Get Together

17th December 2019





Hearing Aids

Josef Schnyder

SULZER MEDICA

Cochlear™

sonova

PHONAK

unitron™

AB

Josef Schnyder

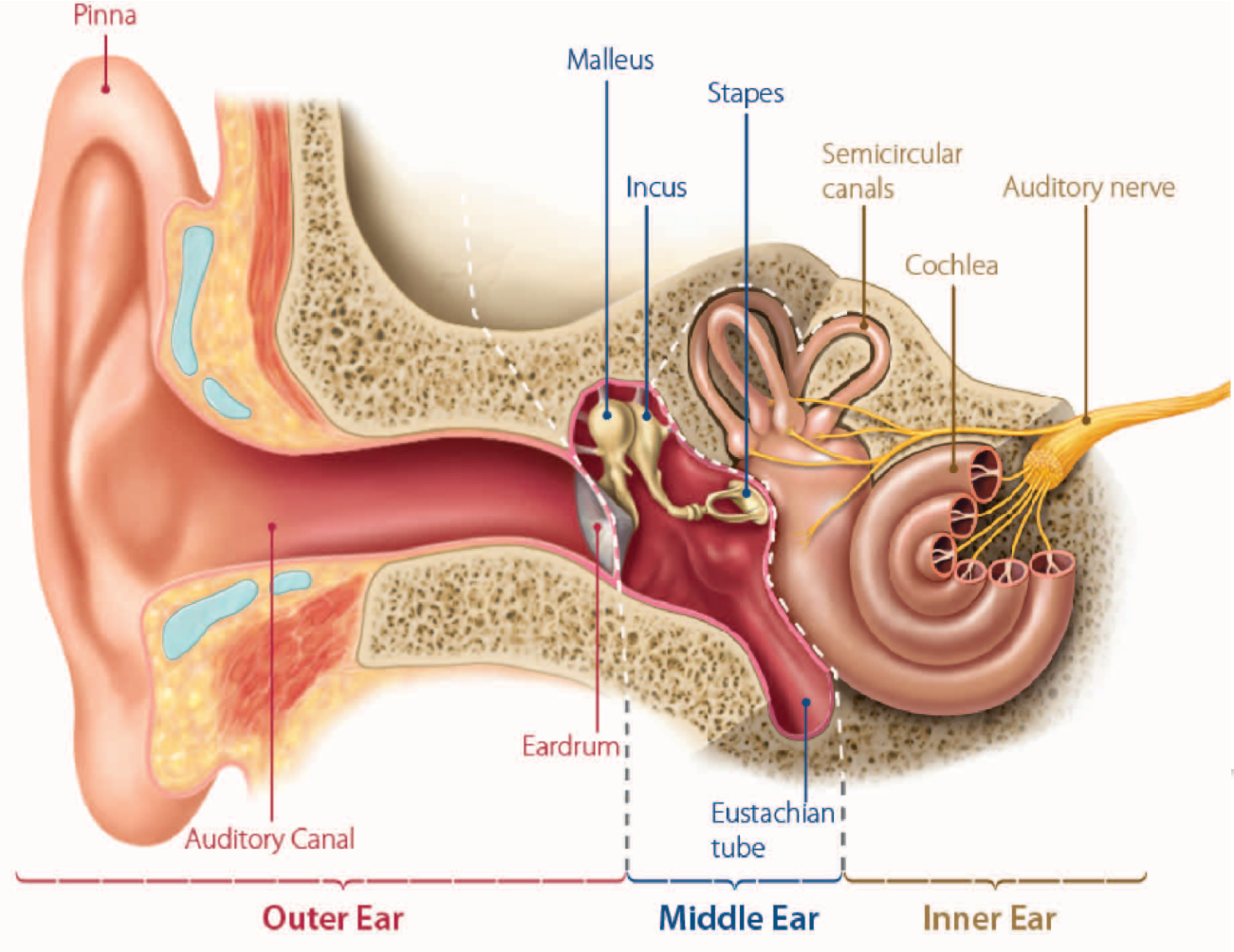
Moscow, Russia 1993 -2019

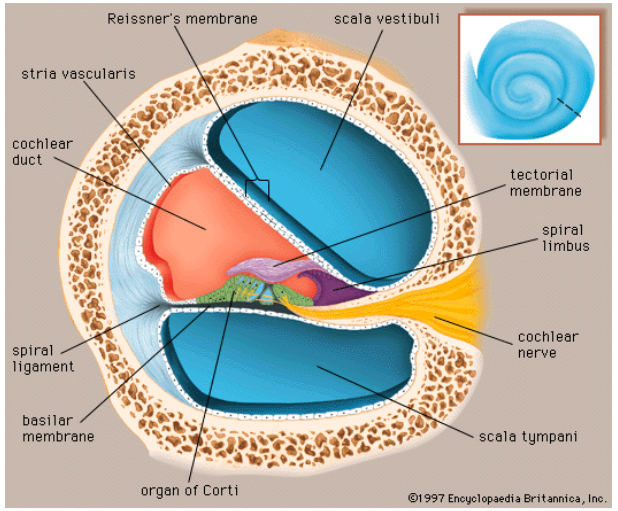


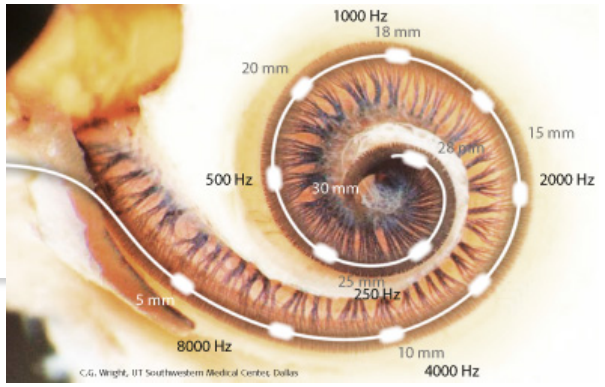
Hearing

- How do we Hear
- Hearing Aids
- Accessories and FM
- Cochlear Implants

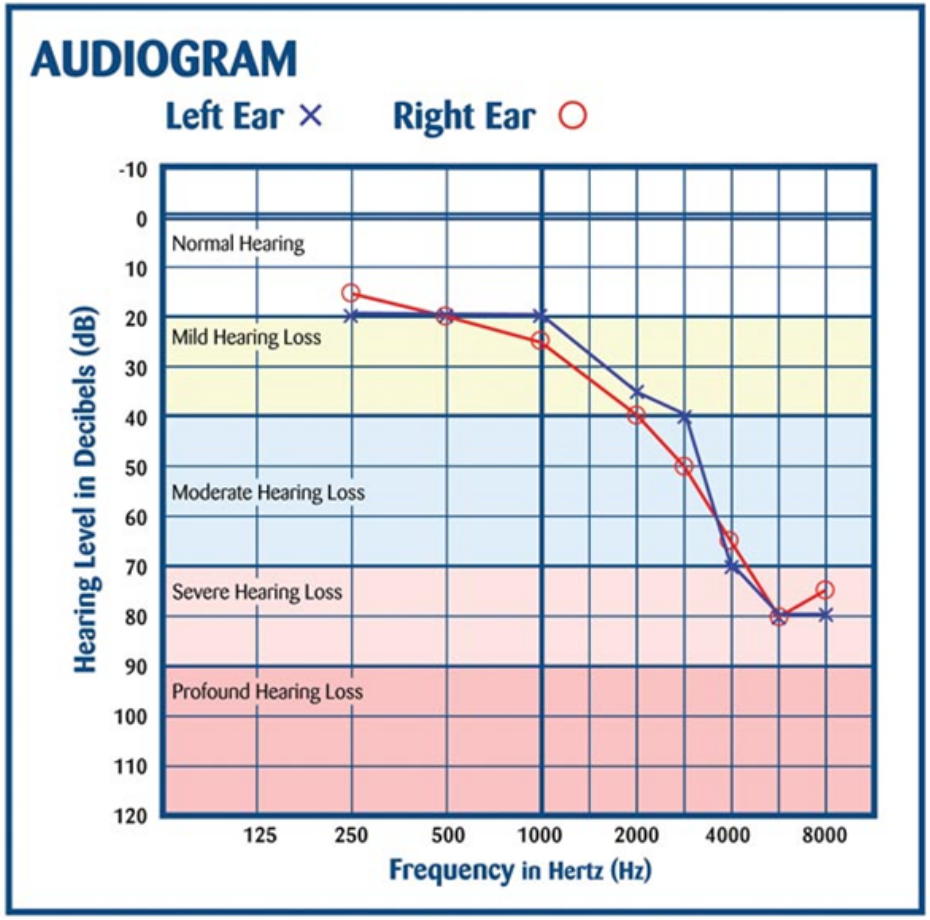
Basics of Hearing





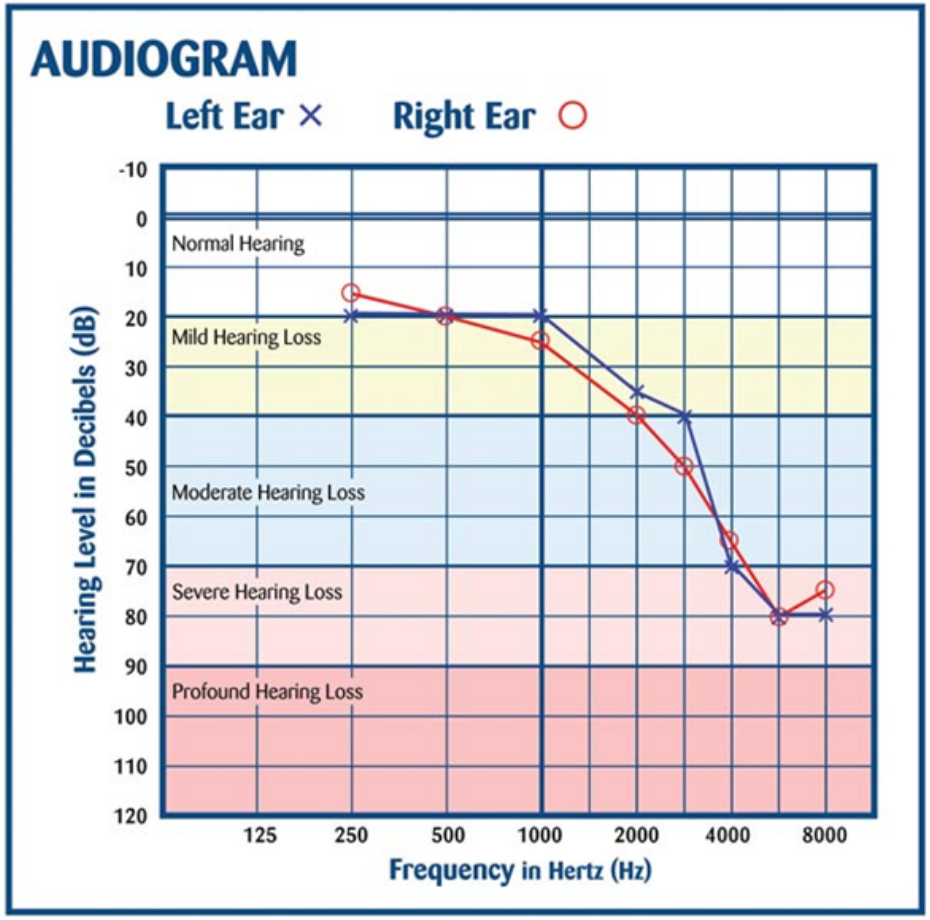


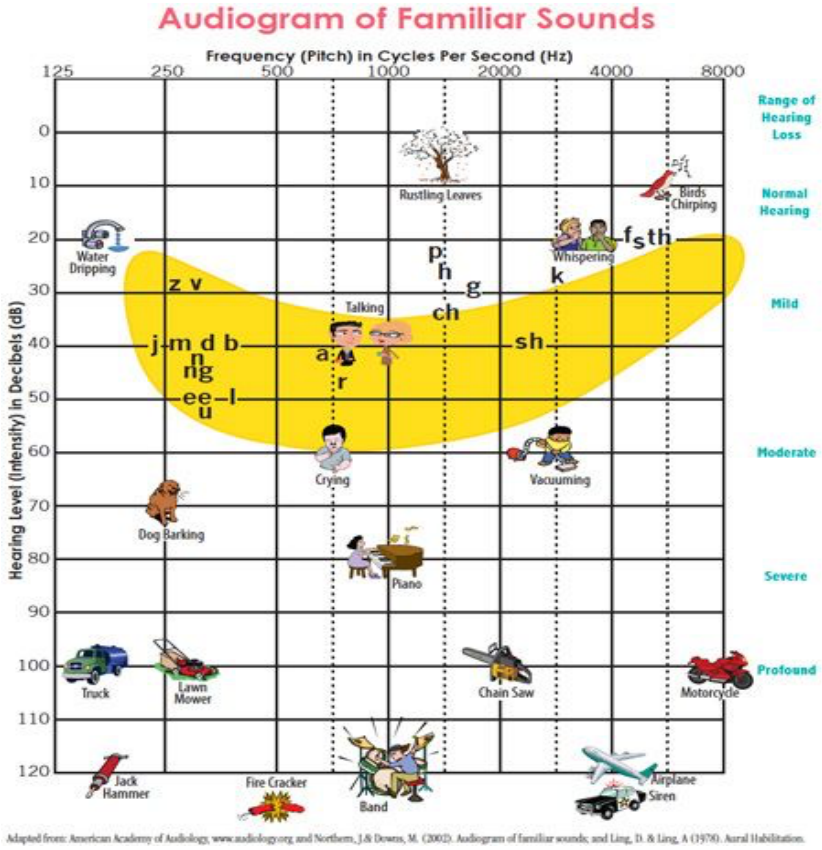
Audiogram


AUDIOGRAM
Left Ear ×
Right Ear ○
Hearing Level in Decibels (dB)
-10
0
10
20
30
40
50
60
70
80
90
100
110
120
Normal Hearing
Mild Hearing Loss
Moderate Hearing Loss
Severe Hearing Loss
Profound Hearing Loss
