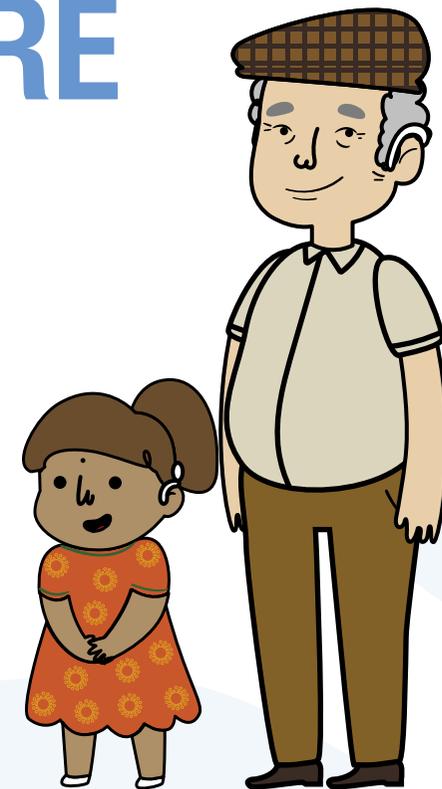
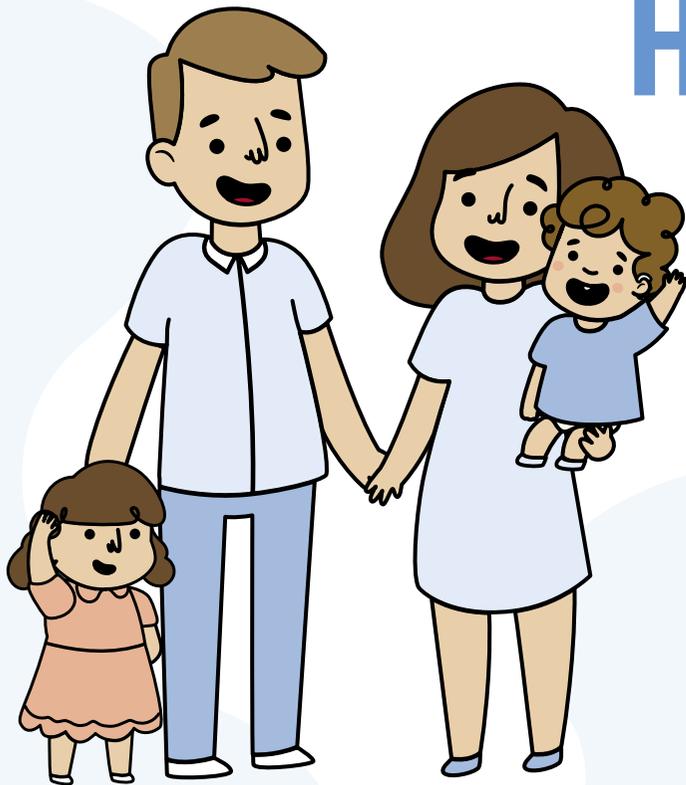




World Health
Organization

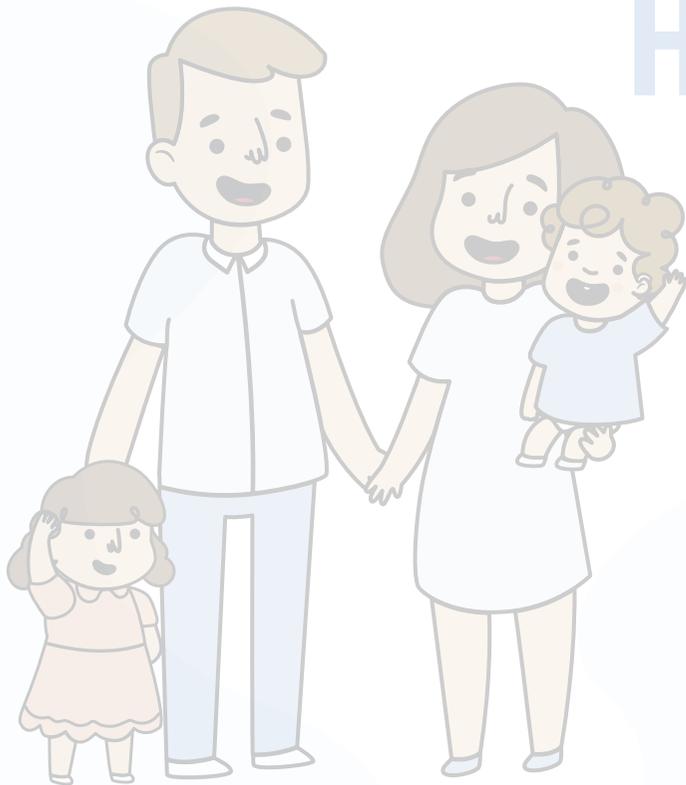
BASIC EAR AND HEARING CARE RESOURCE





World Health
Organization

BASIC EAR AND HEARING CARE RESOURCE



Basic ear and hearing care resource

ISBN 978-92-4-000148-0 (electronic version)

ISBN 978-92-4-000149-7 (print version)

© World Health Organization 2020

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO); <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>.

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: "This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition".

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization.

Suggested citation. Basic ear and hearing care resource. Geneva: World Health Organization; 2020. Licence: [CC BY-NC-SA 3.0 IGO](https://creativecommons.org/licenses/by-nc-sa/3.0/igo).

Cataloguing-in-Publication (CIP) data. CIP data are available at <http://apps.who.int/iris>.

Sales, rights and licensing. To purchase WHO publications, see <http://apps.who.int/bookorders>. To submit requests for commercial use and queries on rights and licensing, see <http://www.who.int/about/licensing>.

Third-party materials. If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

General disclaimers. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO be liable for damages arising from its use.





CONTENTS

ACKNOWLEDGEMENTS

I. INTRODUCTION

- Background
- Purpose of this resource
- How to use this resource

II. HEARING LOSS AND DEAFNESS

- What is hearing and hearing loss/deafness
- Types of hearing loss
- Causes and signs of hearing loss/deafness in children
- Causes and signs of hearing loss/deafness in adults
- Hearing testing

III. CARE FOR PEOPLE WITH EAR DISEASES AND HEARING LOSS

- How to care for discharging ears
- Support for people with hearing loss
- How families/carers/teachers could communicate with people with hearing loss
- Hearing aids and cochlear implants
- DOs and DONTs

Acknowledgements

This document is the outcome of a consultative process led by the World Health Organization with contribution of the following World Health Organization (WHO) staff members: Shelly Chadha, Alarcos Cieza, Cherian Varughese, Maryam Mallik, Ricardo Martinez, Patanjali Dev Nayar, Karen Reyes, Emma Tebbutt, Florante Trinidad, Hala Sakr and Juan Carlos Silva.

The conceptual framework and outline of the 'Basic Ear and Hearing Care resource' were developed in consultation with an expert group through a series of consultations organized by the World Health Organization. The initial drafting of the document was done by Mahmood Bhutta, Priyadarshni Carling and Sally Harvest. Document review and inputs were provided by: Arun Agarwal, Mazin Al Khabouri, Ned Carter, Michael Chowen, Jackie Clark, Harvey Coates, Carolina Der, Victor De Andrade, Uta Fröschl, Suneela Garg, Sally Harvest, Linda Hood, Isaac Macharia, Norberto Martinez, Amarilis Melendez, Christopher O'callaghan, Christopher Prescott, Hubert Ramos, Leela Agnes Sambantham, Diego Santana Hernandez, Andrew Smith, Paige Stringer, George Tavartkiladze, Sian Tesni, Yufeng Wang and Bu Xingkuan.

The booklet and the procedures explained in it were field tested in India and Uganda with support provided by CBM India Country Office, Bengaluru; St John's Hospital, Bengaluru and its Community Centre, Mugalur, India; Community Health Academic Department of Christian Medical College and Hospital, Vellore, India; James O'Donovan and members of 'The Village Health Team' of Omni Med, Uganda.

Financial support for this document has been provided by CBM and the Hearing Conservation Council.



INTRODUCTION

Background

World Health Organization estimates that there are over 460 million people in the world with disabling hearing loss. Nearly 90% of them live in low- and middle-income countries of the world. Many more people have mild hearing loss and suffer diseases of the ear. These problems can often cause life-long and sometimes life-threatening difficulties. Without suitable interventions, deaf or hard of hearing people find it difficult to communicate with others. They also have difficulty in education and in the workplace, and often they feel left out of social and family life.

In many places there is a lack of services and trained workers to prevent and treat ear diseases and help people with hearing loss. People themselves are not well aware about the importance of hearing. There are many myths and misconceptions about ear diseases and hearing loss in the society.

The resource focuses on community involvement and raising awareness; and will provide useful information for preventing and addressing ear diseases and hearing loss.

Purpose of this resource

The purpose of this basic ear and hearing care resource is to serve as an information resource for community level workers as well as other interested members of the community. This resource can help the community to understand common ear diseases and hearing loss. Members of the community can share information with families/people who may have hearing loss. This resource will enable people to know about the impact of unaddressed hearing loss and ear diseases. It will help the community members to suspect and deal with common ear and hearing problems. It will also educate them about possible options for diagnosing and managing these conditions. This resource focusses on means for prevention and recognition of common ear disease and hearing loss. It also shows that, with understanding and the necessary support, people with hearing loss can play productive roles in the household, school or in the work places.

The target groups for this resource includes:

- Community level workers without formal training who are involved in provision of care and information to young children, older adults; people in noise workplaces
- CBR (community-based rehabilitation) workers;
- Parents, teachers and other members of the community that wish to know about ear and hearing care.



How to use this resource

The resource can be:

- Read by the individuals as an information booklet to gain knowledge or explained to them through an educational session organized by someone with specialised knowledge such as a doctor, an audiologist or a health worker who has received training on primary ear and hearing care.

Instructions for readers of the resource:

- Read through the booklet and make sure you understand each section.
- Ask a nurse or doctor to help understand each section, if needed.
- Ask guidance of a doctor or nurse to practice the practice skills mentioned in this resource.
- Share information learnt with other members of your community, for example: when to suspect hearing loss; care of ears; how to take care of a hearing aid; how to instil ear drops etc
- Refer to the 'Primary ear and hearing care resource for health workers' for further information, if needed.

Instructions for trainers:

When using this resource to educate others about ear and hearing care, make sure that you:

- Familiarize yourself with all the sections of the resource

- Explain each section to the training participants.
- Use the teaching tips to stimulate discussion with the participants.
- Show participants the pictures that explain what you are teaching them.
- Demonstrate the practical skills and make them practice these under your supervision.

This resource forms part of a set of training resources on ear and hearing care, which includes:

Basic ear and hearing care resource.

Primary ear and hearing care resource for health workers.

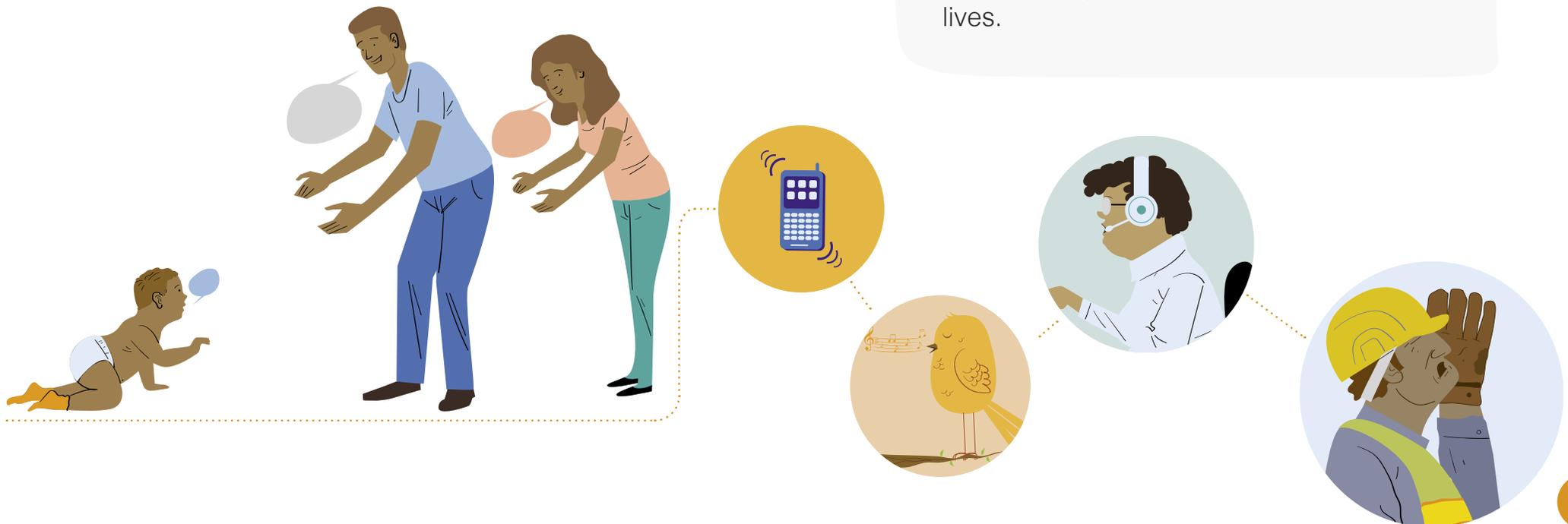


HEARING LOSS AND DEAFNESS

From the moment we are born we use our hearing to make sense of the world around us. It helps us connect with our families and enables us to listen, speak, and communicate our needs. As we get older, our hearing helps us to learn, work, socialize, sense potential dangers, and hear important sounds like a car horn, dog barking, someone calling your name or music playing. Being able to communicate effectively allows us to contribute to and be part of our community.

