

Infant Hearing Program

A parent's guide to hearing aids

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Introduction

The Infant Hearing Program (IHP) is an Ontario government program that provides services to support children who are Deaf or hard of hearing and their families.

Through this program these children can be identified very early and given the help they need to develop language. All newborn babies in Ontario can have their hearing screened at no charge, either in the hospital when they are born, or at a community screening clinic.

Most Deaf and hard of hearing children whose hearing loss is identified early, and who receive the support they need, will have the same chance to develop language skills as hearing children.

To support your child's language development, you have chosen hearing aids for your child. The IHP can help support your family through an audiologist who has specialized training in prescribing and fitting hearing aids for infants. You may also choose to go to a hearing aid dispenser who will help you with fitting your child's hearing aids and give you information about using and caring for the hearing aids

Hearing aids and your child

With the help of your audiologist you will select the hearing aids that best meet your child's needs. You will play an important part in helping your child adjust to the hearing aids.

Practice and patience will make you more comfortable as you learn how the aids work and how to care for them. A positive attitude and a regular schedule will help your child adjust to using the aids every day. This guide takes you step by step through fitting and caring for your child's hearing aids.

Each child reacts differently to hearing aids. Some children adjust easily. Others take longer getting used to them.

Children can be less cooperative at certain times of day or in different situations. This is normal and may be caused by tiredness, illness, background noise or distance from the person speaking. Be persistent – your child will learn that using the hearing aids is simply part of a daily routine. By using them as much as possible – and by keeping regular appointments with the audiologist and the dispenser – you can make sure your child gets the most benefit from the hearing aids.

Hearing aids and how they work

There are two main types or styles of hearing aids:

- behind-the-ear hearing aids
- in-the-ear hearing aids

Typically, children wear behind-the-ear (BTE) hearing aids. They have flexible adjustments and are more durable than in-the-ear styles. Also, because the earmold on the BTE hearing aid can be separated from the hearing aid, new earmolds can be easily made as your child grows.

In-the-ear (ITE) hearing aids are more commonly used by adults. They are less durable and are not suitable for some kinds of hearing loss, or for young children while they are still growing.

Parts of the hearing aid

Every hearing aid has four main parts:

- The **battery** provides the power to the hearing aid.
- The **microphone** picks up sound waves and changes them into electrical signals. It is usually on top of the BTE hearing aid where the hook meets the hearing aid case.
- The **amplifier**, inside the hearing aid case, makes the electrical signal larger and sends it to the receiver.
- The **receiver**, inside the hearing aid case, changes the electrical signal back into larger (or amplified) sound waves which are sent down the ear canal into the ear. The receiver is like a tiny loudspeaker.

Other parts of a hearing aid:

- The **on/off switch (M-T-O)** turns the hearing aid's microphone on and off. **M** is for microphone and means that the hearing aid is on. **O** if for off and means the hearing aid is off. Many aids have a setting marked **T** which stands for telecoil. The **T** setting is used with telephones or other special equipment. Children's hearing aids should be set on **M** so they can hear the sounds around them.
- The **volume switch** controls loudness. On some hearing aids, the volume is controlled by a wheel that has numbers on it. The volume increases as the number increases. The audiologist or dispenser will tell you which volume or number to use. Sometimes, the audiologist or dispenser will set the volume on the hearing aid and put a cover over the volume control to make sure the hearing aid stays at that level. On other types of hearing aids, the audiologist sets the volume by using a computer. You will not be able to adjust the volume at home.
- The **earmold** on a BTE is the part that fits in the ear. It directs the sound into the ear and helps hold the hearing aid in place. The earmold is custom-made to fit the shape of your child's ear. This helps to stop feedback (squealing or whistling

sounds). A good fit is very important, so new earmolds must be made as your child grows.

- The hearing aid **hook** connects the earmold to the hearing aid case on a BTE hearing aid.
- Earmold tubing** is part of the earmold and connects the earmold to the hearing aid hook.
- The **battery compartment** on the BTE hearing aid is usually near the bottom of the hearing aid.

Hearing aid use

Typically, your child needs to wear his or her hearing aids all day, during most waking hours. This does not include bathing, swimming or nap times.

It may take several weeks for your child to adjust to wearing the hearing aids all the time. The adjustment may not be easy, and both of you may feel tired and frustrated at times.

It is important for your child to wear the hearing aids as much as possible, so keep trying. It will soon become a regular part of the day like brushing teeth or putting on shoes.

There are a number of steps to take every day for wearing and caring for hearing aids. Your IHP audiologist or dispenser will go through all these steps, show you how to do each step and practice each step with you. If you have any problems or you have questions, ask your IHP audiologist or dispenser.

