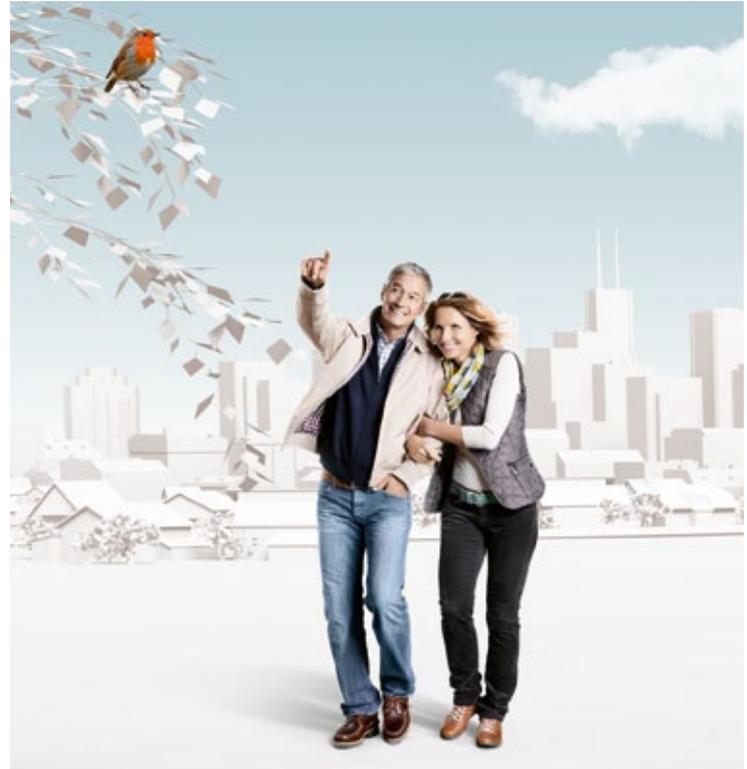




## Introduction to hearing loss

# Hearing matters

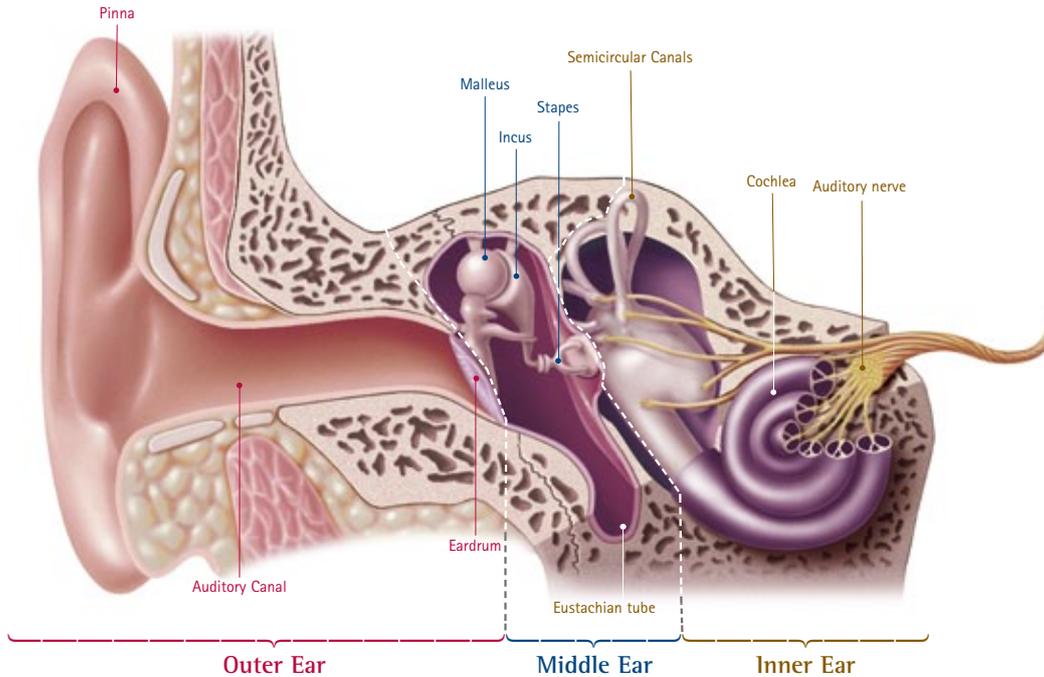
- Being able to hear is an important part of an active and enjoyable life. Normal hearing allows us to connect with the world around us, to have conversations with friends, enjoy TV and music, and hear warning signals such as fire alarms or approaching traffic.
- About 360 million people (over 5% of the world's population) are affected by hearing loss. Half of all cases could be avoided through prevention and medical treatment.
- Even people with mild hearing loss experience difficulties, such as following a conversation or a business meeting, especially in a crowded or noisy environment.
- Reasons why people lose some of their ability to hear are:
  - Age
  - Exposure to noise
  - Illness
  - Medicine or drugs
- When hearing loss starts, other things can be lost too, such as social connection and the ability to communicate. Even physical health can deteriorate.



