

Standards of Practice

All terms and titles used in the Standards of Practice shall have the same meaning as in the Act, the Regulations, and the Bylaws.

Maintenance of high standards by all members is in the best interest of persons served professionally, members and the profession. These Standards of Practice are the floor, or the minimally acceptable level of standards. References are attached.

As per Schedule 9 of the Health Professions Act:

In their practice, Hearing Aid Practitioners do one or more of the following:

- A. Examine and evaluate human hearing as it relates to hearing acuity, sensitivity and communication,*
- B. Select and fit the appropriate hearing instruments,*
- C. Provide restricted activities authorized by the regulations, and*
- D. Teach, manage and conduct research in matters referred to in this section.*

Testing Protocol

A Hearing Aid Practitioner's services and responsibilities shall include testing the client to determine the type and extent of any hearing loss. (See Appendix A) Testing shall also be done for the purposes of providing appropriate amplification, and selection and fitting of appropriate hearing amplification to most effectively compensate for the loss of hearing, or for the referral to other appropriate professionals, and other services described in the Act and Regulations.

A. Testing

1. Otoscope exam

The Otoscopic exam must be completed prior to any hearing testing. The results are to be indicated on the audiogram.

2. Tympanometry

Tympanograms shall be completed on all patients where indicated and the results will be kept in the client file.

3. Acoustic Reflexes

Acoustic reflexes will be measured where indicated and the results will be recorded in the client file.

4. Air Conduction Testing

Results will be recorded on an audiogram using standardized symbols. Pure tone air conduction testing will be done over the frequency range of 250 Hz through

8000 Hz.

5. Bone Conduction Testing

Results will be recorded on an audiogram using standardized symbols. Pure tone bone conduction testing will be done over the frequency range of 250 Hz through 4000 Hz.

6. Masking

Masking will be done using white noise or narrow band noise, or speech noise where indicated.

7. Tone Decay

Tone Decay testing will be completed where indicated and the results will be recorded on the audiogram. Tone decay testing will be done using a recognized testing procedure and the method used will be recorded on the audiogram. Recognized procedures include the Carhart Tone Decay Test, the Rosenberg Tone Decay Test, and the Olsen-Noffsinger Tone Decay Test.

8. Case History

A case history must be completed for every client and kept on file for a period of no less than ten (10) years.

9. Speech Testing

a. Speech Detection Threshold (SDT)

Results will be recorded on the audiogram. Test will be completed when unable to obtain a value for SRT.

b. Speech Reception Threshold (SRT)

Results will be recorded on the audiogram.

c. Most Comfortable Loudness Level (MCL)

Results will be recorded on the audiogram.

d. Uncomfortable Loudness Level (UCL)

Results will be recorded on the audiogram.

e. Word Recognition Scores (WRS)/Speech Discrimination Scores

Phonetically balanced (PB) word list will be used.

10. Referral to Physician

The client shall be referred to a physician in each of the following instances:

a. The client appears to be suffering from an ear discharge.

b. The client appears to be suffering from a conductive hearing loss.

- c. There is more than a 30 dB difference in pure tone average at 0.5, 1 and 2KHz between ears.
- d. The unaided SRT differs from the pure tone average by more than 30 dB for either ear.
- e. Results obtained from a Tone Decay Test are abnormal.
- f. Unilateral hearing loss.
- g. Sudden hearing loss.

11. Recording Test Results

The results of each hearing evaluation will be recorded upon an audiogram form. Symbols used to record air conduction, bone conduction and masking thresholds will be noted in a key on the audiogram form. All audiogram symbols shall conform to current ANSI standards.

12. Records

It is the responsibility of the Hearing Aid Practitioner to ensure that records of all tests performed and subsequent follow-up services are recorded. All records relating to the services provided to any client (including the case history, audiogram, all results of testing, referral information, follow-up services and dates) will be kept on file by the Hearing Aid Practitioner for a minimum period of ten years. These records will be made available as stipulated in the Act and Regulations.

13. Testing Environment

The testing environment will meet the following requirements:

- a. Within a commercially available sound attenuation booth.
- b. Outside a commercially available sound attenuation booth, the acoustic characteristics of the room(s) shall be determined and noted on the audiogram and insert earphones shall be used.
- c. If in (2) noise levels surpass 45 dBA, testing may not be carried out unless a suitable alternate test environment is found.
- d. Sound level meters capable of measuring 45 dBA must be used when testing outside of a sound booth.