125
250
500
1000
2000
4000
8000
Frequency in Hertz (Hz)



Audiogram


AUDIOGRAM
Left Ear ×
Right Ear ○
Normal Hearing
Mild Hearing Loss
Moderate Hearing Loss
Severe Hearing Loss
Profound Hearing Loss
Hearing Level in Decibels (dB)
-10
0
10
20
30
40
50
60
70
80
90
100
110
120
125
250
500
1000
2000
4000
8000
Frequency in Hertz (Hz)


Audiogram of Familiar Sounds
Frequency (Pitch) in Cycles Per Second (Hz)
125
250
500
1000
2000
4000
8000
Hearing Level (Intensity) in Decibels (dB)
0
10
20
30
40
50
60
70
80
90
100
110
120
Range of Hearing Loss
Normal Hearing
Mild
Moderate
Severe
Profound
Rustling Leaves
Birds Chirping
Water Dripping
Whispering
Talking
Crying
Vacuuming
Dog Barking
Piano
Truck
Lawn Mower
Chain Saw
Motorcycle
Jack Hammer
Fire Cracker
Band
Airplane
Siren
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Facts and Figures



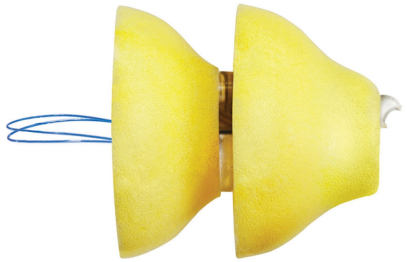
- 10 to 15 % of the population suffer of a hearing loss
- 25 % of people between age 65 and 74 have disabling hearing loss.
- This number increases to 50 % for people over the age of 75

** disabling Hearing loss = hearing loss > 40dB in the better hearing ear in adults (> 30dB in children)*









Hearing Aid Solutions

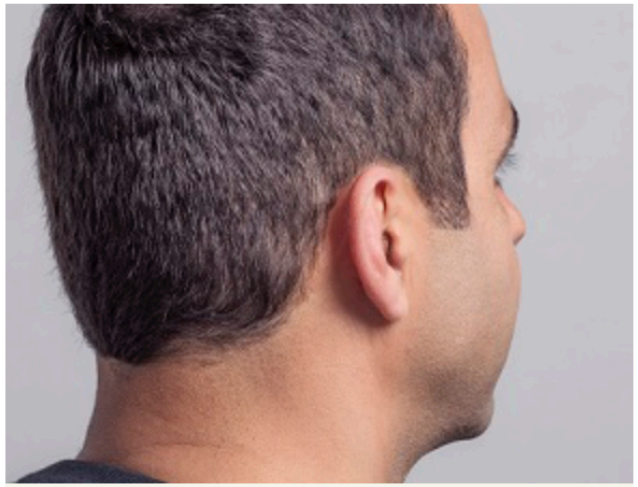


Behind-The-Ear (BTE)

BTE models are available for all degrees of hearing loss and, as the name suggests, can be worn comfortably behind the ear. These models are available in many different colors, styles and designs.