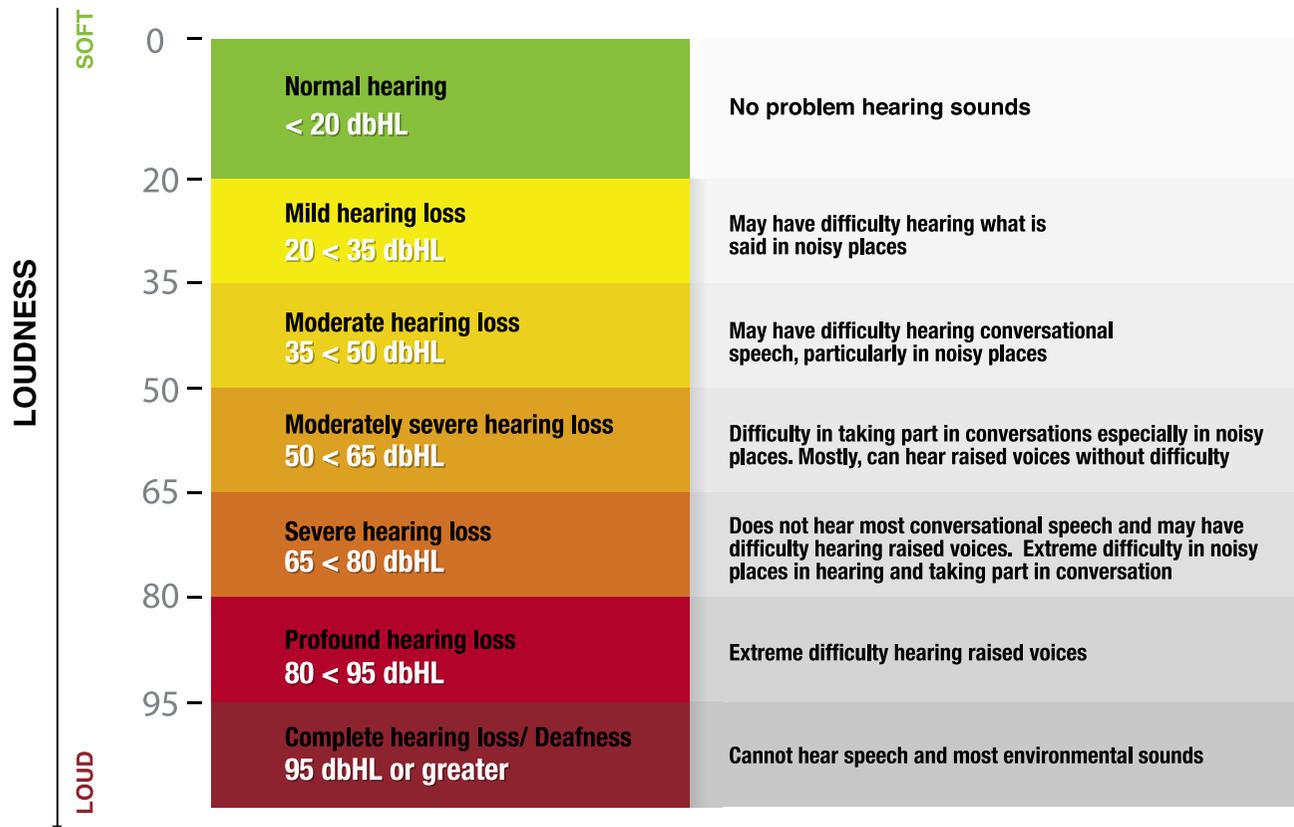
What is hearing loss (HL) and deafness?

Hearing loss is when a person is unable to hear as well as someone with normal hearing. Hearing loss ranges from mild to profound. It can affect one or both ears. Nearly one in sixteen people worldwide have hearing loss that impacts their daily lives.



Hearing loss grades

Audiogram



Teaching tip:

Ask the participants if they have ever experienced hearing loss or met anyone with hearing loss. Ask them to share their own experiences.



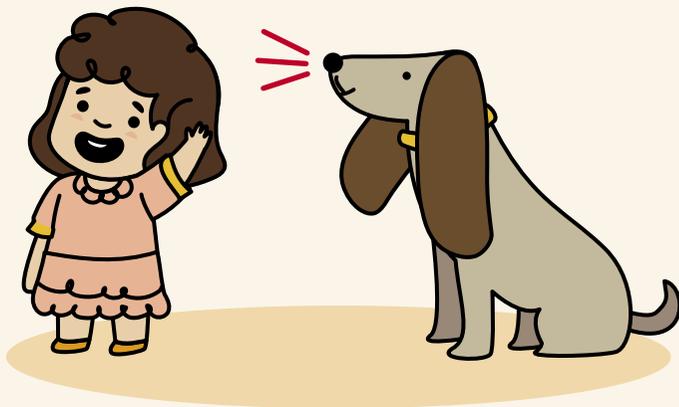
A person with severe or profound hearing loss in both ears, is often called deaf

A person with less severe hearing loss is referred to as hard of hearing.

What is the impact of hearing loss?

Suhaila was born deaf, and has severe hearing loss in both ears. Since she has not had a hearing test, her parents and are unaware that she has a hearing loss. How can this test affect her life?

Babies and children need to be able to hear the sounds of speech so they can develop listening and spoken language skills. All of us learn to speak based on what we hear around us. When a baby is born deaf and does not receive suitable interventions, she will not develop speech and language (including sign language skills). She will fall behind other children with good hearing. Without early diagnosis and proper rehabilitation, Suhaila will find it difficult to go to school, learn, make friends, and later in life, to get a job.



Teaching tip:

Present the scenarios to the participants. Ask them about the possible impact in these scenarios. Ask them if they have ever met or interacted with a deaf or hard of hearing person.

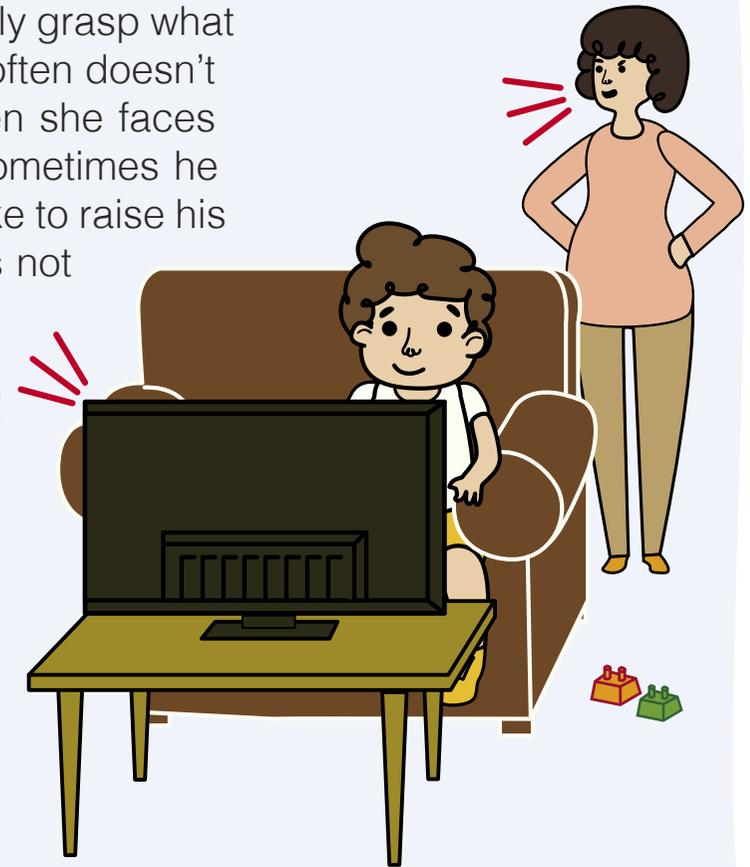
Once you have generated some discussion about each scenario, you can explain the impact using the text provided.



Patrick is a 6 year old studying in the second grade. Due to repeated ear infections, Patrick has a moderate hearing loss in both ears. He can hear but often misses out syllables and words. How can this affect his day to day life, at home, at school and socially?

Children need good communication to learn well in school and fully grasp what is going on around them. As a result of his hearing loss, Patrick often doesn't fully understand when his teacher says in class, especially when she faces away from him or when he sits in the back of the classroom. Sometimes he doesn't understand the questions she asks and hence, doesn't like to raise his hand to reply. As a result of this, the teacher feels that Patrick is not interested in his lessons and is being "difficult".

Even at home, Patrick finds it difficult to understand speech and often raises the volume of TV. His mother also thinks that Patrick is 'difficult' as he often doesn't respond when she calls him. If Patrick's ear condition is not treated, it is likely that he will lag behind academically.





Malicka is a 70-year old grandmother who lives with her family. She has hearing loss and finds it difficult to understand what her children are saying, especially when they are all speaking together or when there is music playing. How can this affect her life?

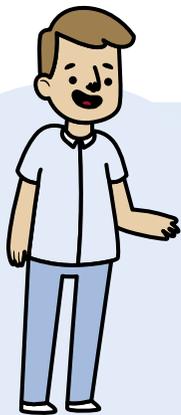
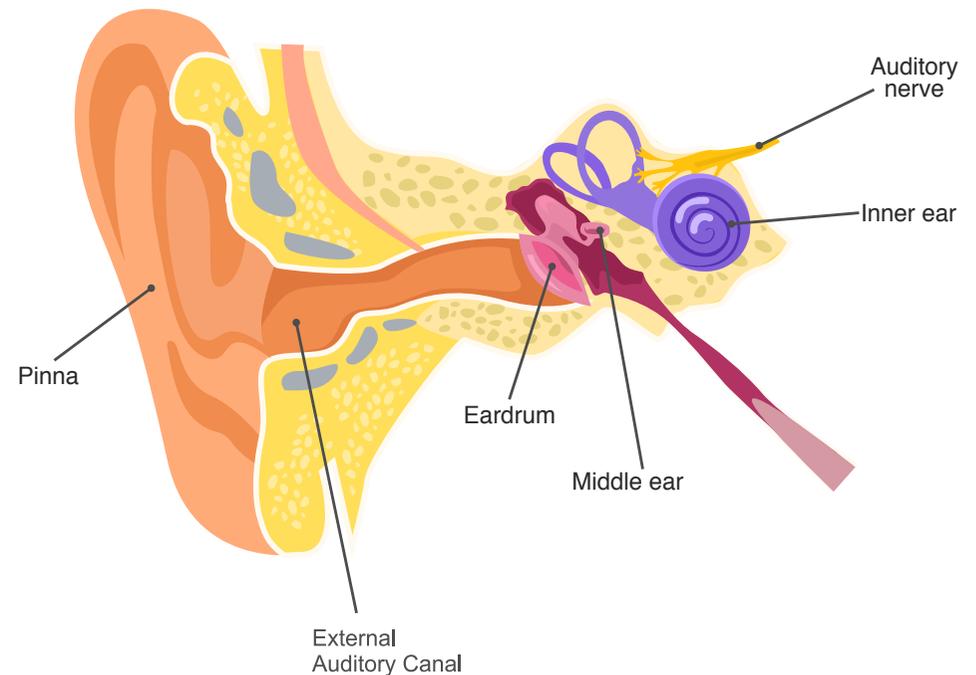
Unable to understand what people are saying, Malicka starts avoiding social gatherings and prefers to stay in her room when her family is having 'fun'. Watching TV with the family has also become difficult, as she has to raise the volume very high and others complain about it. Sometimes, the younger ones laugh when she misunderstands the question and answers incorrectly. That makes her feel hurt and lonely. Like Malicka, many older adults with hearing loss become socially isolated. Without essential support, unaddressed hearing loss can affect their mental health, causing feelings of loneliness, anxiety and depression.