14. Equipment

All audiometric equipment is to be calibrated annually in accordance with current ANSI standards and at all times be in proper working order.

- a. A Type 1 or Type 2 diagnostic audiometer with air conduction, bone conduction, speech, narrow band noise masking and speech noise masking capabilities as defined under American National Standards Institute, Standard Specification for Audiometers that are in force currently. For more information on Type 1 and Type 2 audiometers see ANSI Standards S3.6 – 1996 copyrighted.

- b. Each business of the Hearing Aid Practitioner must have a hearing aid analyzer and the Hearing Aid Practitioner must make use of the equipment in the provision of hearing aids and repairs.
- c. Each business of the Hearing Aid Practitioner must have a middle ear analyzer and the Hearing Aid Practitioner must make use of the equipment where indicated.
- d. Each business of the Hearing Aid Practitioner must have equipment capable of doing Real Ear Measurements and the Hearing Aid Practitioner must make use of the equipment where indicated.

15. Insurance

- a. Each member shall insure that he carries a general Liability Insurance, in accordance with the Alberta Insurance Act, in an amount not less than \$2,000,000.00 inclusive per occurrence, insuring against bodily injury, personal injury and property damage including loss of use thereof.
- b. Each member shall ensure that they carry adequate insurance and hold proper professional status and standing. The member shall maintain Errors and Omissions insurance in an amount not less than \$1,000,000.00 dollars per occurrence.

B Selection and Fitting of Hearing Aids

1. Selection and Fitting of Hearing Aids

Selection and fitting of hearing aids must be in accordance with the following procedures:

- a. An audiogram shall be completed for all clients fitted with a hearing aid.
- b. In all cases where a client is fitted with a hearing aid, the Hearing Aid Practitioner shall allow the client to be in possession of a hearing aid for a minimum twenty-eight day trial period.
- c. If more than six months has elapsed since the Hearing Aid Practitioner completed the last audiogram, a new audiogram must be completed before a client is fitted with a hearing instrument(s). If it is not possible to complete a new audiogram, the Hearing Aid Practitioner must keep documentation with the reasons why an audiogram was not completed.

2. Fitting Verification

- a. Sound Field Testing
 - i. Sound field testing shall be conducted at zero degrees azimuth to the sound source in accordance with recognized standards when completing a sound field test for a monaural fitting. When assessing a binaural response, two speakers are used and should be placed at 45 degrees azimuth, relative to the patient's head position in the sound field.

- ii. Word discrimination scores shall be obtained using standardized word lists approved by Council.
- iii. The mode of presentation shall be recorded on the audiogram.
- iv. The level of presentation shall be recorded.
- v. Word discrimination scores shall be recorded as: aided, unaided, monaural, binaural, etc.

3. Real Ear Measurements

Real ear measurements will be completed where indicated and the results will be maintained in the client file.

C Restricted Activities

1. Restricted Activities

- a. As stated in the Health Professions Act Section 9:

9(1) The restricted activities that a regulated member on the general register may perform for the purposes of fitting hearing aids and cerumen management are

(a) To insert or remove instruments, devices, fingers or hands beyond the cartilaginous portion of the ear canal, and

(b) To insert into the ear canal

(i) Under pressure air, liquid, or gas;

(ii) A substance that subsequently solidifies.

9(2) Despite subsection (1), a regulated member may not perform the restricted activities referred to in subsection (1) in conjunction with providing cerumen management services unless the regulated member is authorized by the Registrar or Registration Committee to provide cerumen management.

9(3) An authorization under subsection (2) may only be granted in accordance with the criteria governing cerumen management approved by the Council.

- b. The following are included in the definition of “restricted activities”:
 - (1) The taking of impressions to make ear molds or plugs, including ear molds, swim plugs, musician ear molds, hearing protective ear molds.
 - (2) Real Ear Measurements
 - (3) Tympanometry
 - (4) Cerumen Management

2. Cerumen Management

The College of Hearing Aid Practitioners of Alberta will be establishing Standards of Practice for Cerumen Management. Until such time this procedure is **NOT** to be performed.