Bainbridge KE et al. (2008) *Ann Intern Med* 149:1-10; Dalton DS et al. (1998) *Diabetes Care* 21:1540-1544; [www.betterhearing.org](http://www.betterhearing.org)

# How do we hear?

Sound waves enter the ear canal and cause the eardrum and middle ear bones to vibrate. This sends an electrical signal from the inner ear, via the hearing nerve to the brain.



# Typical warning signs of hearing loss

- Difficulty hearing from a distance
- Problems hearing speech in the presence of background noise
- Others find the affected person speaks too loudly
- Other people appear to mumble
- Family or neighbour complains that radio or TV is played too loudly
- Difficulty understanding soft speech or female and children's voices
- Often having to ask people to repeat themselves
- Inability to hear common sounds in the household, such as alarm clock, water-tap dripping, etc.

**People wait for 5 to 7 years after first experiencing hearing loss symptoms before seeking help.**



If you or someone close to you might have hearing loss, talk to your physician about the best action to take

A hearing care professional can help identify hearing loss and suggest the best solution

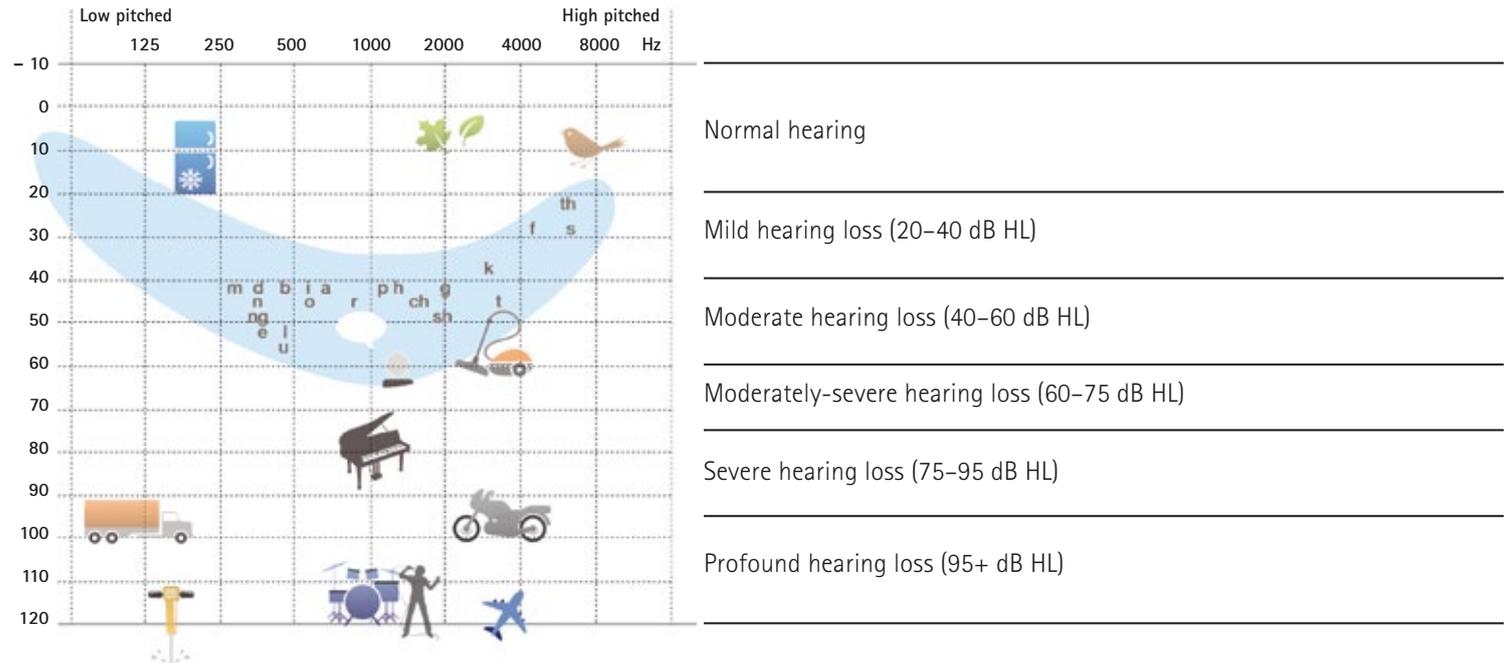
New types of hearing aids are available that are effective, affordable, comfortable and discrete