Turning hearing aids ON and OFF

ON

- Make sure the battery door is completely closed.
- Turn the on/off switch to **M** (on).
- If the hearing aids do not have an on/off switch, simply close the battery door.

OFF

- Turn the on/off switch to **O** (off).
- If the aid does not have an **O** setting, open the battery compartment. This will turn the hearing aid off.

Putting hearing aids on your child

- Do a daily listening check to make sure the hearing aids are working. (See page 8)
- Make sure the hearing aids are turned off so they won't whistle while you are putting them on your child.

- Hold the earmold tubing near where it is attached to the earmold. Put the earmold into the child's ears. Twist the earmold gently until it fits.
- Once the earmold is comfortably in the ear, place the hearing aid case over the ear. Be careful not to twist the tubing.
- Turn the on/off switch to **M** (on). If your hearing aid has a volume switch, set it to the correct volume.

Taking hearing aids off

- Make sure the hearing aids are turned off.
- Using a fingernail to help you, gently pull the earmold out slightly.
- When the earmold has been removed a little, you can use several fingers to hold it and remove it completely. Do not pull on the earmold tubing to remove the earmold as it may come out of the earmold.
- When your child is not using the hearing aids, keep them in a safe, dry place, such as the hearing aid case or other protective box.

Getting started

Don't worry if you are nervous at first as this is a lot of new information. Most parents say that helping their child adjust to hearing aids was not as hard as they thought it would be.

Remember, you know your child best.

Every child is different, and each age has its own challenges. For example, getting used to wearing hearing aids is not the same for a four-month-old as for a two-year-old.

When hearing aids are fitted on an infant, wearing time will be limited by how much time the child spends awake. For a toddler who is starting to be independent, putting on the hearing aids may look more like a power struggle over who controls the aids.

Try to stay away from loud background noises for the first few days until your child gets used to the sound of the hearing aids. Gradually start to expose your child to noisy places, such as playgrounds and shopping malls.

Young children like to explore, and that includes exploring their hearing aids and earmolds! Even an infant who has worn hearing aids with no problems at first may go through stages where it is difficult to keep the aids on for more than a few minutes at a time. Try not to get discouraged – this is a common experience for many parents. Talk with your IHP audiologist or dispenser about tips for keeping the hearing aids on your child and ways to distract them from taking them off.

Daily use is the key to success. Even if wearing time is short for a while, you can focus on using the hearing aids every day when you and your child are playing together.

Eventually, you want your child to use the hearing aids all the time except when having a bath, swimming or sleeping. But, you can be flexible. It is all right to turn them off for short breaks during the day, especially in the beginning. When children are not feeling well, they may want to wear the hearing aids less.

Taking care of hearing aids

Handle hearing aids carefully. Try not to drop them or get them wet. Keep them away from heat. Put them in a protective case when they are not being used. Use the case to carry them from one place to another.

The earmold

Ears change shape and size as children grow. A good earmold fit is important, so a very young child may need a new earmold every two to three months – or even more often. Ask your IHP audiologist or dispenser about ways to tell if your child needs a new earmold.

Your child needs a new earmold if:

- The earmold seems loose.
- The hearing aid whistles (feedback) when it is turned up to the normal volume.

Keep earmolds clean and free of wax. Check them every day. Clean them once a week or more often if needed.

To clean earmolds:

- Take the earmold off the hearing aid. Your dispenser will show you how to do this.
- Soak earmolds in warm water and liquid soap for about ten minutes. Do not use alcohol or ammonia to clean them. These can make the earmold and tubing hard and cause them to crack.
- Remove any wax that is plugging an earmold, using the cleaning tool that your IHP audiologist or dispenser has given you or remove the wax as recommended by the audiologist or dispenser.
- Rinse earmolds with water and let them dry completely – preferably overnight, or until you can't see any moisture drops in the earmold or tubing. Even a small amount of wetness in the tubing can block sound.

- Put the earmold tubing back on the hearing aid hook. It should overlap by about 1/4 inch or 6.35 millimeters. Your IHP audiologist or dispenser will show you how to do this.

The tubing

The earmold tubing that connects the earmold to the hearing aid is quite flexible. Do not twist the tubing or poke it with sharp objects. Damage to the tube can affect the flow of sound into the ear.

A whistling sound (feedback) may mean that the tube is cracked or has a hole in it.

The tubing usually needs to be changed about every six months because it starts to get hard. You can get new earmold tubing at your audiologist's or dispenser's office.

