# Hearing for life **Exploring hearing instruments**



Your guide to exploring the world of hearing instruments and finding an optimal solution to your needs

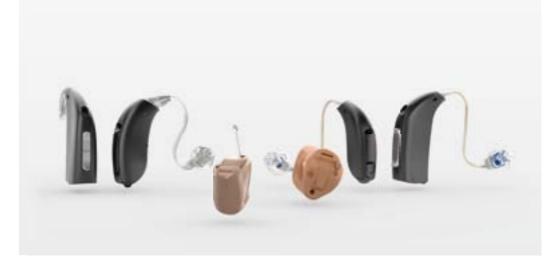








There are over 1,000 different hearing solutions on the market



### Good hearing is a given, isn't it?

The ear - even more than the eye - is our most sensitive sensory organ.
The better we hear, the easier it is to actively engage with the world.
Our sense of hearing works around the clock, for our whole life.

But what if someday we find the sounds fading? Or we can still hear well enough, but lose understanding of conversations in certain environments, such as a noisy restaurant.

This is where modern hearing systems can help restore your quality of life.

### Tiny, versatile and powerful

There are currently over 1,000 different hearing systems on the market, in every sort of shape, size, colour price and performance level. Your hearing care professional can offer you the entire spectrum – from the most basic to the most advanced models.

### Choosing the perfect solution

Somewhere among this rich palette of options will be your ideal hearing instrument solution. Your hearing care professional is there to help you find it and will introduce you to the hearing instruments that are especially suitable for you. You decide which instruments you like best, both acoustically and visually. Often, you can even try the different instruments before making your choice.

This brochure has been designed to give you a clear overview of the different models and the most common technologies.



Say goodbye to your misconceptions



### **Common misconceptions**

## 1 Hearing instruments are big and ugly

Wrong! Today's hearing instruments are tiny powerful computers. They have nothing to do with the 'beige bananas' of the past. They are tiny and almost invisible.

## 2 Hearing instruments are expensive

Recent advances in technology mean that there are now good hearing instruments for every budget. You may even get financial help from your health insurance provider.

## **3** Hearing instruments always beep

In the past, hearing instruments suffered from feedback. This happens when a microphone is placed too close to a loudspeaker. New technologies avoid this effect.

## 4 Hearing instruments are for old people

People are wearing hearing instruments at even younger ages - from around 45 and even younger. The earlier you give your hearing a bit of help, the better it will be later in life.

# What modern hearing instruments can offer

### **Natural** hearing

Previously, hearing instruments used to simply make all sounds louder. But that is not how natural hearing works.

Modern systems make quiet sounds audible again, but do not over-amplify loud sounds. This creates a pleasant, natural sound balance.

### Speech understanding

Our brain filters out unimportant sounds while boosting important sounds. Modern hearing instruments work in the same way. By doing so, they make speech understandable again - even in noisy environmentswhile suppressing disruptive sounds.

### Spatial hearing

Spatial hearing helps to isolate individual sounds from the mass of different noises that surround us. It also allows us to recognize sounds and where they are coming from – for example, someone calling our name or the sound of an approaching car.



### What is inside a hearing instrument?

Inside all hearing instruments are the following components:

- Microphones that pick up the sound.
- An amplifier that makes the sound louder.
- A computer chip that processes the sound according to individual needs, programmed by the hearing care professional.
- A loudspeaker that sends the amplified sound into the ear.
- A battery that supplies the hearing solution with power.

In spite of similar construction, there can often be significant differences in the quality of sound capture and speech understanding between different devices. As a rule, the higher quality of the device, the closer it will bring you to natural sound.

Here is a list of components in your hearing device that will allow you to hear more naturally.

- Bandwidth is the ability to pick up higher frequencies.
- Automatic volume regulation means quiet sounds will be audible and loud sounds kept at a comfortable level.
- Synchronization of two systems provides a balanced sound world.
- Feedback suppression prevents the device from whistling.
- Artificial intelligence recognizes
   the situation you find yourself in and
   automatically optimizes the settings
   for you.
- Noise management recognizes and reduces noise.
- Binaural signal processing (surround sound)
   allows good localization.



Hearing instruments are tiny high-tech wonders

# Which types of hearing instruments are there?

### Behind or in the ear - it's your choice!

#### (BTE) Behind-the-ear devices

The majority of hearing instrument users choose a behind-the-ear model. They are light, very small and almost invisible in use. There are two variations:

a) A device with "receiver in the ear" in which the amplified signal is sent via a discreet, hair-fine wire to the receiver seated in the ear canal, close to the eardrum. This system provides clear and natural sound quality. A small bud or individually molded earpiece holds the loudspeaker in place.