# Hearing loss in everyday life

Hearing loss can range from mild to profound. This graph shows which sounds can or cannot be heard depending on the degree of hearing loss. For example, someone with a severe hearing loss can hear an airplane or a motorbike close-by. (Very loud, hence lower end of the graph) However they will not be able to hear normal-level speech or birdsong.

Frequency and amplitude of a variety of common sounds

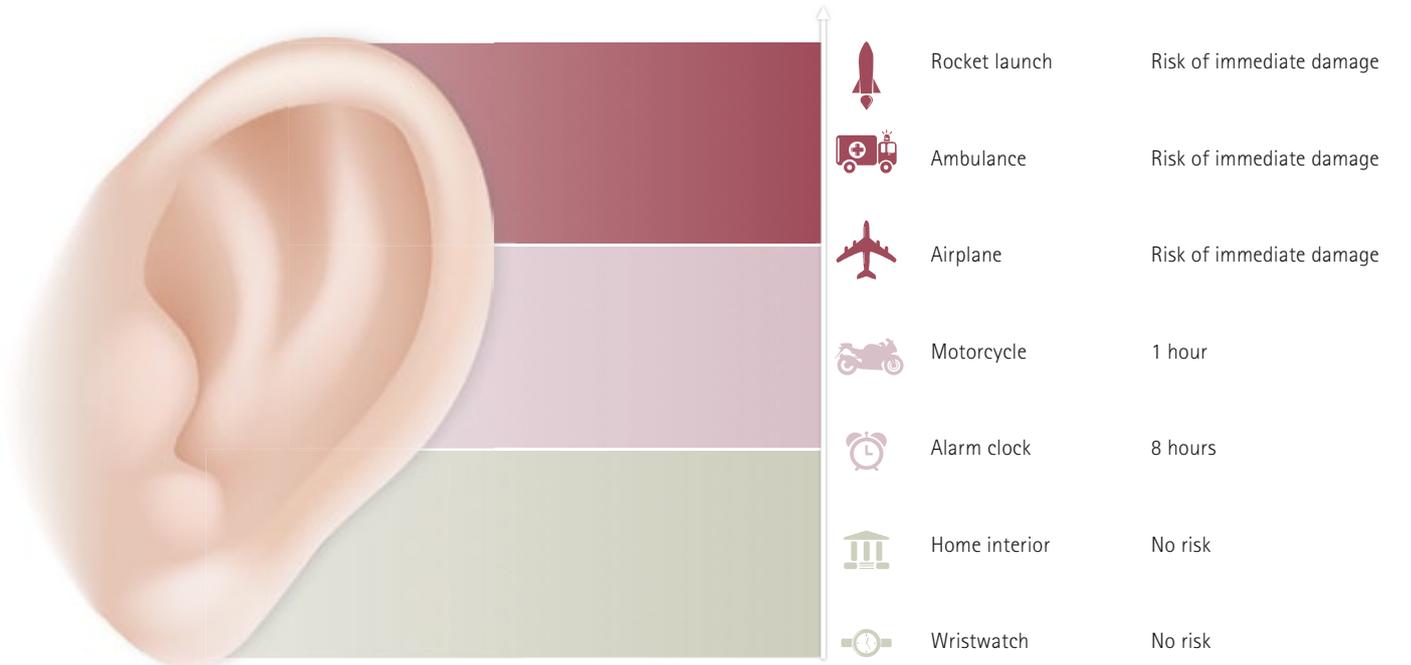
A birdtweet is a high-pitched tone, therefore on the right of the graph; low-pitched tones are on the left.