How do we hear?

Our two ears work together to help us differentiate a variety of sounds, including loud or soft sound, and make out the direction of the source of sound. Together, our ears help us to recognise someone's speech, in many different environments. Sound enters and travels through the three parts of our ear before the signal reaches the brain, where it is processed. We are then able to identify the sounds and understand words.

The ear starts functioning even before we are born and language develops rapidly in the first few years of life. In most children that have normal hearing (and cognition), the following landmarks can be observed.



Teaching tip:

The diagram above shows the parts of a ear. You can ask the participants to identify parts of their ear and reference can be made to this diagram when discussing ear conditions and hearing loss.



Milestones for language development

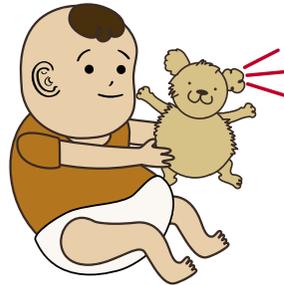
Birth to 3 months old



Responds to very loud sounds.
Blinks in response to a bang.
Wakes up when there is a sudden noise near her/him.

Quietens or smiles when the mother speaks.

3-6 months old



Moves her/his eyes in the direction of sounds. Responds to changes in the mother's tone of voice. Notices toys that make sounds.

Pays attention to music. Coos and babbles when playing.

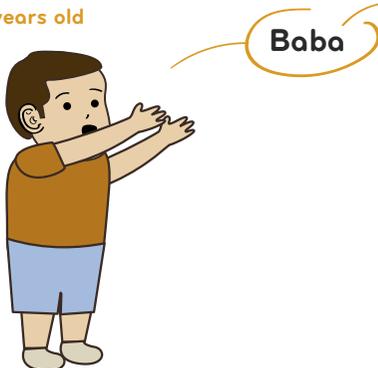
6-12 months old



Turns and looks in the direction of sounds. Turns when someone calls her/his name. Understands words for common items and people (eg water, daddy).

Starts to respond to simple words and phrases, like "No," "Come here," and "Want more?" Babbles long strings of sounds.

1-2 years old



Responds to her/his own name. Start speaking small words like 'Mama', 'Baba', 'Dada' Tries to imitate word which she/he commonly hears.

2-3 years old



Follows 2-part directions, like "Get the spoon and put it on the table."

Understands new words quickly Puts 3 words together to talk about things.

3 years and older



Responds when called from another room. Follows longer directions, like "Put your pajamas on, brush your teeth, and then pick out a book".

Most people understand what the child says.

Hearing Loss: causes, suspicion and action

Many factors can affect our hearing through the course of life:

Babies and infants

Causes:

Problems during pregnancy can cause problems with the growth and development of a baby's hearing. This can cause a baby to be born with a hearing loss or develop a hearing loss soon after birth.

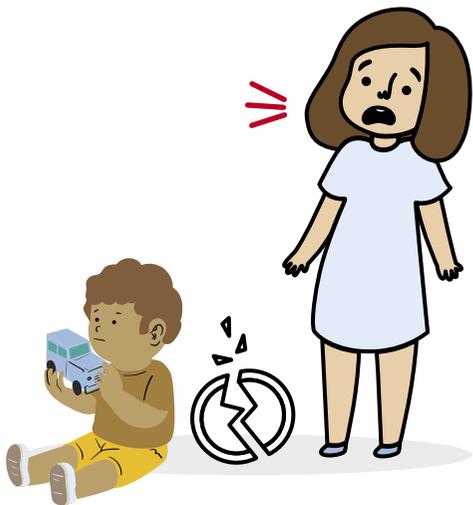
Common causes of hearing loss before, during or immediately after birth include:

- Hearing loss inherited directly or indirectly from parents.
- Premature birth and/or low birth weight.
- Birthing difficulties where the baby may suffer lack of oxygen (hypoxia).
- Infections in the mother, such as rubella (german measles), syphilis, cytomegalovirus infection and toxoplasmosis during pregnancy can cause damage to the baby's inner ear.
- Use of certain medicines that damage hearing.
- Jaundice, especially where it was not treated.

It is important to note that many babies and children with hearing loss may have no obvious cause. For this reason, it is important to screen all babies for hearing loss soon after birth.

Teaching tip:

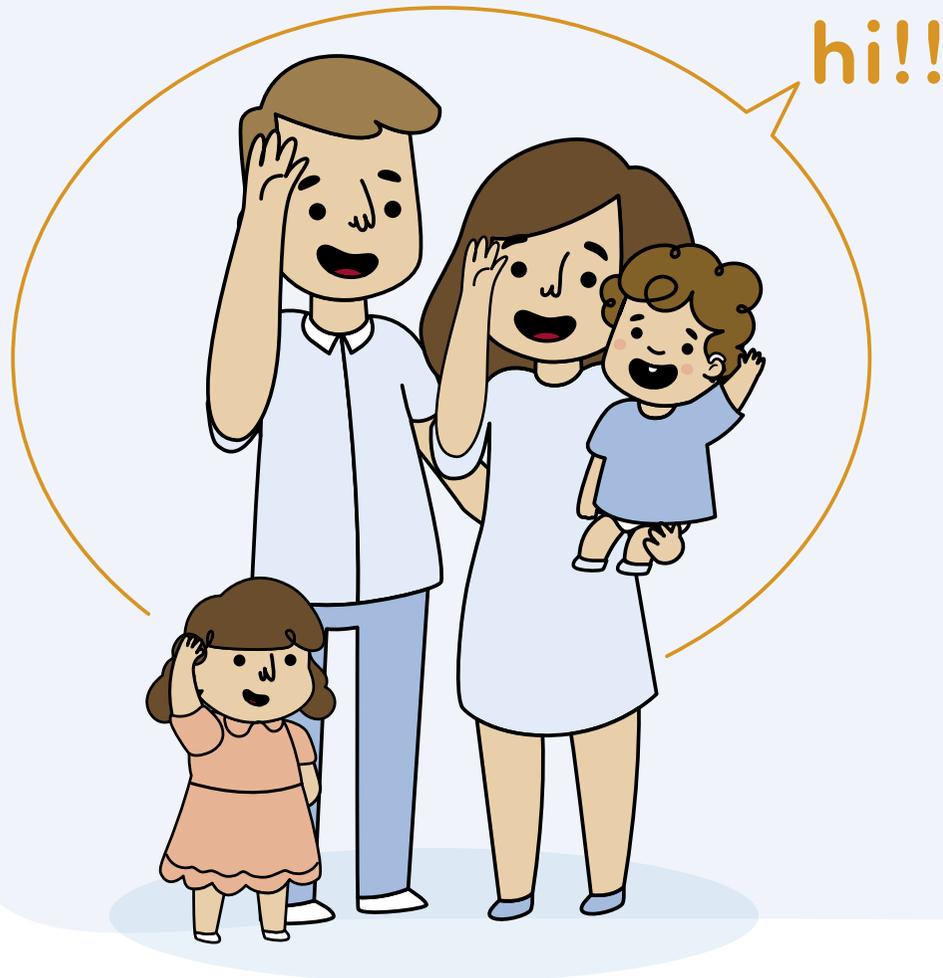
Generate discussion by asking the participants about what they think are some common causes for hearing loss in babies, children and adults.





When to suspect hearing loss in a baby? When the baby:

- has any of the risk factors mentioned above.
- is not responding to sounds, especially mother's voice.
- is not startled by loud sounds, eg a loud bang close to her.



A mother's story

Three years ago, we were blessed with our sweet daughter, Amina. After a few months, we took her to the clinic for a checkup, and the nurse said she was healthy. At home, we noticed that if we called her name when we were standing behind her, she didn't turn around to see who was calling her. Also, if there was a loud sound, she didn't react.

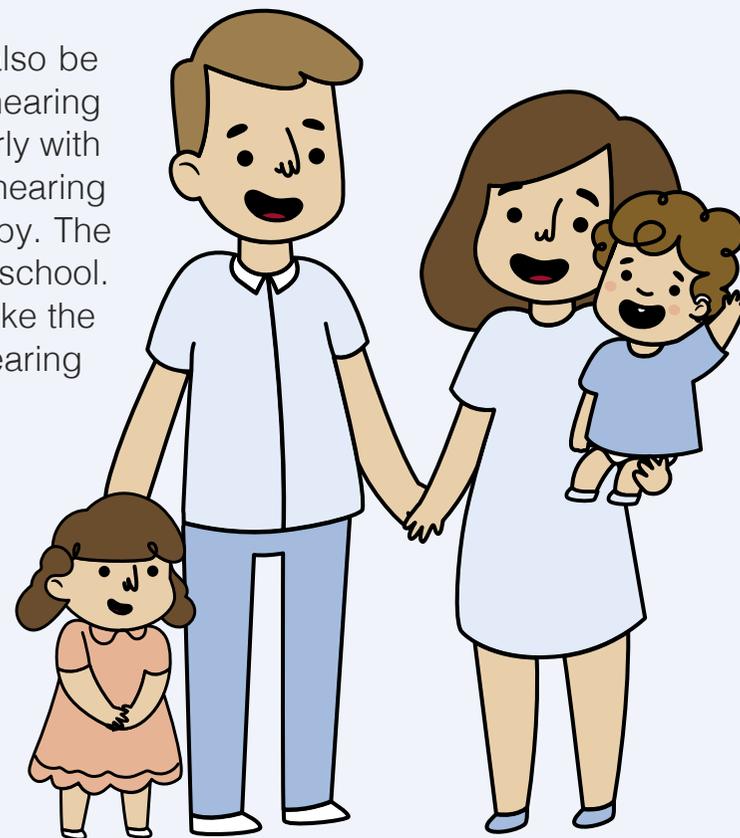
We took her back to the clinic when she was 2yrs old and explained that Amina was not responding when we talked and played with her. The nurse checked her ears and told us her ears were healthy, but suggested that Amina should be tested to see if she can hear well. She also explained that the sooner we found out if Amina had a hearing loss the better it was. We understood that it was very important to be able to communicate with our child. We took Amina to have her hearing checked and were told that Amina was deaf. They explained that Amina's, family and friends could learn to use sign language to include our child. We also had to make sure we stood in front of Amina when we wanted to talk to her.

At first this was very upsetting but we all learned sign language and Amina became very good at 'talking' to us or telling us what she wanted. We hope that the teachers will also be able to learn and use sign language as Amina needs to go to school and be educated.

Having a deaf child and learning about ways of including her in our everyday life showed us and our community that deaf children can do anything except hear.