Behind-the-Ear (BTE)



Custom products

These models are made specifically to fit the shape of your ear canal for maximum benefit and the best possible comfort. They are available in many skin tones, are unobtrusive and very effective. The smallest models sit in your ear canal and are virtually invisible. These models are suitable for mild to severe hearing loss.



Custom Products (ITE)



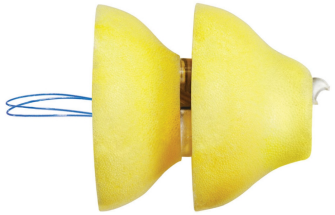
Receiver-In-Canal (RIC)

These models are smaller than standard BTE models and are available for mild to severe hearing loss. They can be worn comfortably behind the ear. These models are available in many different colors, styles and designs.



Receiver-in-Canal (RIC)

Lyric - A new technology from Phonak







Phonak Lyric™

Benefits of Lyric

•**100% Invisible** - Placed in your ear canal, Lyric remains completely out of sight - invisible to the world.

•**Clear, natural sound** - Enjoy full natural sound everywhere you go.

•**24/7 hearing** - Wear Lyric around the clock for months at a time without taking it out through daily activities such as exercising or even showering

Different Performance Levels and Price Segments

Premium

- Speech in Car**
- Speech in Loud Noise**
- Comfort in Echo**
- Music**
- Comfort in Noise**
- Speech in Noise**
- Calm Situation**
- Speech in Wind*
- Speech in 360° *
- EchoBlock
- WindBlock
- SoundRelax
- SNR-Boost
- FlexControl
- Flex Volume
- DuoPhone*
- Real Ear Sound
- WhistleBlock
- NoiseBlock
- QuickSync
- SoundRecover
- Tinnitus Balance
- auto Acclimatization
- UltraZoom Premium
- User Preference Tuning
- 20 channels
- WCP compatible

Advanced

- Music**
- Comfort in Noise**
- Speech in Noise**
- Calm Situation**
- Speech in 360° *
- WindBlock
- SoundRelax
- SNR-Boost
- FlexControl
- Flex Volume
- DuoPhone*
- Real Ear Sound
- WhistleBlock
- NoiseBlock
- QuickSync
- SoundRecover
- Tinnitus Balance
- auto Acclimatization
- UltraZoom Advanced
- User Preference Tuning
- 16 channels
- WCP compatible

Standard

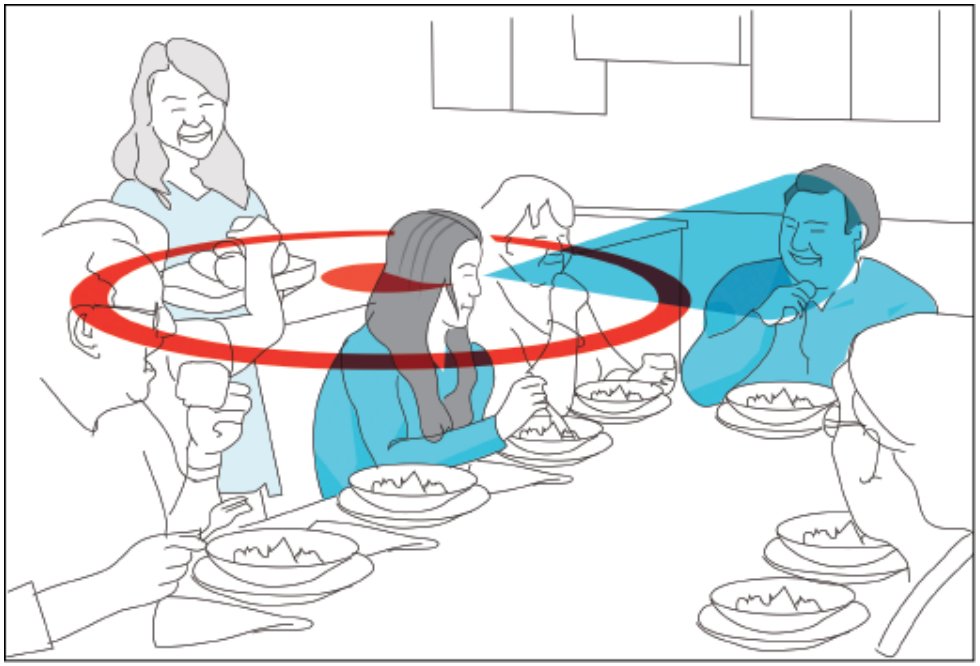
- Comfort in Noise**
- Speech in Noise**
- Calm Situation**
- SNR-Boost
- FlexControl
- Flex Volume
- DuoPhone*
- Real Ear Sound
- WhistleBlock
- NoiseBlock
- QuickSync
- SoundRecover
- Tinnitus Balance
- auto Acclimatization
- UltraZoom Standard
- User Preference Tuning
- 12 channels
- WCP compatible