The batteries

- Your IHP audiologist or dispenser will show you what kind of battery your child's hearing aids need, and tell you where to buy them. Always keep extra batteries with you. It is a good idea to keep a six-month supply at home.
- To prevent damage, keep batteries in their containers until you use them. Touching batteries to other metal objects can cause them to lose their electrical charge. Keep zinc-air batteries on the storage strip until you need them.
- Store extra batteries in a cool, dry place, but don't put them in the refrigerator or freezer.
- Be careful to match the plus (+) on the battery with the plus (+) on the battery compartment when you put in a new battery.
- Take the battery out or keep the battery compartment open when the hearing aids are not being used.
- Check batteries for corrosion. This can be seen as a white powder that builds up on batteries when they get old or are not stored properly. Do not use a battery that has corrosion.
- The life of the battery will depend on its strength and on how powerful your child's hearing aids are. Batteries wear out faster with more powerful aids but will typically last between one and three weeks. Mark the day on a calendar when you put a new battery in the hearing aid. This will help you keep track of how long the batteries last. Decreased battery life may signal a problem with the hearing aid.

Throw the battery away when it is no longer working. Then it won't get mixed up with the good batteries. Your dispenser may tell you about where to safely dispose of batteries. If you can recycle batteries in your area, collect them in a sealed container for safety.

Warning: A hearing aid battery can be poisonous if swallowed.

Hearing aid batteries are small enough to swallow. They can cause serious problems and even death if a child swallows one.

A child who has swallowed a hearing aid battery should be taken to the nearest hospital emergency department immediately.

Care and maintenance kit

A care and maintenance kit will help you keep your child's hearing aids in good condition. Your IHP audiologist or dispenser will review the items in the kit with you and explain how to use them. Your kit should include:

- A **listening stethoscope** to let you listen to your child's hearing aids.
- A small **battery tester** that can tell you if the battery is working well. Often when a hearing aid doesn't work, it is because the battery is low.
- A **dri-aid kit**. This is a plastic container for storing hearing aids overnight. Silica crystals in a small bag inside the kit absorb wetness from the hearing aids and help keep them dry. Take the battery out of the hearing aids before storing them in the kit. Keep the dri-aid kit out of your child's reach. It is dangerous to eat silica crystals.
- An **air blower** to quickly dry out the tubing of an earmold. Attach the blower to the tubing and squeeze it to pump air through the earmold.
- Double-sided tape** that is sticky on both sides, because sometimes a hearing aid won't stay in the right place on the child's ear. The **tape** may help. Your audiologist or dispenser will tell you how to use the tape or may suggest other ways to keep the hearing aids on.
- A **hearing aid clip or "otoclip"** to attach a hearing aid to your child's clothing so it won't be lost or broken if it falls out of the child's ear. You can clip one end of the cord to clothing and put the other loop fairly tightly around the hearing aid. Your dispenser will show you how to do this.

Daily listening check for behind-the-ear (BTE) hearing aids

Your baby will not be able to tell you if his or her hearing aids are working properly. So it is important to check the aids and batteries every day, before you put them on your child.

You may not be able to listen to the hearing aids at the volume recommended for your child. You should not turn them up loud enough to hurt your ears. Ask the IHP audiologist or dispenser about the best volume for you to do the listening check.

First check each earmold for wax. Remove any wax you see each day, and clean with soapy water as necessary or at least once a week.

Second, check the earmold tubing for cracks. This happens if the tubing is old and hard. Make sure there is no wetness in the tube. If there is, dry the inside of the tube with an earmold air blower.

Third, check the function of the hearing aid batteries by using the battery tester. Then put the battery in the battery compartment of the hearing aid. Make sure the positive (+) mark on the battery matches the positive (+) mark on the hearing aid.

Hold the hearing aid in your hand and turn it on. It may whistle while cupped in your hand. If it doesn't, turn the volume to the loudest setting and cup your hand around the hearing aid. You should hear a whistling sound (feedback).

Finally, use a listening stethoscope to check the hearing aid. It can be attached to the hearing aid in one of the two ways your dispenser showed you:

1. Take the earmold off the hearing aid. Remove the bell part of the stethoscope and push the long tubing of the stethoscope over the hook of the hearing aid to cover the hole where the sound comes out. **Or.**
2. Leave the bell on the stethoscope and put it over the ear canal part of the earmold. With this method, you will be able to hear sound through the hearing aid exactly as your child hears sound. This way is faster because you don't have to take the earmold off the hearing aid. But with very strong hearing aids you may get feedback because the bell doesn't fit tightly over the earmold. If so, you should use the first way.