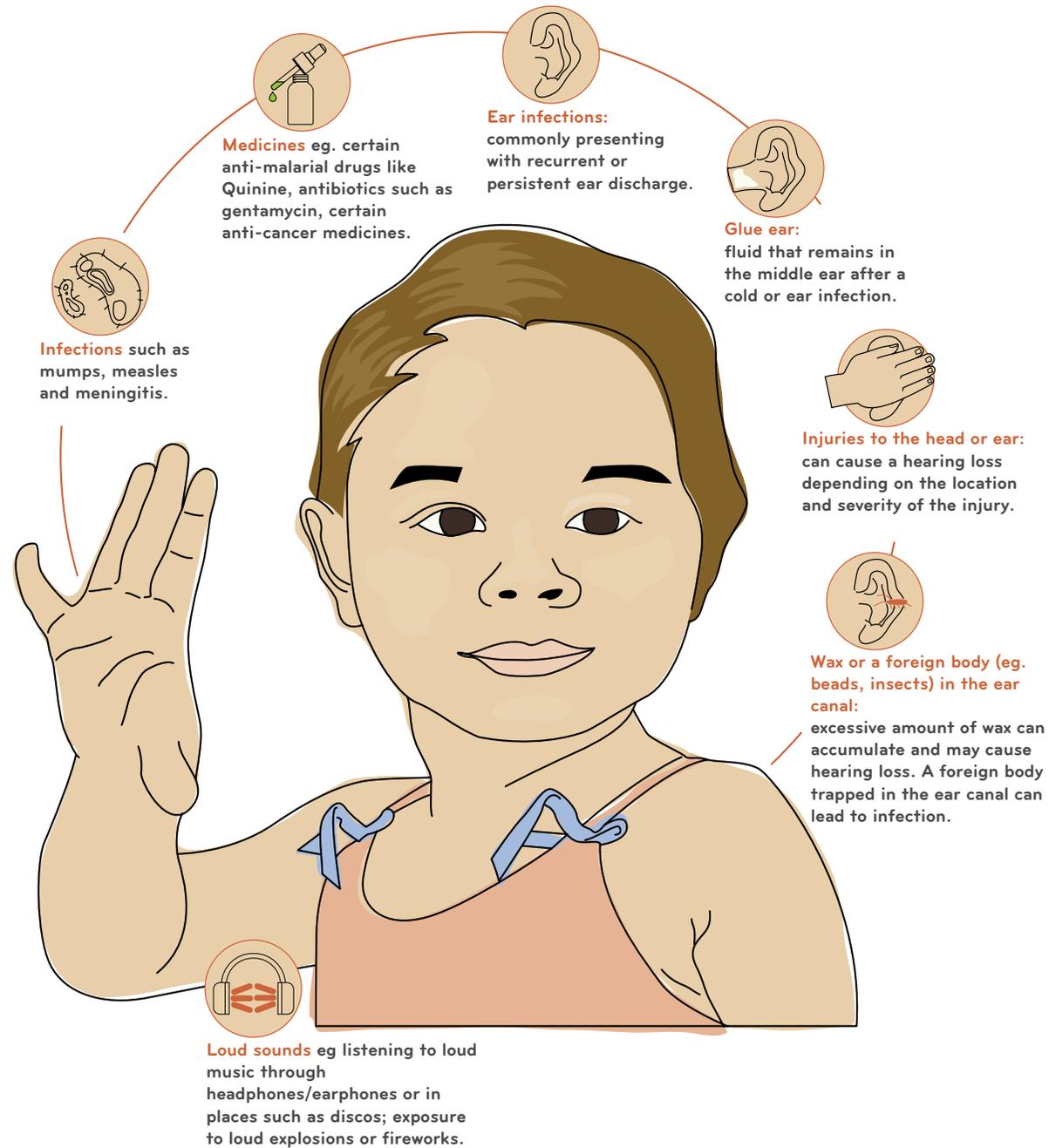
When our son was born last year, we were worried that he may also be deaf. The clinic tested his hearing and they told us he had some hearing and would be able to hear people talking and other sounds properly with a hearing aid. They guided us to a place where he was fitted with hearing aids. Now, we could talk and sing to him he was a happy baby. The hearing aids will also be important for him so that when he goes to school. With them, he will be able to hear the teachers and learn just like the other children. We would show the teachers how to manage his hearing aids and how to change the batteries at school.

Our friends and community are very supportive and now understand how important it is to check babies, children, and even adults regularly to see if they have a problem in hearing.



Children

Causes of hearing loss in children include:



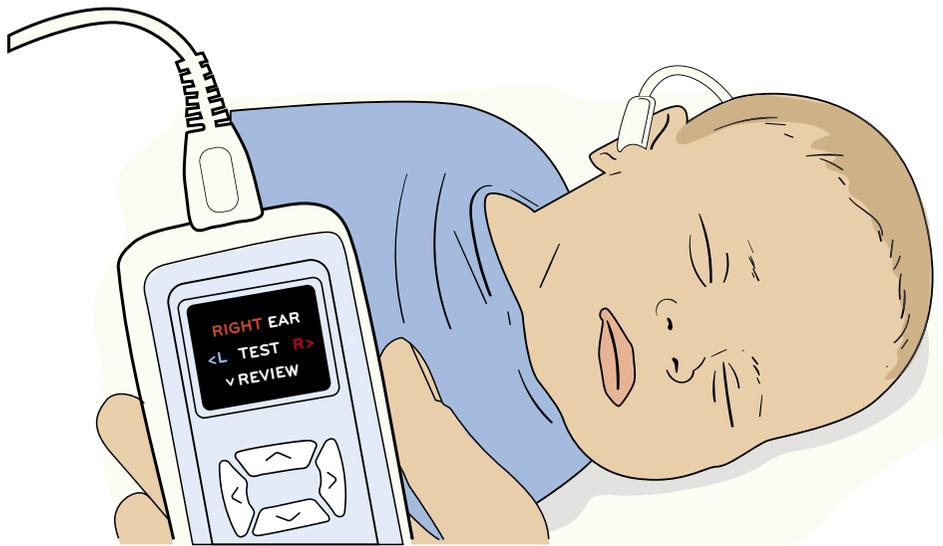
When to suspect hearing loss in a child?:

- Child is not speaking or showing evidence of speech and language development at a level expected for children of their age (as shown on page 11).
- Child often asks you to repeat what you say.
- Child turns up the volume of the television or has trouble hearing what is being said over the phone.
- Child is performing poorly at school or has behavioral problems. In many cases, this could be due to hearing loss, since the child is not hearing instructions properly and so won't (because she can't hear well) respond correctly.
- Child has any features suggesting an ear infection, such as:
 - history of discharge (pus) from the ear/s, also referred to as runny ears.
 - complaint of pain, feeling of blockage or ringing in the ears.
 - fever with earache.

Do **not** attempt to remove ear wax or foreign body at home, as this may cause 'damage to the ear. Seek help at a clinic.



What to do when you suspect hearing loss in a child?



If you suspect that an infant or a child may have hearing loss, make sure that you send her for a hearing test.

With special equipment, hearing can be checked even on the first day of life. In babies and children up to five years of age, hearing can be checked using:

- otoacoustic emission testing (OAE testing)
- automated and complete auditory brainstem response testing (AABR and ABR)

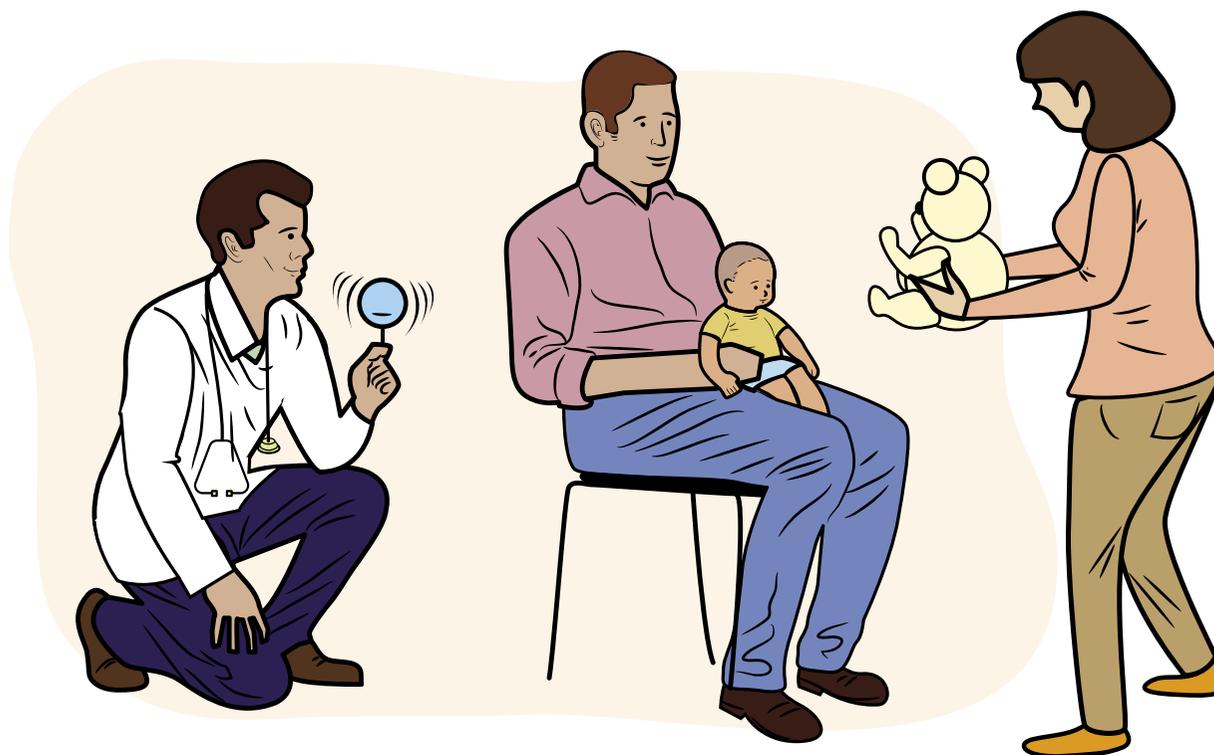
Teaching tip:

Demonstrate the use of the noisemaker; hand out a few noisemakers and ask participants to practice its use.



In children older than five years; hearing can be tested through an audiometry test. More information about these tests is given on page 37.

Where such hearing tests are not easily available, guide the parents to a health facility where her hearing can be assessed. In case you are not sure whether you should refer the child for a test, you can use a simple noisemaker to check the child's response. **You should also raise the issue with local health authorities and advocate with them to make hearing care available.**



Check hearing with a 'Noisemaker'

You can check a baby's hearing from about nine months of age with a simple "noisemaker". Noisemaker: you can use a rattle or make a noisemaker by putting a few grains of salt, sand or sugar in a plastic container and moving them around. The noisemaker should make a sound about as loud as a whispered voice. A few grains

of salt, sand or sugar moved around (NOT shaken) on a plastic container is a good high frequency sound. If you do not have a noisemaker, try rubbing your fingers behind the baby's ear. The baby should respond by turning in the direction of the sound.



A teacher's story



I was becoming very annoyed with Seema. She was always looking lost and sometimes she did not respond when I called her name. She looked so confused when I asked her a simple question and could not answer the questions I asked in class.

At that time a health worker in our village organized an awareness session. Here she explained that hearing loss is quite common. She explained some common signs of hearing loss, like asking someone to repeat themselves or not being able to make out what is being said. She also told us about the causes which can lead to hearing loss in children and in adults.

At that time, I realized that Seema's problems might be caused by hearing loss. The next day, I asked her about her ears and some common causes of hearing loss. Seema told me that she had ear discharge off and on, since the age of 5 years.