Essential

- Speech in Noise**
- Calm Situation**
- WhistleBlock
- NoiseBlock
- QuickSync
- SoundRecover
- Tinnitus Balance
- auto Acclimatization
- UltraZoom Essential
- User Preference Tuning
- 8 channels
- WCP compatible

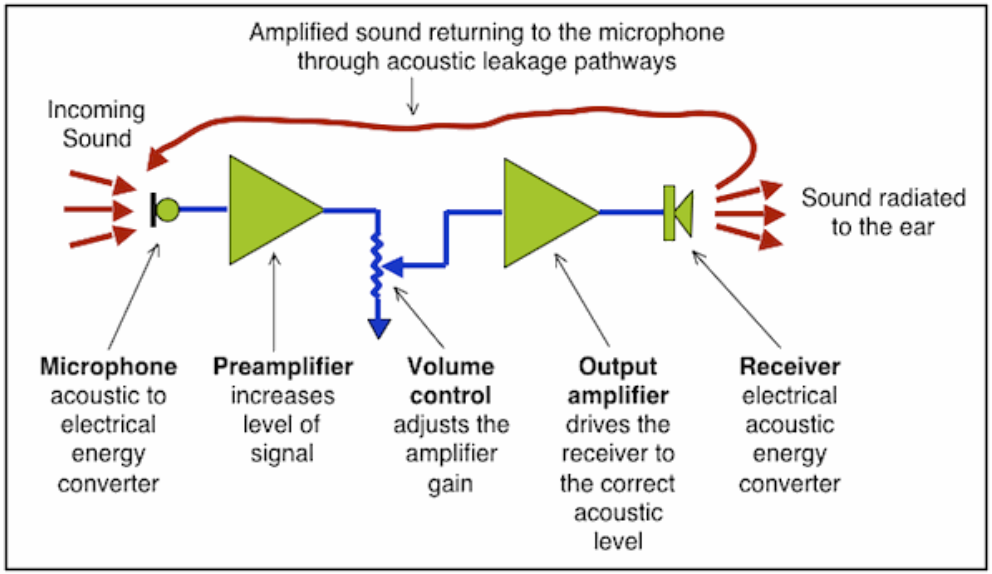
Directional Microphones (Ultra Zoom)



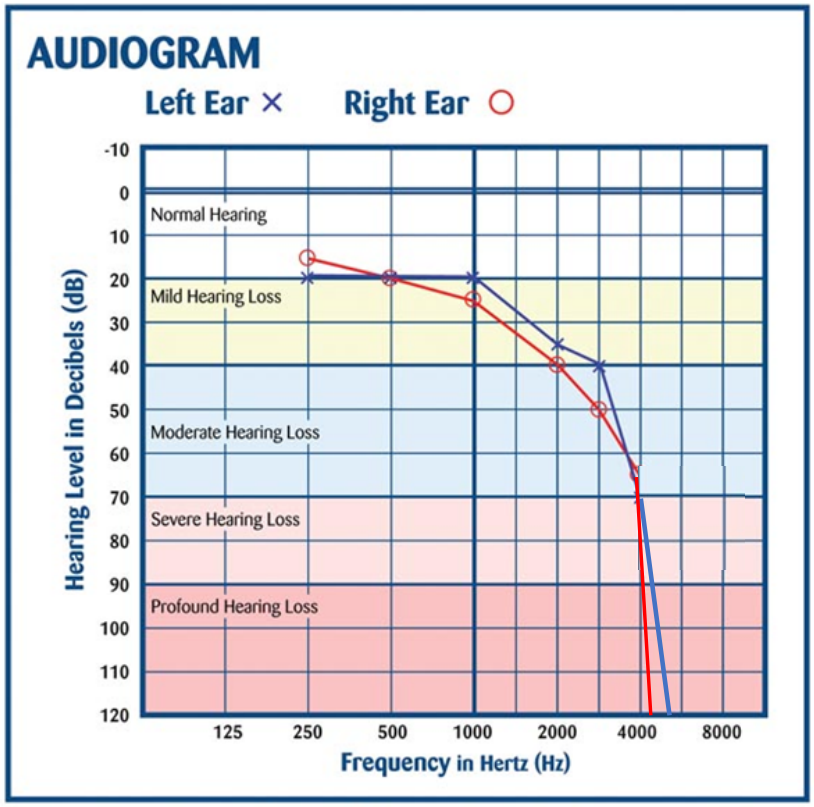


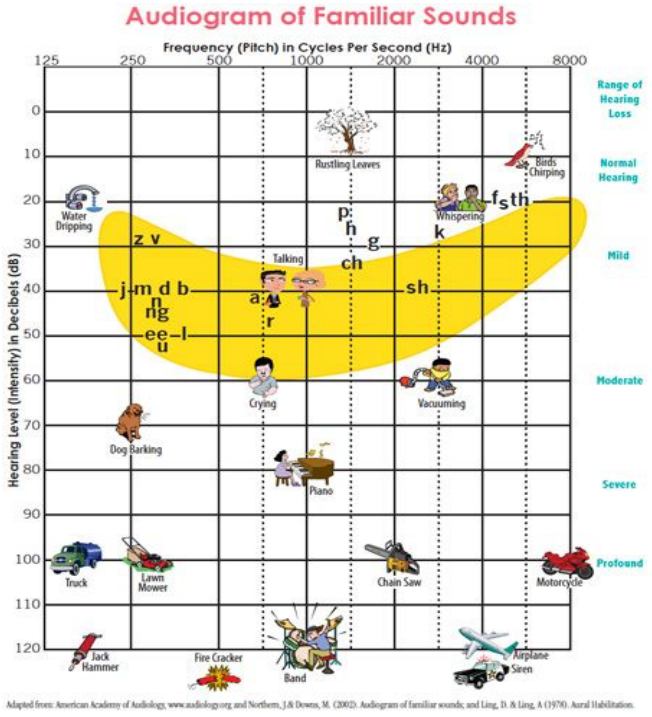
Whistle Bloc, Echo Bloc, Feed Back Cancel