#### b) devices with 'sound tube'

Here, the sound passes through a tube to an individual ear piece that is perfectly adapted to your ear.
Since these devices have a larger battery and can accommodate a larger amplifier, they are well suited for people who need a more powerful device.

Both styles are available in a wide range of colours to match your hair or skin tone.

The hearing instrument construction



### **Custom hearing instruments**

These instruments are suitable for mild to moderate hearing loss.

Here, the hearing instrument sits in a customized mold, directly in the ear canal. This style requires a sufficiently large ear canal. The cosmetic effect of these devices is dependent on the size of the ear canal, which determines how visible the device is. There are three options:

- a) ITE: In the ear instruments sits in the visible part of the ear
- b) CIC: Completely in the Canal
   Placed futher in the canal
   almost invisible.
- c) IIC: Invisible in the Canal Sits in the canal, making it completely unnoticable.







### One or two hearing instruments?



Our Hearing was conceived by nature for two ears. For example, if we close one ear in a forest, we can still hear a bird twittering. But only with both ears can we determine that the bird is sitting in the bush to the left.

If both ears are experiencing a level of hearing loss, it always makes sense to choose two hearing instruments.

Speech will be heard more clearly and with less effort, especially in noisy environments.

You will hear and understand even better if you choose not just two hearing instruments, but devices featuring binaural technology. In these devices, the left and right hearing instruments exchange information with each other via a wireless connection, thus building a balanced sound picture. This is the only technology that allows hearing instruments to create a completely natural experience, accurately replicating directional hearing. This is a basic requirement for relaxed hearing in noisy environments.

If you want to use your devices manually at certain moments, binaural systems offer the advantage that each program selection or volume adjustment is simultaneously applied to both sides.



# Connecting with communication and conversation devices

Better hearing is not just important in face-to-face conversations. A hearing instrument equipped with Bluetooth™ functionality will greatly increase your enjoyment of making phone calls, watching TV, listening to music and more.

The 'streamer' device captures

Bluetooth™ signals from your mobile,

TV or other sources and wirelessly

transfers them to your hearing system.

#### TV

A Bluetooth™ transmitter is attached to the audio output of your TV and wirelessly transmits the sound to your hearing system, via the streamer. You are then free to set your preferred volume without any effect on others in the room. The sound quality is excellent.

#### Phone

Connecting via Bluetooth™ allows you to turn both regular phones and mobiles into hands-free devices. You only need to connect each device once. From then on, all calls will go directly to your hearing system and you'll hear the sound in both ears.

### Lectures or presentations

Another excellent application of wireless technology is for understanding speech over greater distances – such as in a lecture or presentation.

By simply asking the speaker to wear a tiny lapel microphone, you can comfortably hear what is being said, no matter how far back you're sitting.

Bluetooth™ technology has opened new possibilities



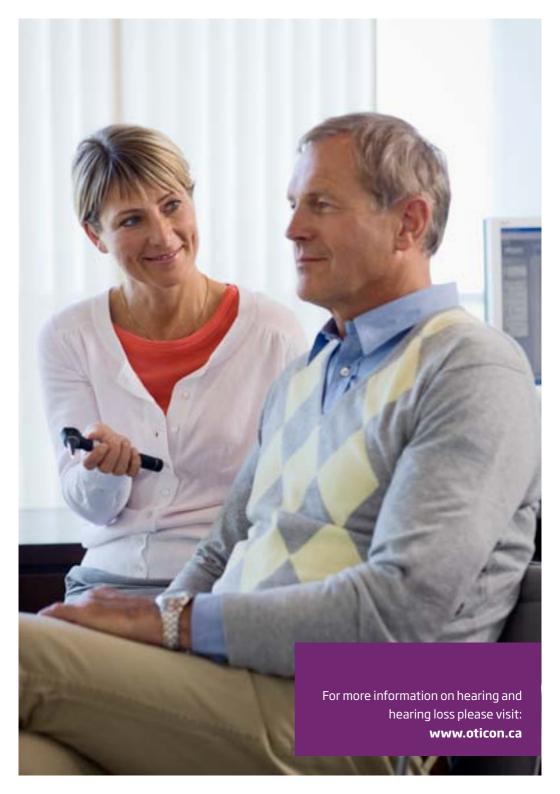
## The next step

# It's best to try a hearing system as soon as you experience hearing difficulties

Just see for yourself what the latest hearing instruments are capable of. And don't trouble yourself with cost at this point - there will be a solution that suits your budget.

Improved hearing is a long-term investment in your health and well-being. You will live happily with the instruments you choose for many years.

The hearing care professional who gave you this brochure will be more than happy to answer any questions you may have, as well as taking the time to discuss all the various options with you. He or she will always be there to support you.



### **People First**

People First is our promise to empower people to communicate freely, interact naturally and participate actively

My Hearing Care Professional:

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