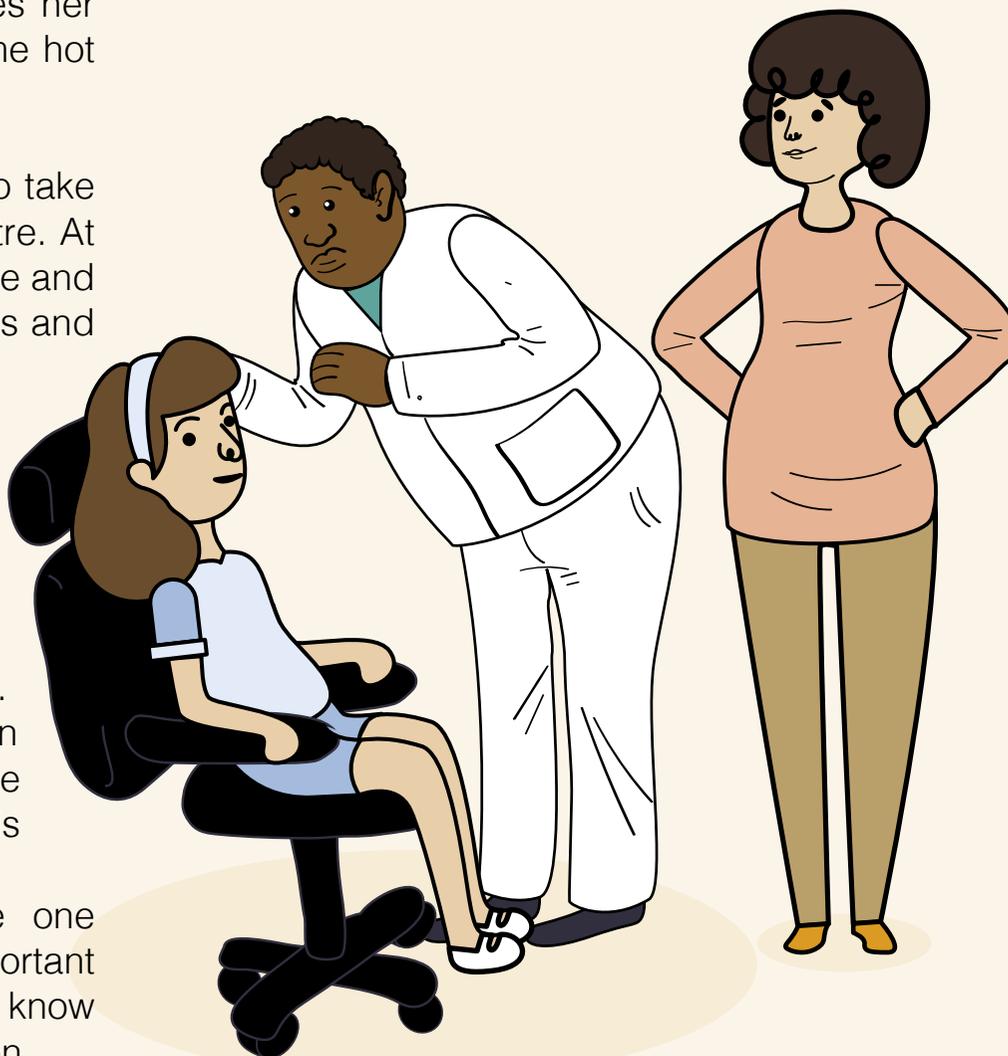
Seema told me that it was common in her community for children to have ear discharge. At times her ears ached and her mother would pour some hot oil into them.

I spoke to Seema's mother and asked her to take Seema to a doctor at the nearby health centre. At the centre, Seema underwent some tests. She and her mother were told how to care for her ears and not to instill oil into them.

I made Seema sit in the front row in the classroom and made sure that she could hear clearly what was being said.

Soon, Seema's grades improved and she became more responsive. A few months later, Seema underwent an operation for her ears. Since then, she is able to hear better. Even though she is not in my class any more, I see her around. Her teacher tells me that Seema is doing well in class.

I think awareness sessions such as the one organized by the health worker are very important for the community and specially teachers to know more about common issues faced by children.

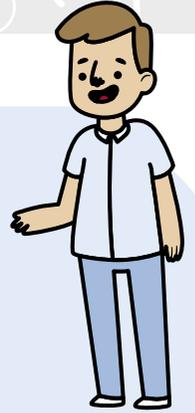


What can be done if a child is diagnosed with hearing loss?



Teaching tip:

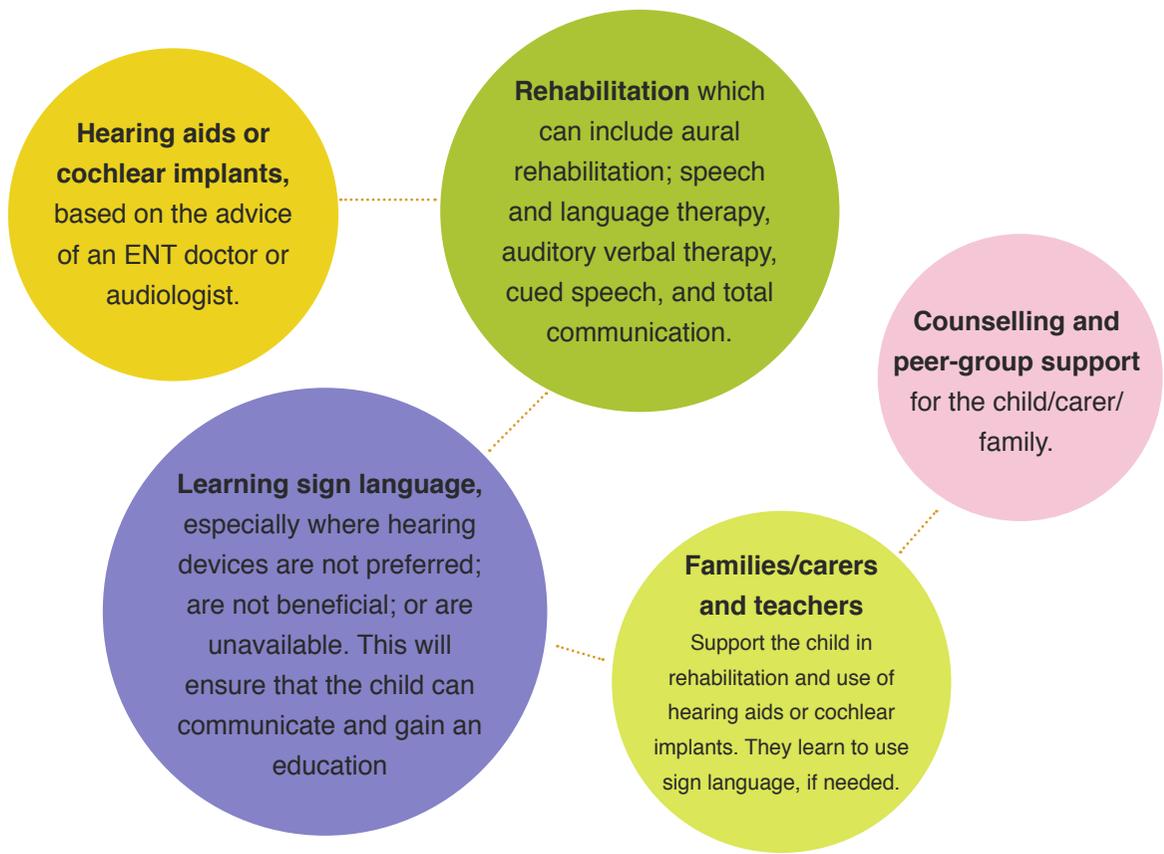
Ask the participants what they know about this. Why is it important to pay attention and intervene early? What are the options for a child with hearing loss? Ask their views and discuss the answers detailed below.



Once hearing loss is identified its management, must be discussed and started at the earliest possible. Getting help as soon as possible can ensure that:

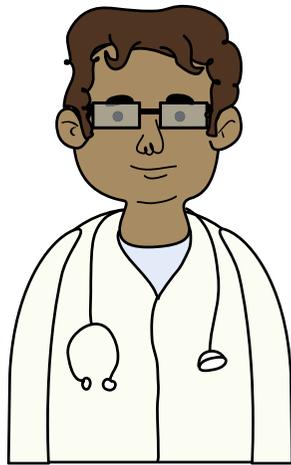
- the child develops language skills, gains education, and can be socially integrated.
- In a child with an ear diseases can get diagnosed and treated, so that hearing loss and other complications are avoided.

Interventions for children with hearing loss include:



Early intervention leads to better outcomes in children. For instance, infants whose hearing loss are diagnosed by 3 months after birth and intervention implemented by 6 months of age can develop speech and language similar to their peers with normal hearing.

What can be done in case of ear diseases?



When any person shows signs suggestive of an ear disease, should be referred to a doctor for examination and diagnosis. Treatment depend on the nature of the disease and can include:

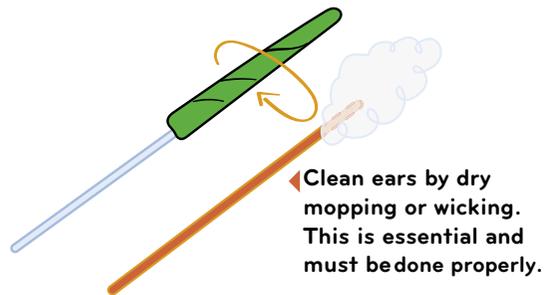
Medical treatment with oral medicines or ear drops
Ear surgery

Treating the ear disease early may prevent or reverse any hearing loss it caused. You can help those with ear discharge/infections by guiding them properly.

! Suspect ear disease in case of:

- Pain in the ear
- Ear discharge
- Persistent heaviness in ear
- Ringing in ear
- Difficulty in hearing

Care for discharging ears:



Teaching tip:

Ask the participants about how they can suspect ear diseases. Refer to the points listed above for discussion.



Teaching tip:

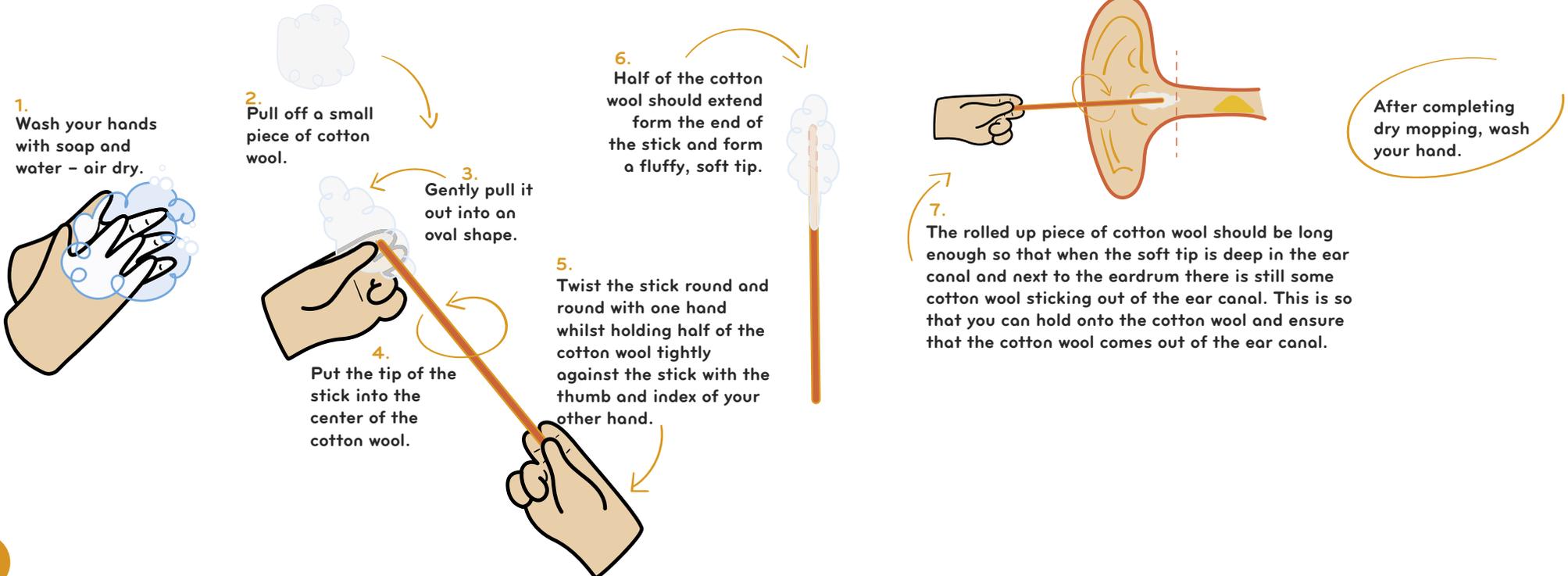
Ask the participants if they have ever experienced hearing loss or met anyone with hearing loss. Ask them to share their own experiences.

Dry Mopping

- Only clean ears with a dry mop when the ear is discharging.
- When the ear is dry **it must not** be cleaned with a dry mop.
- A dry mop is not the same as a “cotton bud” or “q-tip”.
- “Cotton buds” or “q-tips” **must never** be inserted into the ear as they are too big and the cotton wool is wound onto the stick too tightly.

How to make a dry mop

Materials: a thin wooden stick applicator and cotton wool



How to make and use a tissue wick for mopping the ear

Materials: a small piece of absorbent cotton cloth or a piece of soft, strong tissue paper – NOT flimsy toilet paper that can tear in the ear.



