

What is hearing aid-like technology?



Selecting the best devices for your hearing needs can reduce frustration and save time and money.

There are many types of styles, technologies and features available in hearing technology, but the two main categories of devices are:

1. Devices that are fit by a hearing healthcare professional (prescription hearing aids)
2. Devices that are not fit by a hearing healthcare professional (hearing aid-like technology)

Selecting the most suitable hearing device for the challenges you experience will reduce frustration and save time and money. When hearing instruments make a meaningful impact in your daily life, you will want to use them. A hearing healthcare professional will help you identify the technology that is the best match for you.

Hearing aid-like technology

Hearing aid-like technology devices are designed to amplify sound in specific situations and environments. The devices are available online or in stores, and they include personal sound amplifiers, hearables, wearables and over-the-counter hearing aids.

Personal Sound Amplification Products (PSAPs)

Personal sound amplification products (PSAPs) are intended for people who have normal hearing to mild hearing losses. They amplify all sounds and are most useful in specific situations, such as helping you hear your television without turning up the volume (TeleSupport Hearing Aid Help, 2020).

PSAPs also include electronic products for use when shooting firearms. The devices amplify ambient sound so you can hear your surroundings, and then they react instantly when a weapon is fired to limit the volume to a safe level.

Although some PSAPs are marketed for hearing loss, they are only general sound amplifiers and not tailored to an individual's specific hearing loss (TeleSupport Hearing Aid Help, 2020). PSAPs are not regulated devices and can be purchased without seeing a healthcare professional or obtaining a hearing test. They are similar to reading glasses and can be purchased over the counter.

Wearables

Wearable technology (also known as “wearables”) is a category of electronic devices that can be worn as an accessory, such as smartwatches or fitness trackers. They are powered by microprocessors and can send and receive data over Wi-Fi or Bluetooth.

Hearables

“Hearable” is a combination of two words: headphone and wearable. Hearable technology is a microcomputer that fits in the ear to enhance and supplement hearing.

There is a range of hearable technology available on the market including hearing aids, headphones and personal sound amplifiers. Hearables include devices for activity tracking, personal biometric identification, improved sound quality and invisibility. Many hearing aids have built-in hearable technology. Due to their limited battery charge, they are usually used in specific places or situations rather than all-day use.

Over-the-Counter (OTC) Hearing Aids

Over-the-counter (OTC) hearing aids are a newer type of hearing aids that are not available in Canada but will soon be available in the United States. These devices are pre-set at the factory, so they do not require fitting by a hearing healthcare professional. OTC hearing aids are often used for a perceived mild-to-moderate hearing loss. They do not require a hearing healthcare professional for an assessment, recommendation or fitting.

OTC hearing aids are an alternative to regulated hearing aids only available from hearing health professionals, such as audiologists and hearing aid practitioners. They are not meant for children or adults with severe hearing loss or significant difficulty hearing, because they will not amplify sounds at suitable levels for people with severe to profound hearing losses.

While it's possible for the user to program an OTC hearing aid, users typically under-amplify their hearing loss, and miss essential speech cues (National Institute on Deafness and Other Communication, 2020).



Online Hearing Aids

Online hearing aids may or may not be licensed for sale in Canada. Most online companies require an online hearing test before they will send you a hearing aid, and then you will receive devices that are “programmed” based on your virtual hearing test.

Companies that sell online devices are not required to have a professional provide the services. Online hearing assessments may not be accurate, and the products they recommend may not be appropriate for your hearing loss. While it may seem less expensive to purchase a hearing aid online, the lack of professional testing and fitting reduces the health benefits (TeleSupport Hearing Aid Help, 2020).

You may need services and adjustments that online stores cannot provide. In many cases, local clinics will not have the software or parts available to service online hearing aids because they are not sold from a licensed provider.

Manufacturers often do not cover warranty claims from these online purchases, and online providers do not provide you with information regarding third-party coverage that you may be eligible for, such as AADL, WCB, DVA or private insurance (TeleSupport Hearing Aid Help, 2020).

Prescription Hearing Aids

A prescription hearing aid is specifically programmed to amplify sound according to an individual's hearing loss. The hearing aid uses specialized signal processing to automatically adjust the hearing aid volume to help communicate in difficult listening situations. Prescription hearing aids can be customized to fit any type, degree and configuration of hearing loss.

Prescription hearing aids have more sophisticated technology compared to hearing aid-like devices, such as directional microphones, digital noise reduction, impulse noise reduction, wind noise reduction, feedback management systems, telecoils, FM compatibility and data logging.