# Levels of sound (in dB HL)

The following table gives examples of how loud different sounds are. Loud levels of noise can cause temporary or permanent damage to hearing. It is therefore important to wear ear protection when exposed to loud sounds, especially over a longer period of time.

## How loud is too loud?



# Problems caused by hearing loss

- Hearing loss means more than simply not hearing well – people with hearing loss have reported a range of problems that have a negative effect on their lives or on the lives of people around them.
- Hearing loss can also cause changes to the body's immune system, increasing the risk of illness – working people with hearing loss tend to have more sick leave than those with normal hearing.

Life factor	Impact
Health	<ul style="list-style-type: none"><li>• Fatigue due to listening effort (e.g. in noisy surroundings)</li><li>• Frustration, depression</li><li>• Anger</li><li>• Increased frequency of illness and hospital visits</li><li>• Impaired memory and ability to learn new tasks</li><li>• Significantly increased risk of developing dementia</li><li>• Diminished psychological and overall health</li></ul>
Interpersonal	<ul style="list-style-type: none"><li>• Misunderstandings</li><li>• Loneliness, social isolation</li><li>• Reduced job performance and salary</li><li>• Impact on travel, activities with friends, events</li></ul>
Safety	<ul style="list-style-type: none"><li>• Traffic</li><li>• Alarms</li></ul>