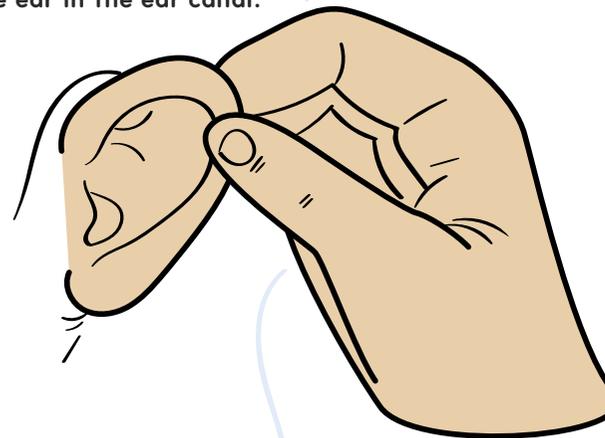
3. Place the wick into the ear canal. It will absorb any discharge or blood in the ear canal.

4. Leave it in for a minute.



2. Gently pull the pinna away from the head. This helps straighten the ear in the ear canal.

1. Make a wick by rolling the cloth or the tissue paper into a pointed shape.

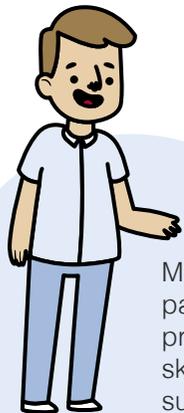


5. Remove the wet wick and inspect it. Is there pus on the wick?

6. Replace with a clean wick.

7. Repeat until the wick stays dry.

Note: Dry mopping is recommended to clean the ear canal in the clinic. People with discharging ears could be taught dry mopping/wicking to clean the ears at home.

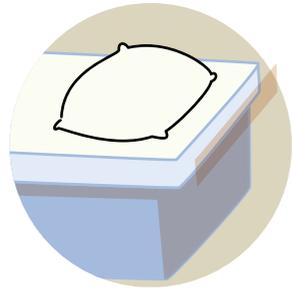


Teaching tip:

Make all participants practice these skills under supervision.

Follow these steps when putting in eardrops:

1. Clean out the ear canal by dry mopping.



2. Lie the person on their side or tilt their head so that their ear is pointing upwards.

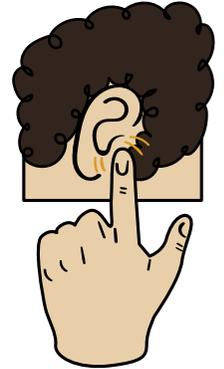


3. Gently pull the earlobe backwards and upwards to straighten the ear canal.



4. Drop 2 or 3 eardrops into the ear canal.

5. Move the pinna to make sure the eardrops go to the bottom of the ear canal.



6. Put in 2 or 3 more eardrops.

7. Pump the tragus (repeatedly push in and out).



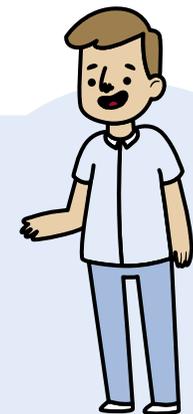
8. Keep the person on their side for 5 minutes.



Wipe away any eardrops that run out of the ear when the person sits up

Teaching tip:

Demonstrate this (without actually using ear drops) and make sure the participants practice this under supervision.





Adults

Hearing loss can occur at any age. Common causes in adults include:

1

Loud sounds:

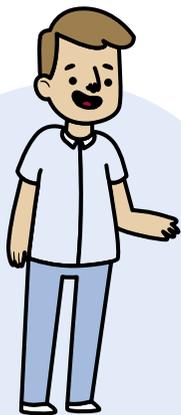
- Prolonged noise exposure from working in noisy places e.g factories with loud machinery, music industry, working with guns and other weapons.
- Listening to loud music through headphones/earphones or in places such as discos.
- Single exposures to a high intensity sound like a blast or an explosion.

2

Medicines that can damage hearing: certain antibiotics, antimalarials, anti-cancer medicines and injectables for drug resistant TB.

Teaching tip:

Ask the participants if they have ever had any experience with loud sounds and how that affected them.



3

Injury to the head or ears

4

Untreated, prolonged ear infections

5

Age-related hearing loss

6

Ear diseases indicated by recurrent or persistent ear discharge or pain.

Do not stop the use of any medicines without consulting a doctor. If suspected that a medicine may put hearing at risk, seek the doctor's advice. If the medicine taken is known to affect hearing, then hearing should be checked regularly.

Our hearing may decline as we grow older. About one in three people older than 65 years have age-related hearing loss.

How can you suspect hearing loss in an adult?



A person with hearing loss

- Not respond when called to or may respond inappropriately.
 - Speak much louder than usual (this is because their own voice sounds low)
 - Have difficulty talking over the phone.
 - Become withdrawn, quiet and isolated.
 - Turn up the volume to hear the TV or listen to music.
 - Report that he can hear but cannot make out what is being said/ 'I can hear you talking but don't know what you're saying', ie sounds are muffled, or that others are mumbling.
 - Have unclear speech.
 - Have difficulty in hearing high frequency sounds like doorbells or telephone ringing.
- Complain of a ringing sound in the ear (tinnitus).
 - Have a history of ear discharge.



What to do when you suspect hearing loss in an adult?

Encourage the person to get his/her hearing checked. This can be done by:

- A pure tone audiometry: is usually done at a clinic or other health facility.
- Those adults that have a smartphone can use the free hearWHO app to screen for the hearing loss. If the person has a score below 50 on the hearWHO test, he or she must definitely get a hearing test without delay.

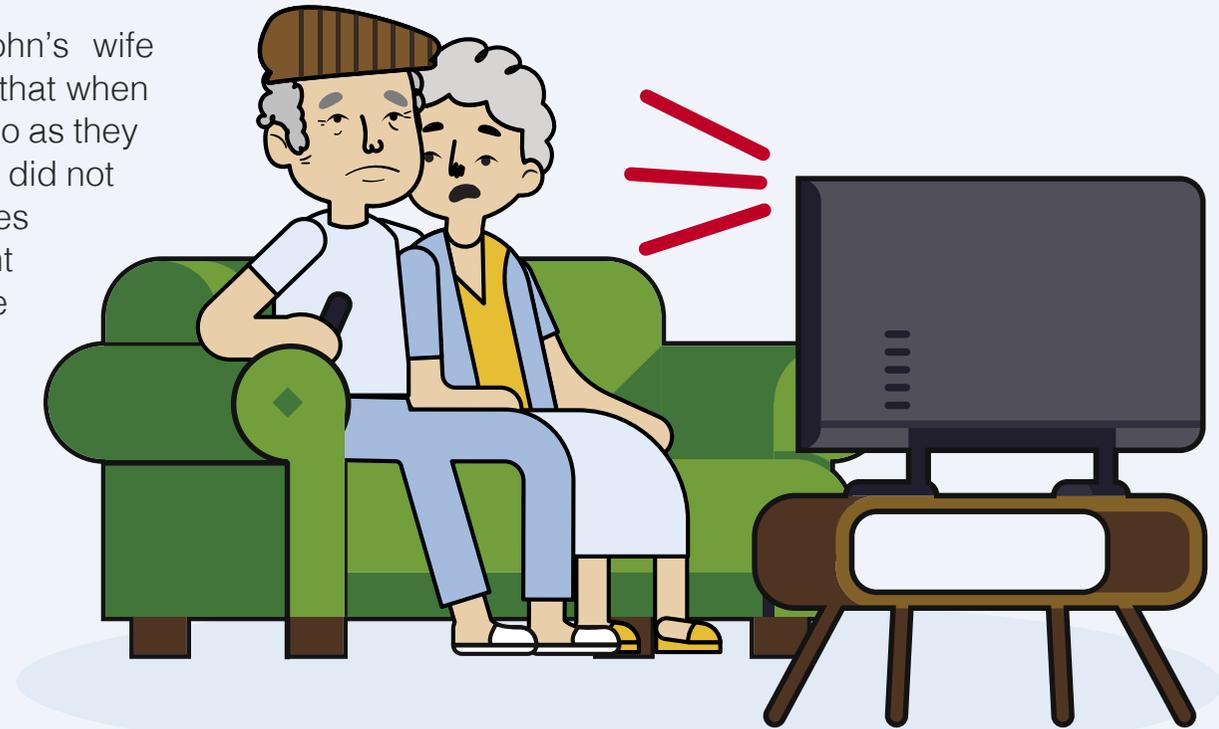
CAUTION: If an adult reports a sudden hearing loss or has a loss in just one ear, he should see a health worker as soon as possible.



John's story

John retired after working in a very noisy factory for 34 years. At home he often turned up the television volume. At times, he wouldn't hear his wife when she asked him what he would like for dinner.

These changes appeared gradually. John's wife spoke to the health worker who explained that when people work in a noisy environment and also as they become older they may not hear well. John did not know that people working in noisy factories needed to wear ear protection to prevent hearing loss. John's wife told him what the health worker had said but he denied that he might have a hearing loss. John said the family muttered when they spoke.



After a few months, John's wife finally persuaded him to visit the health worker who examined his ears and asked him to get his hearing tested at a nearby clinic.

After the test, the audiologist explained to John that he had moderately severe hearing loss. He then explained that older people with hearing loss may hear others talking, but often they do not understand what is being said. Especially if they are in a noisy environment, people seem to mumble when they speak. John's wife said he no longer enjoyed going out to celebrate family events because he could not hear what people were saying. John explained that he felt left out and this was making him feel very lonely.

The audiologist suggested that hearing aids may help John hear what people say, but he must visit the clinic regularly after he gets the hearing aid to get its full benefit.

John and his wife are managing his hearing and hearing aids with the support of the audiologist, as well as their family and friends. Their friends have learnt to talk one at a time and speak a little more slowly and clearly so that John can be included in the conversation. This has made a big difference to everyone. But mostly to John, as he is no longer avoiding family, friends and social get togethers.

Now that John and his family understand the impact of hearing loss in older people, they are raising awareness in the community about the importance of checking one's hearing.





What can be done if hearing loss or ear disease is identified in an adult?

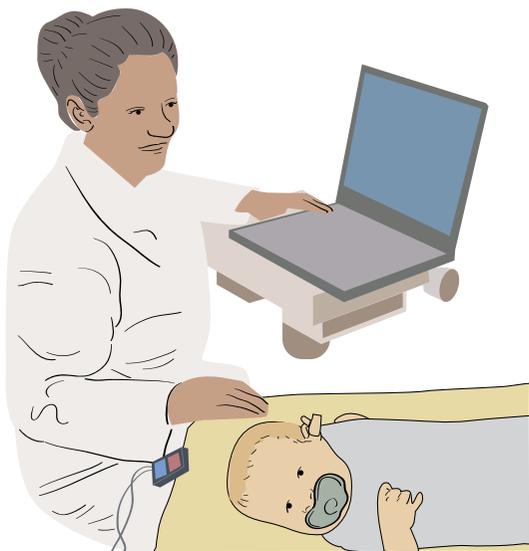
- It is important to identify what the cause of hearing loss is and address it, e.g. noise, medicines, ear diseases.
- Adults with hearing loss are likely to benefit from use of devices, such as hearing aids and cochlear implants.
- Adults also benefit from aural rehabilitation and support to get the maximum value from their hearing.

In adults, as in case of children, it is important that hearing loss be identified as early as possible and that rehabilitation and use of devices is started without delay.

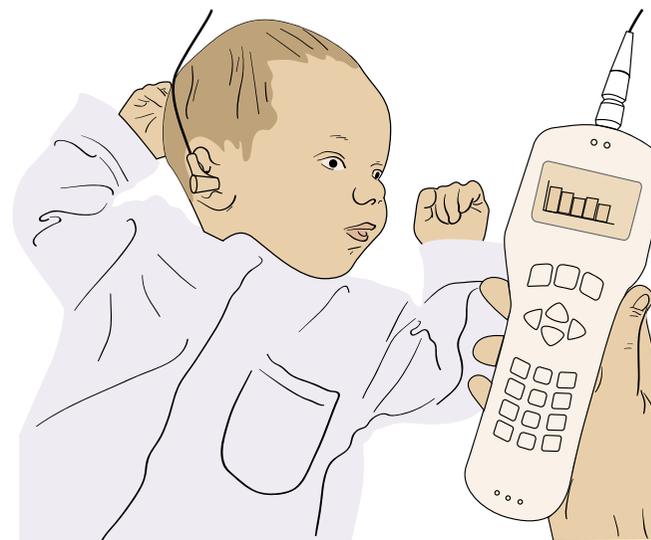


How is hearing tested?