D Teach, Manage and Conduct Research

1. Methods to use to Teach, Manage and Conduct Research

- a. Instruction and counselling for the individual in the proper use and care of the hearing instrument.
- b. Verification of the benefit of the amplification.
- c. Maintaining an ongoing follow-up service so as to encourage the continued use of the hearing instrument.
- d. Repairs and maintenance of hearing instruments and accessories.
- e. Providing ongoing instruction to the staff of hospitals, nursing homes and senior residences, in the use and care of hearing instruments.
- f. Providing instruction and supervision of Hearing Aid Student Interns and Trainees.
- g. Encouraging and emphasizing the importance of hearing conservation and hearing conservation programs.

2. Nursing Homes

The Hearing Aid Practitioner shall complete the Nursing Home Hearing Aid Criteria form when visiting clients who reside in a nursing home. See Appendix B.

3. Children

The Hearing Aid Practitioner will complete a guardianship form when providing services to a minor. See Appendix C.

4. Provisional Members

A provisional member may only observe but must not participate or perform any duties of the profession of Hearing Aid Practitioners. Refer to Schedule 9 of the Health Professions Act.

5. Trainees

The Trainee will only complete those tasks that are geared to their level of competence under the direct supervision of a Registered Hearing Aid Practitioner as follows:

6. Direct Supervision of Trainees:

- a. Restricted activities: the supervisor must be on site and observing all steps being carried out by the Trainee.
- b. Other activities: the supervisor must be on site and available for consultation and providing assistance to the Trainee.

The Registered Hearing Aid Practitioner will be responsible for all of the professional actions of the Trainee.

7. Continuing COMPETENCY

Ten (10) hours of continuing education are required each year as approved by Council of which no more than five (5) hours may be courses related to a manufacturer's product, to maintain professional standing within the College of Hearing Aid Practitioners of Alberta.

Registered members will ensure that their Board Certification with the National Institute of Hearing Instrument Sciences is kept current.

APPENDIX A

1. Case History

A case history should contain but not be limited to the following information:

- a. Name, address, and phone number.
- b. PHN number, VAC, WCB, or NIHB insurance numbers, third party insurance numbers, etc.
- c. Family physician.
- d. Date of birth, etc.
- e. History of hearing loss, onset, duration.
- f. Medical history, infections, allergies, surgeries, medications.
- g. Family history of hearing loss
- h. History of hearing aid use.
- i. Expectations and needs of the client, lifestyle.
- j. History of noise exposure.
- k. History of ringing in the ears, pain in the ears, dizziness.
- l. Date of last history taken

2. Otoscopic Exam

The Otoscopic exam must be completed prior to any hearing testing. The purpose of the Otoscopic exam is to:

- a. Determine the presence of cerumen that might interfere with the hearing sensitivity and /or making of an ear impression.
- b. Observe any abrasions, infections, abnormal growths, eardrum perforations, foreign objects, or other obvious disorders.
- c. Determine the size of the external canal and its ability to accommodate an ear mold or hearing aid.
- d. Evaluate the possibility of ear canal collapse. Ear canal collapse may invalidate hearing tests as it can produce misleading air/bone gaps.
- e. To determine the location of the second bend of the ear canal and other landmarks when taking an ear impression.

3. Tympanometry

When completing tympanometry:

- a. Examine the ear otoscopically for evidence of external ear canal pathology, a perforated eardrum, ventilation tube, and the general size and shape
- b. Record your findings, including ear canal volume, peak amplitude of the tympanogram, and pressure point of the peak.
- c. Interpret the tympanogram as normal or abnormal.
- d. If findings are abnormal:
 - i. Classify the tympanogram and think of possible middle ear pathologies that could be associated with the tympanogram type (Type A, Type B, Type C).
 - ii. Develop some working ideas about which audiometric patterns you will record.

iii Consider a referral.

Tympanometry can be used to help to determine Otosclerosis, otitis media, cholesteatoma, scarred or thickened tympanic membrane, discontinuity, and malingering.

4. **Acoustic Reflexes**

The acoustic reflex threshold is the lowest intensity needed to elicit a contraction of the stapedius and tensor tympani muscles using a pure tone stimulus. The introduction of an intense sound into the ear canal results in a temporary increase in middle ear impedance. Contralateral reflexes are measured by stimulating one ear and measuring the reflexes of the opposite ear. Ipsilateral reflexes are measured by stimulating one ear and recording from the same ear. Reflexes occur between 70 and 100 dB SPL in normal ears. Middle ear abnormalities or significant sensorineural hearing losses may elevate or obliterate the acoustic reflexes. Retrocochlear pathology and facial nerve disorders may also affect contralateral and ipsilateral acoustic reflexes.