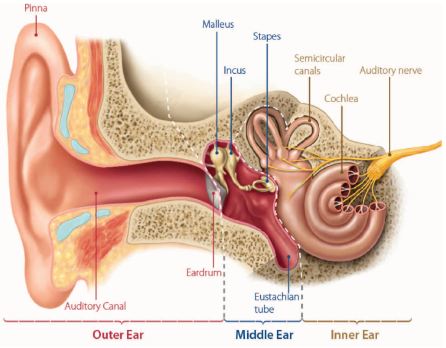


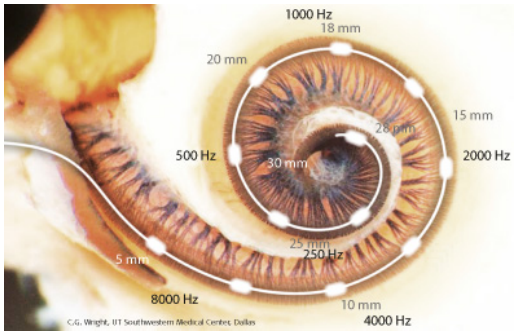


Sound Recover (High Frequency Compression)

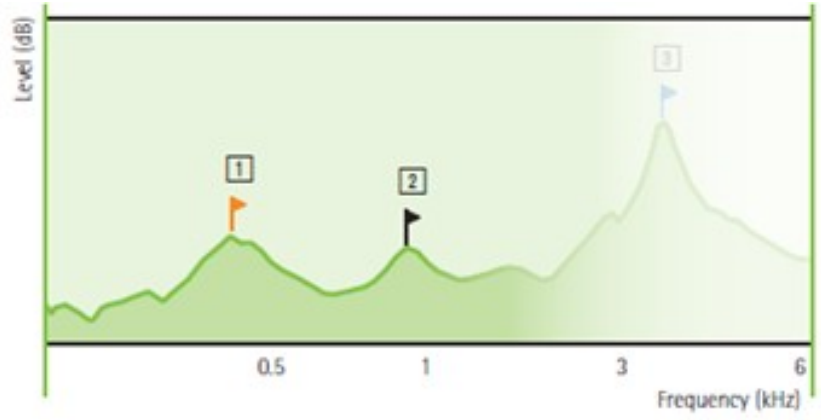


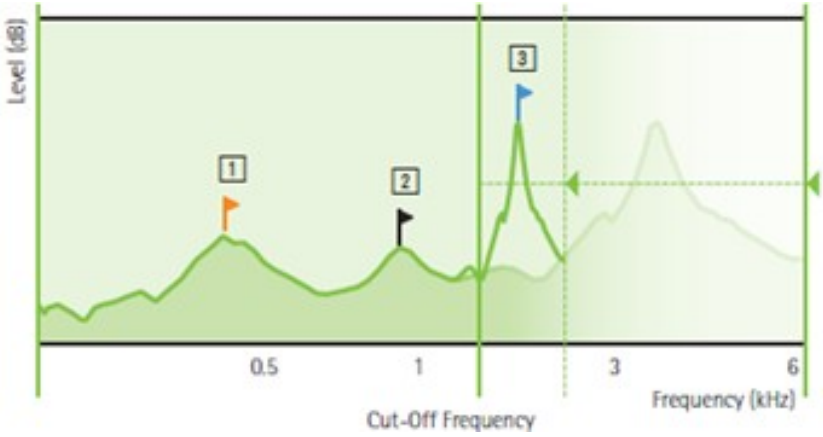






Sound Recover (High Frequency Compression)