Hearing can be tested at any age. Different tests are done depending on the person's age to identify the type and the severity of hearing loss. These include:



1. Otoacoustic emissions (OAE) or automated auditory brainstem response (AABR) tests that can be done on babies and children up to five years of age. These tests are often carried out using a handheld device, while the child is asleep. They are quick and easy to perform. When a child fails this test repeatedly (twice), s/he be sent for an auditory brainstem response test.



2. Auditory brainstem response test (ABR): this test is usually only available at specialized centres. This test is often carried out after sedating the baby.

OAE or AABR tests could be available at a health facility close to you. Find out from the health worker/doctor about the availability of such tests in your area. It is a good idea for every child to have their hearing checked soon after birth, in order to identify hearing loss early.

How is hearing tested?

Children older than five years and adults:



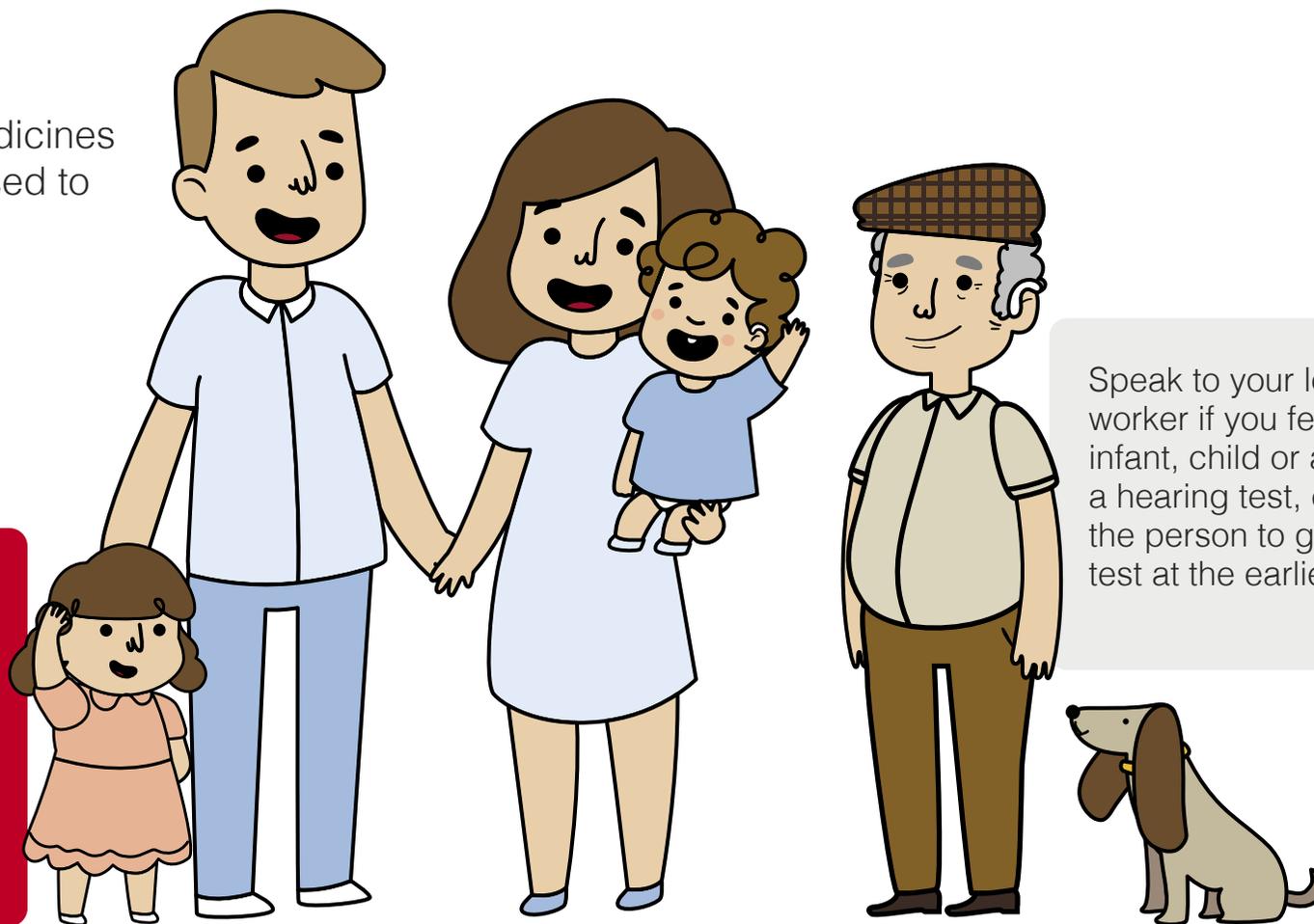
- 3. Pure Tone Audiometry:** children older than five years and adults can have their hearing checked by a simple test, using the pure tone audiometry (PTA). In this test, sounds of different pitches are presented into each ear and the person is asked to respond when s/he can hear these.



Hearing check-ups should be routinely done for:

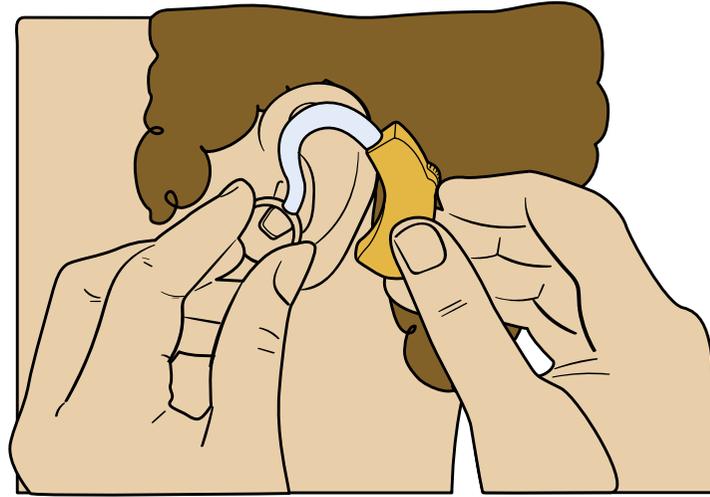
- Babies
- Children
- Older adults
- Those using ototoxic medicines
- Those exposed to loud sounds

Remember, the earlier hearing loss is detected, the sooner an intervention can be implemented.



Speak to your local health worker if you feel that infant, child or adult needs a hearing test, encourage the person to get a hearing test at the earliest.

Hearing devices:



Teaching tip:

Ask the participants if they have ever seen anyone using a hearing aid and how they think it works. Ask them about cochlear implant. Have they ever heard of a cochlear implant.



What is a Hearing aid?

A hearing aid is an electronic device that is worn on the ear. It helps to amplify sounds to allow a person with hearing loss to hear better. There are many different types of hearing aids and they come in various colours, sizes and shapes.

A behind-the-ear hearing aid: has two parts (the hearing aid and the earmould), which are joined together by a thin, clear tube:

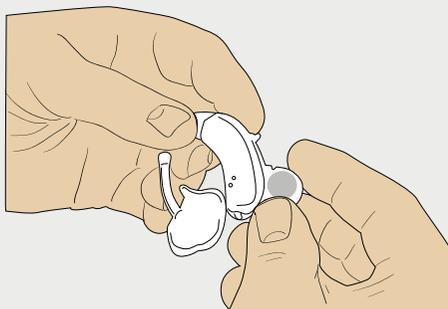
- the hearing aid sits over and behind the ear;
- the ear mould goes into the ear

An in-the-ear hearing aid: is smaller and is specially shaped to fit into the person's ear.

Care of the hearing aids

- Hearing aid is small and can easily be lost or damaged.
- Keep hearing aid in a safe, cool place when not using it.
- A hearing aid must be kept dry. If it absorbs moisture, it may not work properly. Take it off while bathing.
- Every night, open the battery drawer and place the hearing aid into a sealed plastic tub, with something dry e.g. fine tissues or rice.
- Make sure it is switched off when not being used, in order to save battery life.
- Keep hearing aid away from water and heat e.g. a stove or flame.

How to check the battery is working:



- Remove the hearing aid from the ear and take off the earmould.
- Switch the hearing aid on and turn the volume control to the highest setting.
- Place the hearing aid in the palm of your hand.
- If there is a continuous whistling sound, it indicates the battery is working.
- If there is no whistling sound, the battery should be replaced. If there is still no whistling sound after inserting a new battery, then there could be a problem with the hearing aid, you need to get it checked.

KEEP HEARING AID BATTERIES AWAY FROM LITTLE CHILDREN!

Children may swallow the batteries, leading to serious complications requiring surgery to remove them.

Hearing aids use batteries and these must be changed about once in 7 to 10 days, depending on how much it is worn. If the hearing aid stops working, try changing the batteries first. It is important to check the batteries in a child's hearing aids every day.

The earmould must be cleaned every day and wiped with a dry cloth. Once a week, you can remove the earmould and its tube from the hearing aid and wash in soapy water. This will make sure that any wax blocking the earmould is cleaned.

Hearing aids use

When wax blocks the earmould, the hearing aid can stop working.

The hearing aid can make a whistling sound when it is not inserted correctly into the ear.

The hearing aid itself must never get wet, or it may be damaged and stop working.

Every few months, the tube that connects the earmould to the hearing aid will need replacing.

The earmould itself will need to be replaced every year. This will need to be done more often in infants and children to ensure the mould fits the child's ears, as their ears are growing. If the earmould is too small for the child, it may cause the hearing aid to whistle.

What is a cochlear implant?

A cochlear implant is an electronic medical device for people with a severe or profound hearing loss, for whom hearing aids are not strong enough. Unlike a hearing aid, a cochlear implant converts sounds into electric signals. These signals stimulate the little hairs in the inner ear and are then carried by the hearing nerve to the brain. The brain understands these sounds or speech and so the person is able to hear better.

In order to have a cochlear implant, an individual needs an operation.

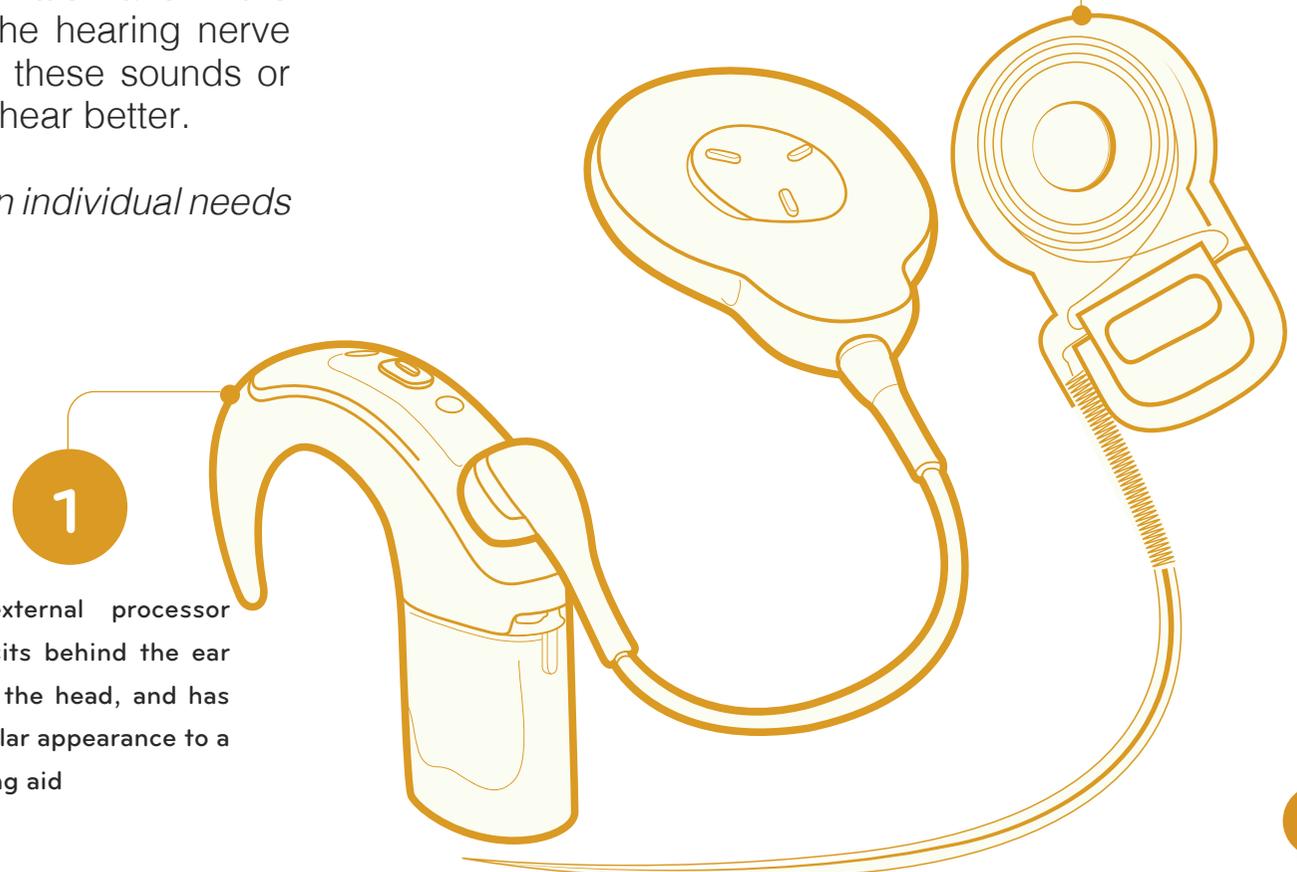


The cochlear implant has 2 parts:

1 An external processor that sits behind the ear or on the head, and has a similar appearance to a hearing aid

2

A second part, which is placed under the skin, behind the ear through an operation.



