.”

### Useful tips for the hearing impaired dealing with normal hearing people

1. Let others know about your hearing disability, so they can speak clearly and directly to you. Explain that it is not necessary for them to speak to you extra loud or perhaps even yell.
2. Do not hide your hearing instrument. Always wear it visible to others.
3. If you notice that the volume does not seem to be loud enough, make sure that your hearing instrument is properly adjusted or if new batteries are required.
4. Make sure that the mouth, respectively the face of the other person stays visible. If necessary, ask the other to turn in such a way that the face can be clearly seen in the light.
5. Set a good example by speaking clearly.
6. Be patient and kindly ask the other person to repeat himself, if you did not understand what was being said. There is no use in pretending that you understand, if that is not the case.
7. Don't be ashamed to admit that you misunderstood something. Take it with humor and tell the others what you understood.

8. At a party, you may find it convenient to sit next to a person that speaks clearly and who keeps you informed about the subject at hand.
9. Try to keep a good attitude, even if sometimes you are not able to participate in the conversation.
10. Let others know if you are troubled by exhaustion, tiredness, or the feeling of being left out. Do not just walk away. This causes astonishment and does not improve the situation.

(Source: German Association of the hearing impaired.)



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