Acoustic Reflex Threshold

Present at normal thresholds and sensation levels – Normal hearing.

Present at normal thresholds, but reduced sensation levels – cochlear hearing loss.

Present at elevated thresholds and normal or elevated sensation levels – Retrocochlear.

Absent – May be consistent with retrocochlear or a severe (>60 dB HL thresholds) cochlear hearing loss.

5. **Tone Decay**

Carhart Tone Decay Test – a tone is presented to the patient through an earphone. The tone level is increased in intensity until it reaches auditory threshold. Clients are asked to listen closely and to signal as soon as they hear a tone and again when they no longer hear it. As soon as the client signals that the tone is heard, the stopwatch is started; it is stopped when the client signals that the tone is no longer heard. The number of seconds that the tone is heard at 0 dB SL is recorded. The stopwatch is reset, and the level of the tone is raised to 5 dB SL (without interrupting the tone). This procedure is continued until,

- a. The client can hear the tone for a full 60 seconds;
- b. 30 dB SL has been reached, and the client fails to hear the tone at that level for at least 60 seconds; or
- c. The maximum limit of the audiometer has been reached.
- d. The amount of tone decay is expressed as the number of decibels above threshold that the tone can be heard for a full minute.

Rosenberg Tone Decay Test – The tone is introduced at 5 dB SL and timing is begun with a stop watch when the client signals that the tone is no longer heard, the level is immediately raised by 5 dB, but the stop watch is allowed to continue running. If the client signals silence again, the level is raised another 5 dB, and so

forth, until the entire 60 seconds has elapsed. This test is scored as the number of decibels of decay in the 60-second period.

Olsen-Noffsinger Tone Decay Test – This procedure is a modification of the Carhart method in which the test is begun at a level 20 dB above threshold.

Interpreting Tone Decay Tests

There are three types of tone decay:

- 1) Type I. No tone decay in 60 seconds at any frequency: This is seen in clients with normal auditory systems, in those with conductive hearing losses, and in some with lesions of the cochlea.
- 2) Type II. Progressively slower tone decay as the level is raised in 5 dB steps. Type II tone decay is strongly suggestive of cochlear pathology.
- 3) Type III decay is the most dramatic. Even with increased intensity, the client is unable to sustain hearing of the tone for increasing periods of time. Type III decay patterns are strongly suggestive of lesions of the auditory nerve.

6. Speech Detection Threshold (SDT)

May be defined as the lowest level in decibels at which a client can barely detect the presence of speech and identify it as speech. Present to the client through the desired output transducer, some continuous-discourse stimulus. The level of speech is raised and lowered on the hearing level dial until the client indicates that they can barely detect the speech. Sentences should be read rapidly and monotonously so that there are few peaks above or below the UV meter.

7. Speech Reception Threshold (SRT)

May be defined as the lowest level at which speech can be understood. SRT is obtained using spondaic words. Words may be presented to the client through monitored live voice or by the use of pre-recorded word list. The tester presents these words at a comfortable listening level for the client. The tester starts to reduce the loudness of the words in 5 to 10 dB steps until the client is no longer able to repeat the words. The loudness is then increased until the client responds correctly. The threshold is where the client is able to repeat the words correctly 50% of the time. A recognized spondaic word list is CID Auditory Test W-1.

8. Most Comfortable Level (MCL)

Measurement of MCL should be made with a continuous-discourse stimulus so that the client has an opportunity to listen to speech as it fluctuates over time. The use of cold running speech is practical for this purpose. The MCL level is achieved by asking the client what loudness or volume they prefer. After the client's answer, the tester adjusts the attenuator up and down, bracketing the MCL and allowing the client to hear speech at different loudness levels.

9. Uncomfortable Loudness Level (UCL)

This measurement should be made using cold running speech. The UCL level is the level at which a client reports sound to be uncomfortably loud. Explain to the

client that you are turning the volume louder and that they need to tell you when it has become uncomfortable. Start at the client's MCL and raise the attenuator in 5 dB steps until the client signals you that it is uncomfortable.

10. Word Recognition Scores/Speech Discrimination Scores

The test may be presented by pre-recorded material or monitored live voice. The results will be recorded on the audiogram. Recognized word lists included CID Auditory Test W-22 and NU6. The test presentation level should be at the client's MCL. Present a list of 25 words minimum per ear to the client and record their score.