Shreya's story

When Shreya was 7 months old, we celebrated the Indian festival of Diwali in the traditional way with lights, sweets and firecrackers. That was when I first noticed that Shreya was not responding to sounds as she did not startle or react, even when loud crackers were being burst. Soon after that, my husband and I took her to a doctor who sent her for hearing tests.

After the tests, it became clear that Shreya was deaf. Our family had never met anyone deaf before this and we were all very worried. We felt that without hearing, Shreya would not be able to develop speech or go to school.

The doctor guided us and informed us about cochlear implant and that this was a possibility for Shreya. Thanks to the government's programme, we decided to get her implanted. At 3 years of age, Shreya started rehabilitation.





Our family had to work hard for her rehabilitation. We took her for therapy regularly and went back to see the audiologist when called. As a result, Shreya soon started to understand what was being said and slowly started speaking. We were overjoyed and continued our efforts.

Now ten years old, Shreya attends the same school as her older brother and loves to study sciences. She also loves to paint and dance. But what she loves most is talking. Sometimes, she speaks so much that we have to tell her to stay quiet!

We now tell all our family and friends that hearing loss can be addressed. It is important that parents should take the child for assessment if they suspect a hearing loss. It is important to stay vigilant and act early.



Supporting people with hearing loss

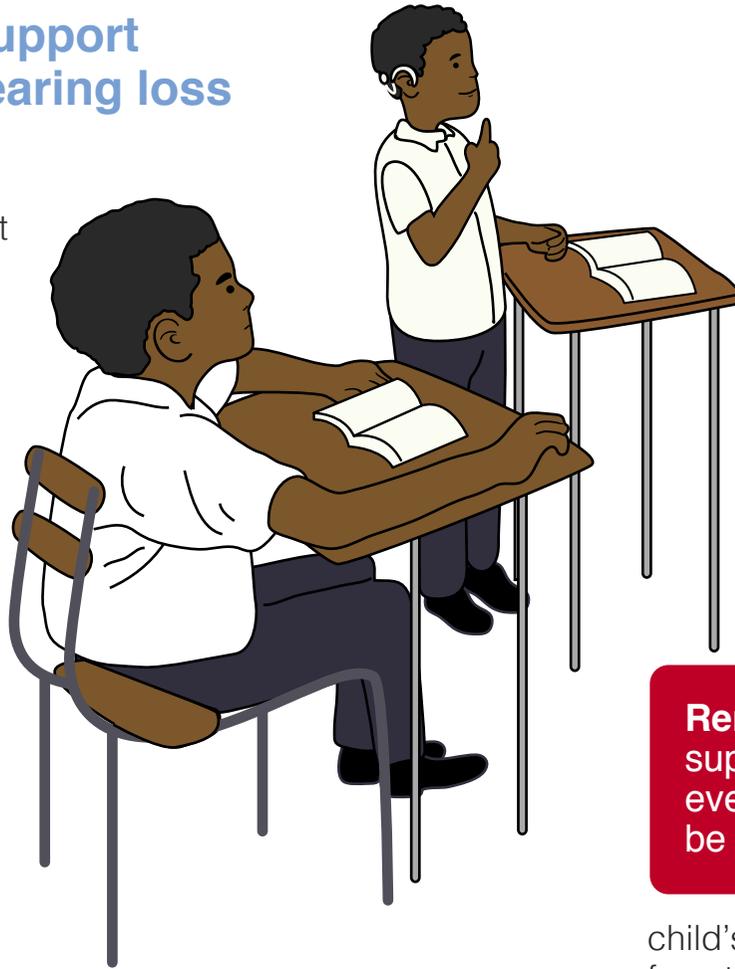
How to speak with someone who is hard of hearing?

- Speak clearly and slowly. Don't shout!
- Stand in good lighting and face the person so they can see your face when you speak
- Do not exaggerate or distort lip movements as this might make it harder for the person to follow what is being said.
- Try to keep background noise to a minimum, especially at school and at work, as loud background noise can make it difficult for someone with hearing loss to hear, even with a hearing aid.
- If there is a hard of hearing person in a group (social, family or work) ensure people talk one at a time. This enables the hard of hearing person to be included in conversations.



What can I do to support someone with a hearing loss or deafness?

- Encourage them to visit a clinic and get their hearing checked.
- Support them in the use of hearing aids or implants if they use these. Help them check its battery or to see if the tubing is blocked with wax. Young children and older adults may require assistance with this.
- Teach children to self-advocate for their needs at home and at school. For example, encourage children to inform their teacher or parents when the hearing aid stops working, or to ask people to repeat themselves if they were unable to hear properly.
- Encourage people to be open about their or their child's hearing loss and not to hide it.
- Guide parents to inform teachers at school of their



Remember that with the proper care and support people with hearing loss can do everything, except hear normally. They must be included in all activities.

child's hearing loss and encourage the teacher to face the child directly as much as possible while speaking to her.

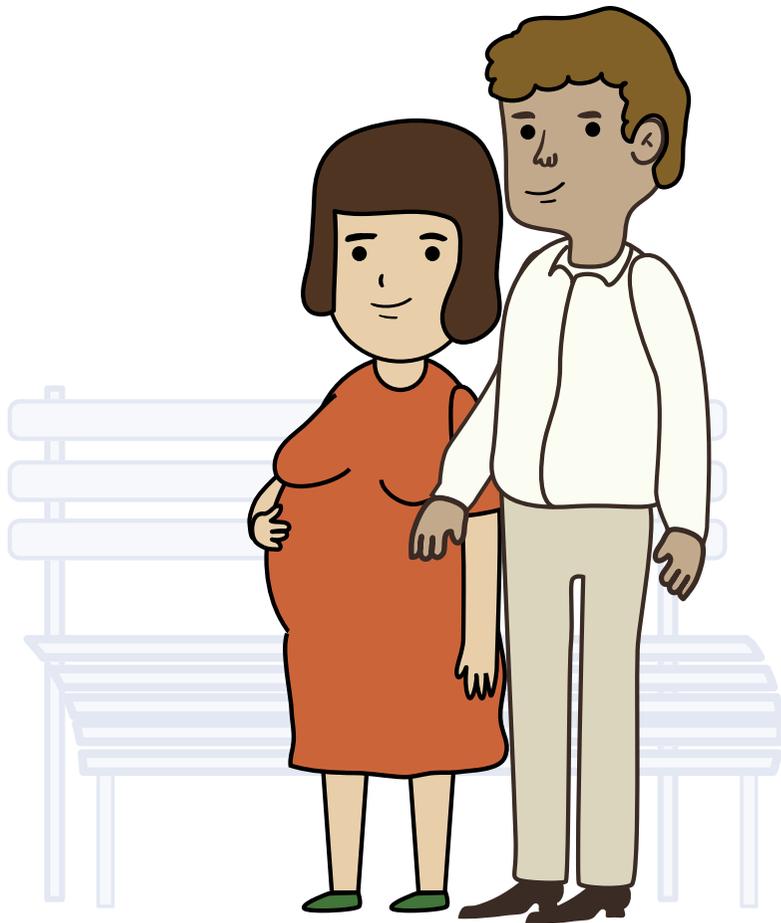
- Inform parents and teachers about sign language and encourage them to learn this as a means of communication.

Preventing hearing loss

60%



Many cases of hearing loss can be prevented. It is estimated that in children 60% of hearing loss is due to preventable causes. Many small steps can help to prevent hearing loss such as:



1

Vaccinating your child against rubella, measles, mumps, meningitis.



4



Following safe practices while listening to music over ear/headphones or in places like discos, concerts or parties.

2

Ensuring that mothers and babies receive good care before, during and after birth



5



Asking your doctor if your medicine can affect your hearing and how this can be avoided

3

Protecting ears from loud sounds at work and in the environment



6



Taking good care of your ears by practicing the Dos and Donts listed

Care of the ears: important DOs and DON'Ts

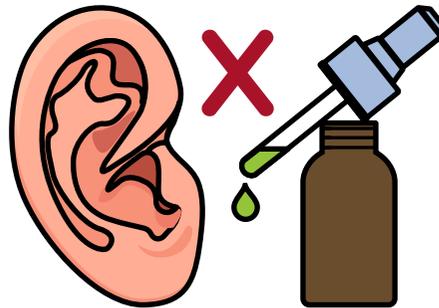
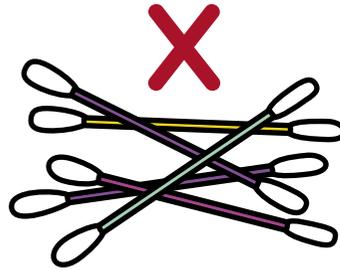
DOs:

- Ask for a hearing screening test for your baby.
- If you suspect someone has a hearing loss, refer them urgently to a health worker. This is especially important for infants and children.
- Get help from a health worker or doctor in case of persistent ear-ache, ear discharge or any other problems with the ear.
- See a health worker or attend a clinic to have earwax or foreign objects in the ear removed.
- Assist young children and adults with the care and maintenance of their hearing aids or implants.
- Go to a doctor if your child has a cold that it is not improving.
- Encourage the use of hearing protection for those working in noisy place.
- Encourage families and teachers of someone with hearing loss to learn sign language.
- Only use medications in your ears that have been prescribed for you by the doctor.
- Trust your instinct! If you suspect something is wrong with your hearing, seek help.



DON'Ts:

- DON'T put anything in the ear. No cotton buds, clips, toothpicks, sticks or hopi candles.
- DON'T ignore an ear that has any pus or fluid coming out of it.
- DON'T treat any ear conditions with hot or cold oil, herba or home remedies.
- DON'T swim or wash in dirty water.
- DON'T listen to very loud noises or music for long periods as this can cause hearing loss.



Remember that wax is produced by the ear to protect the ear and keep it clean. Cotton buds should never be used (not even for regular cleaning), as they may push wax further into the ear and damage the ear-drum. Sometimes the cotton may remain behind as a foreign body!

If you are ever uncertain whether an individual has a hearing loss, encourage them to seek help from their local health workers, who should be able to conduct some basic hearing tests and refer them to medical experts as required.

When listening to music over a personal device (eg MP3 player), keep the volume below 60% of maximum, take frequent breaks and limit listening time.



FOR MORE INFORMATION

PLEASE CONTACT:

Department for Noncommunicable Diseases

<https://www.who.int/health-topics/hearing-loss>

World Health Organization
Avenue Appia 20
CH-1211 Geneva 27
Switzerland

ISBN 978-92-4-000148-0



9 789240 001480