Start with the M-T-O switch at O for "Off"

Then, put the M-T-O switch on **T** (telecoil). This setting can be used with some telephones. The **T** setting will turn off the hearing aid microphone. You will not hear any sounds around you in the usual way, but you may hear some static noise, especially when you approach something electrical such as a television or a computer.

Next, put the M-T-O switch on **M** (microphone on). The hearing aid should be picking up all the normal sounds around you, including your voice.

If your child's hearing aid volume is comfortable for you, use that volume setting. If not, adjust the volume to a level that is as comfortable for you as possible. Don't forget to turn it back to your child's user setting when you are finished.

Turn the **M-T-O** switch back and forth between **O** and **M**. The hearing aid should turn on every time it is set to **M**. If the **M** setting works only some of the time, there may be a loose connection in the switch.

With the hearing aid on, turn the volume wheel up and down slowly. Be careful to listen at levels that are not too loud for you. The wheel should not be too loose or rubbing on the case. There should not be any static sound when you listen to the hearing aid.

If you say the same sound into the hearing aid every day, you will learn what the hearing aid normally sounds like. Try saying the six sounds listed below (the Ling 6 Sounds Test) so that you use all of the different pitches found in normal speech:

"ah" as in saw
"ee" as in tree
"oo" as in shoe

“ss” as in sat
“sh” as in shoe
“mm” as in gum

You may hear nothing if the earmold is blocked with wax or moisture. If it is, take the earmold off and attach the listening stethoscope to the hook of the hearing aid. If you hear something, the earmold may be the source of the problem.

Troubleshooting guide for behind-the-ear (BTE) hearing aids

Problem	Possible causes
Hearing aid whistles or squeals when child is wearing it	<ul style="list-style-type: none"><input type="checkbox"/> Earmold not placed in ear properly<input type="checkbox"/> Volume turned up too high<input type="checkbox"/> Crack in earmold tubing<input type="checkbox"/> Earmold too small<input type="checkbox"/> Problem with connection between hook and hearing aid<input type="checkbox"/> Wax build-up in ear or earmold
Hearing aid seems weak	<ul style="list-style-type: none"><input type="checkbox"/> Weak battery<input type="checkbox"/> Earmold plugged with wax<input type="checkbox"/> Earhook blocked<input type="checkbox"/> Tubing twisted or partly blocked<input type="checkbox"/> Hearing aid needs repair
Hearing aid seems dead	<ul style="list-style-type: none"><input type="checkbox"/> Dead battery/no battery<input type="checkbox"/> Battery incorrectly inserted<input type="checkbox"/> Earmold plugged<input type="checkbox"/> On/off switch turned to O or T<input type="checkbox"/> Earhook blocked<input type="checkbox"/> Hearing aid needs repair
Hearing aid sound is not clear	<ul style="list-style-type: none"><input type="checkbox"/> Corrosion on battery or in battery compartment<input type="checkbox"/> On/off switch turned to T<input type="checkbox"/> Dirt or dust in volume wheel<input type="checkbox"/> Dirt or dust on microphone<input type="checkbox"/> Hearing aid case cracked
Hearing aid sound goes on and off	<ul style="list-style-type: none"><input type="checkbox"/> On/off switch not working properly<input type="checkbox"/> Battery is weak<input type="checkbox"/> Hearing aid needs repair

With practice you will get better at finding and fixing some of these problems. If you can't find the problem or if you are unsure how to fix it, be sure to contact your IHP audiologist or dispenser.

What you can expect

Many parents say hearing aids made a positive difference for their child right away. Other parents say they did not notice an immediate change. Don't be discouraged – every child is different.

If you have questions or problems with the hearing aids, talk to your IHP audiologist or dispenser. They can help you and your child find ways to adjust to this new experience together.

Keep notes about your experiences, any difficulties you encounter, the length of time your child wears the hearing aids each day and so on. Your observations will help your audiologist or dispenser find the source of problems, and judge whether changes need to be made.

Ask questions

Below is a list of topics you may want to discuss with your IHP audiologist or dispenser. This information will give you a full understanding of how to use hearing aids to help your child perceive sound.