Hearing aids are available with advanced features, including Bluetooth compatibility, artificial intelligence, rechargeable batteries, tinnitus masking features, binaural processing and smartphone applications. Manufacturers of prescribed hearing aids spend hundreds of millions of dollars on research and development to improve the performance of hearing aids. They also provide extensive warranty, service and support.

Prescription hearing aids are medical devices regulated by Health Canada, and they must undergo approval before being sold (Healthy Hearing, 2021). In Alberta, registered audiologists and registered hearing aid practitioners are the only healthcare professionals qualified to fit prescription hearing aids.

Professional Hearing Healthcare

Audiologists are regulated healthcare professionals that evaluate, diagnose, treat and manage hearing loss and other hearing-related disorders. An audiologist is trained to assist all ages with a wide variety of hearing and balance challenges.

Audiologists spend 6 to 7 years studying for their profession. In Canada, audiologists must have a Master's degree and there is the option to take an additional two years to obtain a Doctor of Audiology degree.

Audiologists are trained to assess hearing, prescribe hearing aids and fit the devices to the wearer.

Hearing Tests

An accurate hearing test is the first step in determining whether a hearing aid is required. Diagnostic hearing testing consists of a comprehensive case history, air and bone conduction pure-tone testing, standardized speech testing and impedance audiometry.

This range of tests is required to determine the cause and degree of hearing loss and see if a medical referral is necessary. If your hearing is not properly checked, these conditions may go unnoticed until permanent damage has been done (Alberta College of Speech-Language Pathologists & Audiologists, 2021).

Diagnostic hearing testing requires a controlled environment for accuracy and consistency. Hearing testing involves equipment that is calibrated regularly, and a valid hearing test is vital to a successful hearing aid fitting (Alberta College of Speech-Language Pathologists & Audiologists, 2021).

Companies that sell personal sound amplification devices, over-the-counter devices or online hearing aids are not required to have a hearing professional provide services, so the virtual hearing tests may not be accurate.

Hearing clinics that provide hearing assessments and prescription hearing aids employ hearing healthcare professionals who have completed several years of post-secondary education and are licensed.



Hearing Aid Fittings

Inadequately fitted hearing aids do not deliver sufficient audibility of speech.

Fitting is done by programming the hearing devices to the specific hearing profile and prescription of the wearer.

Hearing aid fittings also include a step to verify the devices are operating as expected and their output actually matches the optimal amplification (Alberta College of Speech-Language Pathologists & Audiologists, 2021).

Without verification, the devices may be over- or under-amplifying sound and result in inadequate speech understanding, discomfort or even noise-induced hearing loss.

Verification cannot be completed online, and a hearing healthcare professional is the only person that can accurately determine whether the hearing aid is providing you with optimal speech audibility.

Hearing Aid Funding

While the cost of professional audiology care may seem high compared to over-the-counter and online solutions, it may be less expensive in the long term because professionals offer higher quality products and warranties on products and services. Hearing healthcare professionals recommend appropriate devices for your hearing loss, reducing the amount of time, money and energy spent on products that are not helpful or suitable for your hearing loss.

Your audiologist can help determine eligibility for third-party coverage such as Alberta Aids to Daily Living (AADL), Workers Compensation Board (WCB), Department of Veterans Affairs (DVA), Non-Insured Health Benefits (NIHB), and private insurance benefits. Payment plans may also be available. While there is a place for online products, they will not provide the same quality and service as what you can obtain professionally.

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Read More

- **Canadian Audiologist, 2018:** Are over-the-counter hearing aids good for audiology in Canada? (<https://canadianaudiologist.ca/otc-hearing-aids-feature/>)
- **Alberta College of Speech-Language Pathologists & Audiologists, 2021:** Advisory Statement: Virtual Audiology Practise (<https://www.acslpa.ca/wp-content/uploads/2021/01/Advisory-Statement-Audiology-Virtual-Practice-Jan-2021-Final.pdf>)
- **Investopedia, 2020:** Wearable Technology (<https://www.investopedia.com/terms/w/wearable-technology.asp>)
- **Healthy Hearing, 2021:** New hearing aid technology (<https://www.healthyhearing.com/help/hearing-aids/technology>)
- **National Institute on Deafness and Other Communication, 2020:** Over-the-Counter Hearing Aids (<https://www.nidcd.nih.gov/health/over-counter-hearing-aids>)
- **TeleSupport Hearing Aid Help, 2020:** Differences between amplifiers, over-the-counter (OTC), online and prescription hearing aids (<https://www.nidcd.nih.gov/health/over-counter-hearing-aids>)