11. Real Ear Measurements

When completing real ear measurements ensure that the tests used are documented, REUR, REAR, REOR, etc. Ensure that the client's name, date or real ear verification, hearing aid serial number, volume control setting, and pot/computer settings are all recorded. Results will be kept in the client's file.

12. Masking

These are the masking rules when **using insert earphones** and the plateau method of masking.

<u>TEST LEVEL</u>	<u>WHEN TO MASK</u>	<u>INITIAL NOISE</u>
Air Conduction	$AC_{TE} - BC_{NTE} \geq 75$ (≤ 1000 Hz); $AC_{TE} - BC_{NTE} \geq 50$ (≥ 1000 Hz)	AC_{NTE}
Bone Conduction OE**	$ABG \geq 15$	$AC_{NTE} +$
SRT	$SRT_{TE} - \text{best } BC_{NTE} \geq 60$	SRT_{NTE}
Word Recognition biggest	$PL_{TE} - \text{best } BC_{NTE} \geq 60$	$PL_{TE} - 60 +$ ABG_{NTE}
MCL 60	$MCL_{TE} - \text{best } BC_{NTE} \geq 60$	$\text{Best } BC_{TE} +$

**OE – Occlusion effect at 250 Hz = 10 dB.

PL = presentation level

TE = test ear

NTE = non test ear

This is the plateau method **when using headsets.**

<u>TEST LEVEL</u>	<u>WHEN TO MASK</u>	<u>INITIAL NOISE</u>
Air Conduction	$AC_{TE} - BC_{NTE} \geq 40$	AC_{NTE}
Bone Conduction	$ABG \geq 15$	$AC_{NTE} + OE^*$
SRT	$SRT_{TE} - \text{best } BC_{NTE} \geq 40$	SRT_{NTE}
Word Recognition biggest	$PL_{TE} - \text{best } BC_{NTE} \geq 40$	$PL_{TE} - 40 +$ ABG_{NTE}
MCL 40	$MCL_{TE} - \text{best } BC_{NTE} \geq 40$	Best $BC_{TE} +$

* Occlusion Effect 250 Hz = 30 dB, 500 Hz = 20 dB, 1000 Hz = 10 dB

APPENDIX B

COLLEGE OF HEARING AID PRACTITIONERS OF ALBERTA

NURSING HOME HEARING AID CRITERIA

DATE

CLIENTS NAME

NURSING HOME

ADDRESS

1. Who has requested the hearing aid?

Doctor

Family Member

Nursing Home

Practitioner

Client

2. Has this client worn hearing aids before?

Yes

No

3. This client needs daily assistance with:

Insertion and removal

Changing batteries

Cleaning

Adjusting volume control

3A. Who will assist on the above if necessary?

4. Who is the contact person for this client?

Family member: name

phone number

Staff member: name

phone number

Hearing Aid Practitioner Name:

Signature:

Approved by: Doctor

Staff Member

Family Member

Name:

Signature:

APPENDIX C

**HEARING AID PRACTITIONER
CHILD/MINOR REFERRAL FORM**

INSTRUCTIONS

This form is to be completed for all clients under the age of 18 years in accordance with the guidelines of the College of Hearing Aid Practitioners of Alberta. A copy is to be given to the Parent/Guardian for transmittal to the appropriate referral agency.

Client Information

Name:

Date of Birth:

Parent/Guardian:

Address:

Referred by:

Services provided:

Hearing Screening:

Hearing Evaluation:

Hearing aid evaluation/fitting:

Other (specify):

Recommendation/referrals

This client should be seen by:

- Physician
- Otolaryngologist
- Speech/Hearing Specialist
- Hospital
- Health Unit
- Other

Hearing Aid Practitioner
Name:

Parent/Guardian
Name:

Signature:

Signature:

Date:

Date:

References

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Handbook of Clinical Audiology by Jack Katz, Ph.D., printed 1972 by The Williams and Wilkins Co.

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Hearing Instrument Science and Fitting Practices by Robert E. Sandlin Ph.D., Sixth edition, printed 1994 by National Institute for Hearing Instrument Studies.

Audiologists' Desk Reference Volume I by James W. Hall III and H. Gustav Mueller III, printed 1997 by Singular Publishing Group Inc.

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