- Financial assistance (for example the Ontario government's Assistive Devices Program)
- Trial periods, warranties and insurance
- Services included in the cost of the hearing aids, and services that will cost extra
- Equipment needed to care for hearing aids
- Techniques for cleaning earmolds and hearing aids
- Procedures for putting in batteries, checking them and storing them safely
- How to do listening checks
- Putting hearing aids on the child and securing them
- Using the hearing aid switches
- Making hearing aids part of your child's routine
- Understanding and combating feedback
- Protecting the hearing aids from potential hazards (e.g., moisture, pets)
- Troubleshooting techniques
- How to get hearing aids repaired
- How long earmolds and hearing aids can be expected to last
- Follow-up contact between the family and the audiologist and dispenser

List of topics adapted from: Elfenbein, Jill L. 2000. Batteries Required: Instructing Families on the Use of Hearing Instruments. In R.C. Seewald, (ed.), *A Sound Foundation Through Early Amplification: Proceedings of an International Conference* (pp.141-149 Table 1).

It is very important for your child that the hearing aids are working and being used properly. Do not hesitate to contact your audiologist or hearing aid dispenser for help.

If you have any questions or other concerns about your child, contact the family support worker or Infant Hearing Program coordinator in your region. Telephone numbers for the Infant Hearing Programs are on the back of this brochure.

Glossary

Air blower: A small plastic bulb that can be used to quickly dry out the tubing of an earmold. The bulb is attached to the earmold tubing and, when squeezed, blows air through it to dry it out.

Amplifier: A part of the hearing aid that makes the electrical signal larger before sending it to the receiver.

Assistive Devices Program: A Government of Ontario program that provides financial assistance to help residents of Ontario buy assistive devices such as hearing aids.

Audiologists: Health care professionals who specialize in prevention, identification and assessment of hearing disorders. They:

- assess and identify hearing problems in infants and children, as well as adults
- prescribe and dispense hearing aids and assistive listening devices, and instruct people in their use
- have an advanced university degree (masters or doctorate) in audiology

IHP Audiologists receive additional, specialized training through the Infant Hearing Program for working with infants.

Battery: A special battery provides the power to the hearing aid. There are various sizes of batteries.

Battery compartment: A compartment with a movable door, usually at the bottom of the hearing aid case.

Corrosion: The gradual wearing away of the chemicals in a battery. This can be seen as a white powder that builds up on batteries when they get old or are not stored properly.

Dispensers: Hearing instrument service providers. They order and fit hearing aids based on prescriptions provided by audiologists. Dispensers:

- provide earmold impressions and technical hearing aid support
- educate and instruct parents and families on appropriate care and maintenance of hearing aids and other assistive devices
- have post-secondary education in hearing health care

Dri-aid kit: a plastic container for storing hearing aids overnight. Silica crystals in a small bag inside the kit absorb wetness from the hearing aid and help keep it dry.

Earmold: The plastic part of a hearing aid that fits in the ear. It directs the sound into the ear and helps hold the hearing aid in place. The earmold is custom-made to fit the shape of your child's ear.

Earmold tubing: Plastic tubing that connects the earmold to the hearing aid hook on a behind-the-ear hearing aid.

Feedback: A whistling or squealing sound produced by a hearing aid when the amplified sound escapes from the ear and is amplified again.

Hearing aid: A small electronic device used to improve hearing. There are two main types for children:

- Behind-the-ear hearing aids in which all parts are contained in a small plastic case that rests behind the ear. The case is connected to an earmold by a piece of clear tubing.
- In-the-ear hearing aids in which all parts of the aid are contained in a shell that fills in the outer part of the ear

Hearing aid hook: The small, hard plastic hook that connects the earmold to the hearing aid case on BTE hearing aids.

Listening stethoscope: A plastic device used to listen to a hearing aid while it is not in your ear.

The Ling Six Sound Test: An informal listening test used when checking to make sure that a hearing aid is working properly. The six sounds, which contain different pitches found in normal speech, are: “ah” as in saw, “ee” as in tree, “oo” as in shoe, “ss” as in sat, “sh” as in shoe and “mm” as in gum.

Microphone: The part of the hearing aid that picks up sound waves and changes them into electrical signals.

The ON/OFF switch (M-T-O): This switch turns the hearing aid’s microphone on and off. M (microphone) means the hearing aid is ON. O (off) means the hearing aid is OFF. The T (telecoil) is used with telephones or other special equipment.

Receiver: A part of the hearing aid that is inside the case. Like a tiny loudspeaker, it changes the electrical signal back into amplified sound waves.

Trial period: The period of time after the purchase of a hearing aid during which you may return the aid and have most of the cost refunded.

Troubleshooting: A process of finding and correcting common problems with a hearing aid.

Volume switch: The switch that controls loudness. On some hearing aids, the volume is controlled by a wheel that has numbers on it. The volume goes up as the number goes up. On others, volume is pre-set by the audiologist.

Warranty: An agreement made when you buy a hearing aid. It outlines the services that will be provided free for a specific period of time.