# Why should you consider a hearing aid?

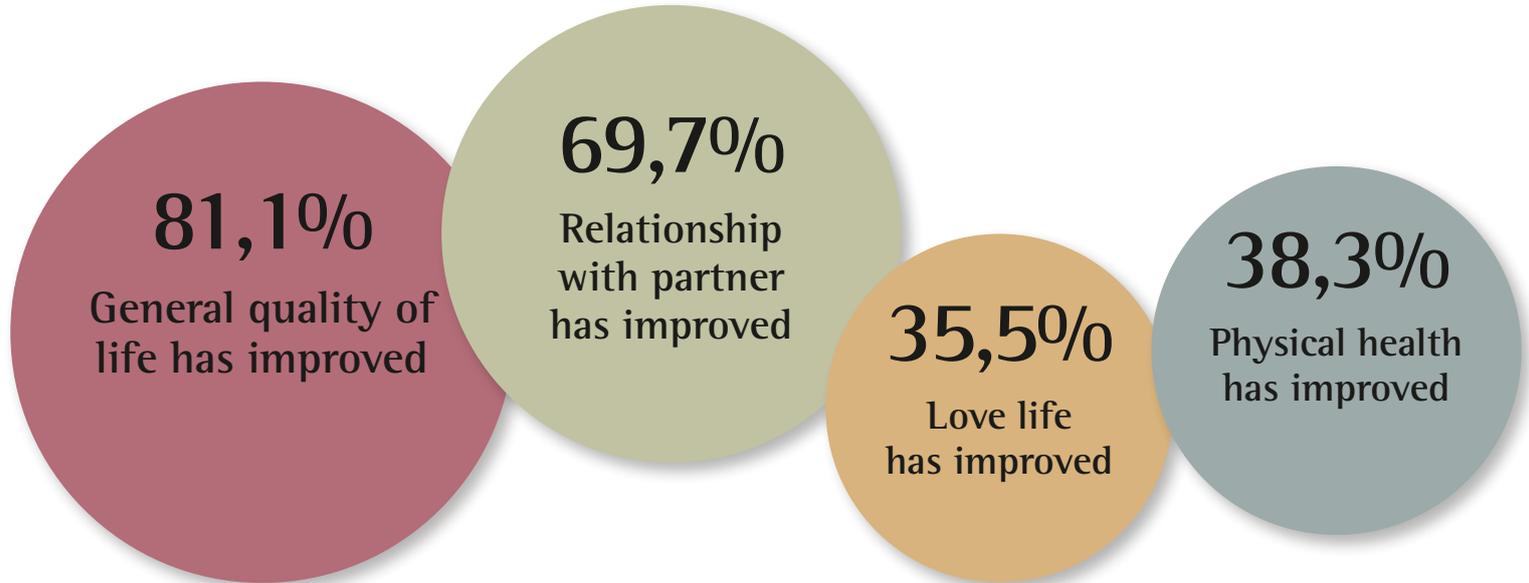
- As you have seen, hearing loss can have a potentially devastating effect on life
- However, most people wait for years before seeking help to correct hearing loss
- Having a hearing test and getting a hearing aid fitted offers multiple benefits
  - Better hearing
  - Improved quality of life (e.g. social activity, feeling connected with people)
  - A higher level of general health
  - More satisfying communications at work, with friends and family, and in other circumstances (shopping, answering the phone, etc.)



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## Positive effects of wearing a hearing aid

“How much of a positive impact have hearing aid(s) had in these aspects of your life?”



Hear the World Study, 2011. n(HI) = 915. Percent of top 3 boxes (a little/significantly/very much so)

# Overview about hearing aids

There are several different styles of hearing aids.

The style chosen depends on the degree of hearing loss, condition of the external ear and personal preference.

Invisible-In-Canal  
(IIC)



Mild to moderately-severe hearing loss

Receiver-In-Canal  
(RIC)



Mild to severe hearing loss

Behind-The-Ear  
(BTE)



Mild to severe hearing loss

Lyric extended wear



Mild to moderate hearing loss

## A few common objections

Objection*	Things to think about
I would be embarrassed to wear a hearing aid.	<ul style="list-style-type: none"><li>• Modern hearing aids are often small and designed to be discrete, even invisible.</li><li>• Speak with your audiologist about your concerns, so they can help you chose the design that fits your needs.</li></ul>
I don't think a hearing aid helps very much.	<ul style="list-style-type: none"><li>• Hearing aid design and technology has improved a lot in recent years.</li><li>• Digital technology has led to better sound quality and features such as remote control of functions and programming for different situations.</li><li>• For maximum benefits the hearing aid must fit properly, so if you have problems talk with your audiologist to see if the fit is right for you.</li></ul>
I want to avoid negative reactions of other people.	<ul style="list-style-type: none"><li>• Small, discrete or invisible devices mean that people don't need to know you are wearing a hearing aid.</li><li>• An effective hearing aid will help you communicate better with people, so you may have better interactions more often.</li></ul>

\*Identified as the three most common objections in a survey of people with hearing loss

Natalizia A et al (2010). An overview of hearing impairment in older adults: perspectives for rehabilitation with hearing aids. Eur Rev Med Pharmacol Sci 14:223-9; Phonak. (2011) Hear the World Study,

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