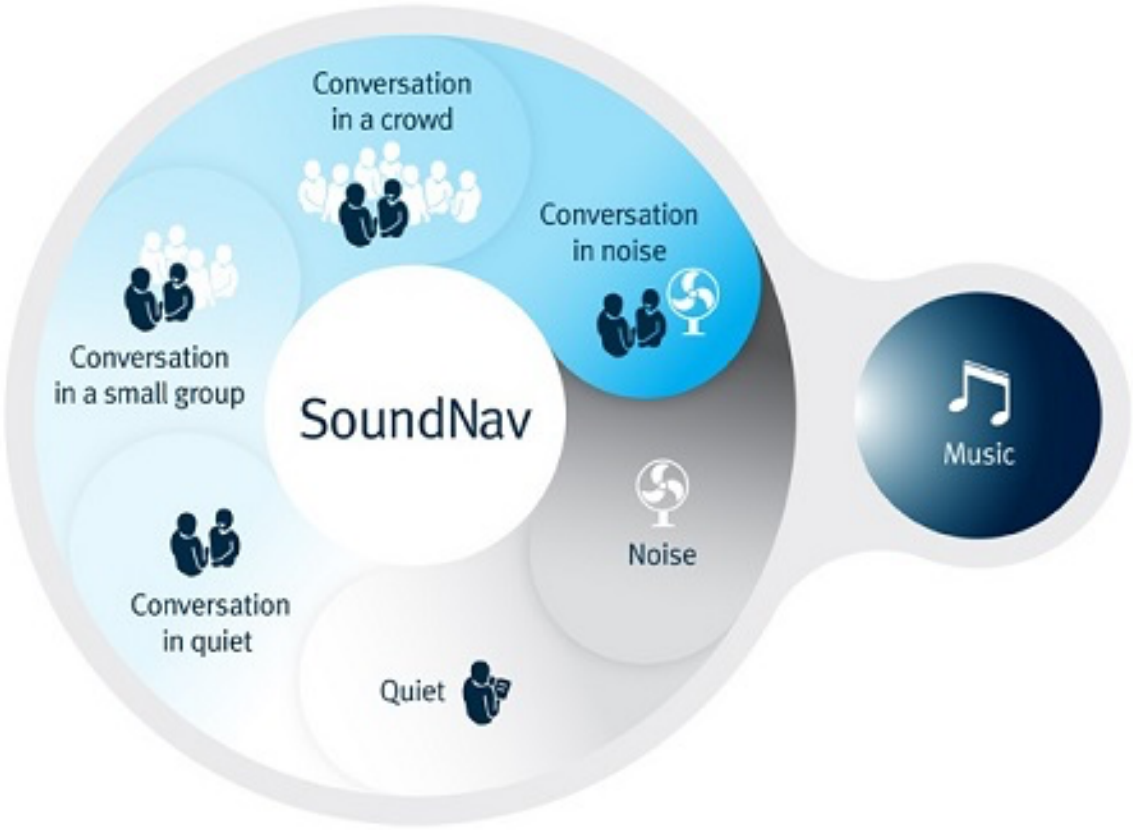








Automatic Programs



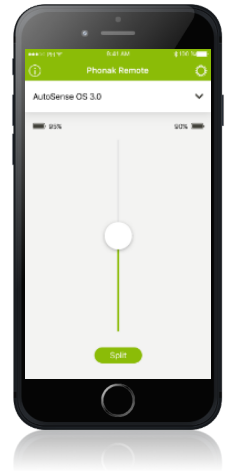
- Dialogue
- Multiple conversation
- Restaurant
- Party
- Reception
- Noisy street
- Construction site
- Concert hall
- TV
- Music
- Telephone
- church

Hearing Aid Accessories

Phonak MarvelTM







Rechargeable





Remote app

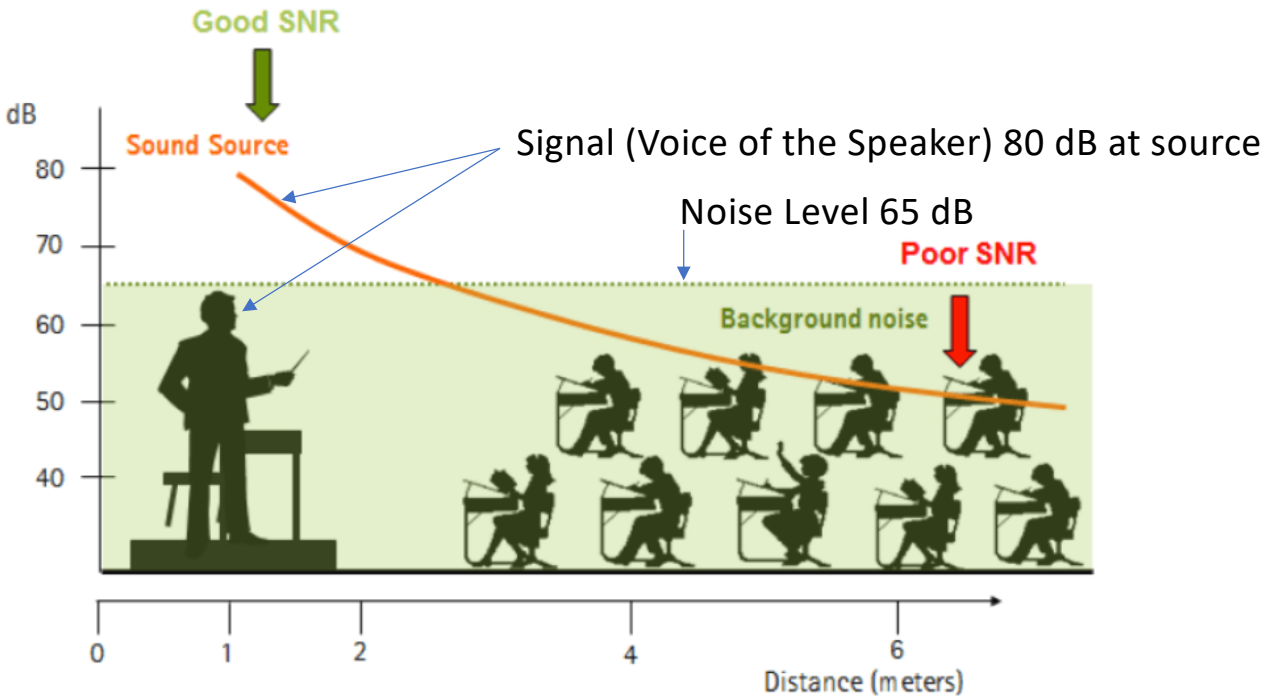
- Hands free phone call
- Fine tuning online
- Hearing aid information

TV Connector

RogerDirect (FM)

Connectivity to any Bluetooth device

FM Systems (Phonak Roger)



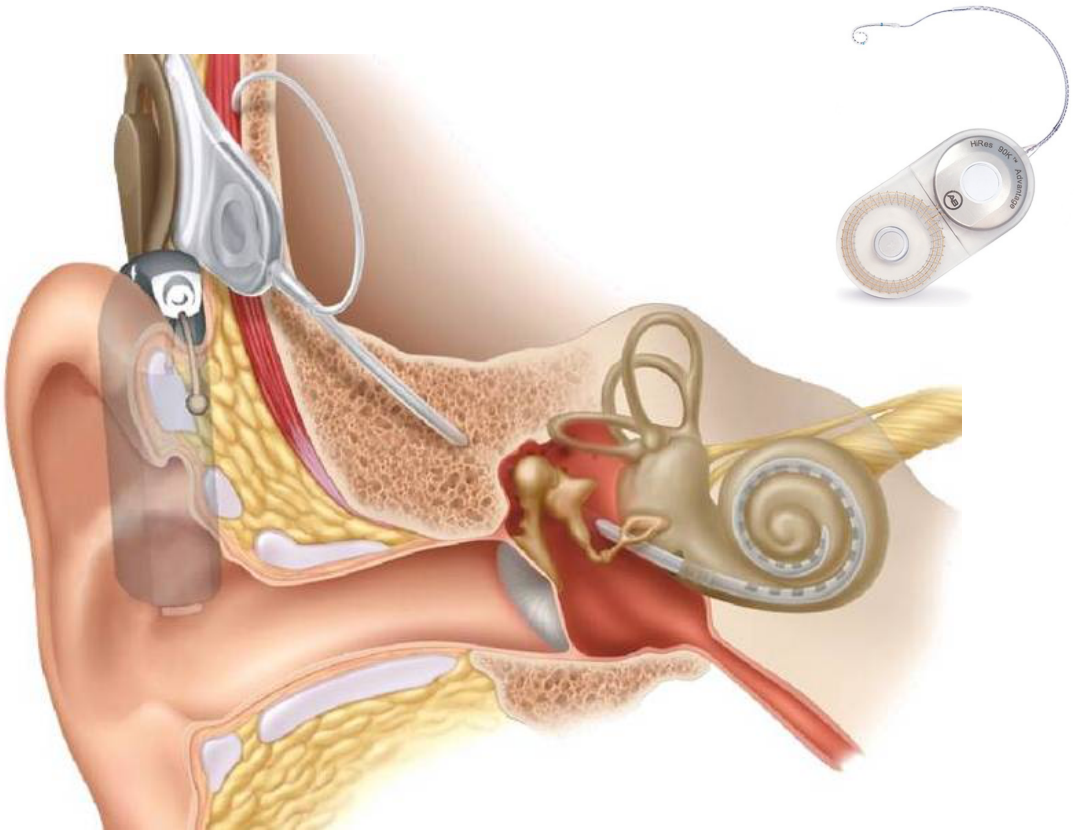
Hearing Aid users need the signal to be 20 dB above noise level

FM Systems (Phonak Roger)



- Unilateral Hearing Loss (UHL)
- Auditory Processing Disorder (APD)
- Autism Spectrum Disorder (ASD)

Cochlear Implantation





Criteria for implantation:

Children:

- as soon as possible (6 months)
  Speech development process takes place from age 0 – 6 years

Adults:

- hearing loss > 80dB
- Normal speech development

What are the first symptoms of hearing loss?



- Hearing loss usually begins unnoticed
- Increased difficulty to hear in noisy environment (restaurants, receptions, public transport)
- High frequency sound are more difficult to hear (e.g. door bell, phone)
- it's easier to understand a man's voice than a women's voice
- People seem to mumble
- Need to turn up the volume of sound on TV, Radio etc

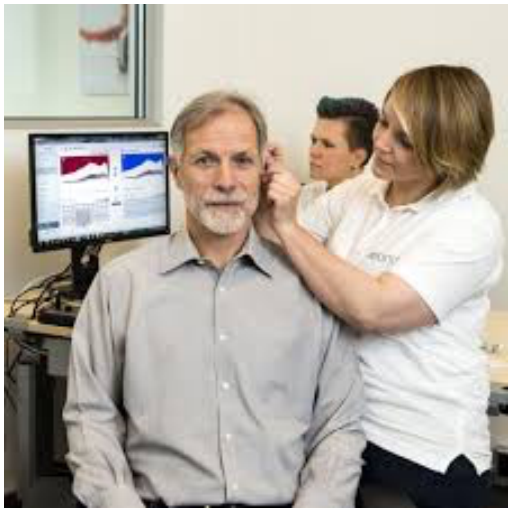
What should I do if I feel like having one or several of above symptoms?

- Speak to a hearing care
- Take a hearing test

Download the hearing test app for IPhone and Android:

eartone

When you buy a hearing aid:



- When fitting a hearing aids, always simulate different different noise situations. A professional fitter has specific noise simulation programs. Don’t forget: In a quite environment every hearing aid is good. The difference of a hearing aid can best be tested in difficult noisy situations (loud restaurant, public transport, construction site)

- Try different hearing aids. Every manufacturer has his own speech processing algorithm which may sound different to individuals

- Wearing a hearing aid for the first time may be uncomfortable. Give it some time; you will get used to it (2 to 4 weeks). RIC may be more comfortable to wear than ITE or BTE.

- Ask for available accessories and FM solutions. FM solutions are very helpful tools for everyday life of professionals. But not every hearing aid fitter is familiar with FM systems

- If you have insurance in your home country in Europe, check if you are entitled for reimbursement

Thank you for your attention

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