



POSITION STATEMENT

EQUIPMENT SERVICING REQUIREMENTS BY AUDIOLOGISTS

APPROVED 2008

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Audiologists must ensure that all materials and equipment utilized in service provision are in proper working order and appropriately serviced and maintained.

BACKGROUND

This position statement addresses all materials and equipment used by CASLPO audiologists in service provision. These materials and equipment include, without limitation, diagnostic and treatment equipment. The environment must accommodate, and be appropriate to, the procedures which are being conducted.

Use of materials and equipment that are not in proper working order can result in significant risk of harm to patients/clients. The risk of harm may be purely physical (bodily harm) or patients/clients may suffer a range of types of harm including physical, psychosocial (individual, family), educational, economic, emotional and developmental harm. For example, poorly maintained materials and equipment may affect the accuracy of assessment or treatment results.

Servicing of materials and equipment includes but is not limited to inspection, maintenance and repair. Servicing of equipment also includes calibration, where appropriate.

Some College documents also establish servicing standards for specified equipment. For example, the Preferred Practice Guideline for the Prescription of Hearing Aid to Adults and the Preferred Practice Guideline for the Prescription of Hearing Aid to Children stipulate calibration standards for specific equipment.

Records of equipment servicing must be kept in accordance with the College's Proposed Regulation on Records.

Proposed Regulation for Records (2007):

3. Each member shall keep an equipment service record which sets out a record of the servicing of those pieces of equipment which the member uses to examine, treat or render service to patients or clients and which, if not properly serviced, create a risk of harm to patients or clients or a risk of affecting the accuracy of assessment or treatment results.

7. (1) If the member keeping the patient or client record is self-employed,

b. every equipment service record shall be retained for at least ten years following the date of servicing.

- (2) If the member keeping the patient or client record and/or equipment service record is employed by, or is providing professional services to or on behalf of, a company, institution, agency or other organization:
- b. the member shall take all reasonable steps to ensure that the equipment service records maintained by the company, institution, agency or organization are retained as specified in 7(2) or, where other legislation specific to that setting is in effect governing the retention of these records by the company, institution, agency or organization, as specified in that legislation.
 - c. the member shall not be required to keep a separate equipment service record and/or a separate patient or client record for a patient or client whom the member or support personnel screens or treats or whom the member assesses unless it is evident that the company institution, agency or other organization will not retain the record in a manner consistent with this regulation.

Audiologists are also reminded that in using materials and equipment, they must adhere to standard practices for infection control, as indicated in the College document "[Infection Control for Regulated Professionals](#)".

REQUIREMENTS

1. Audiometers and aural acoustic immittance instruments must be serviced and calibrated in accordance with manufacturers' maintenance schedules and conform to ANSI standards S3.6-2004 (or current version) and S3.39-1987 (R 2007) (or current version) respectively. Equipment used to measure real-ear performance of hearing aids should report characteristics and conform to tolerances outlined in ANSI S3.46-1997 (R 2007) (or current version).
2. Diagnostic equipment for which ANSI specification standards are not published (e.g., instrumentation for measuring auditory evoked potentials, otoacoustic emissions, hearing aid performance, vestibular function, etc.) must be serviced and/or calibrated in accordance with manufacturers' specifications.
3. Test booths must be checked annually or immediately following the introduction of potential noise sources to ensure compliance with maximum permissible ambient noise levels as specified in ANSI S3.1-1999 (R 2003) (or current version). Testing environments that do not comply with this standard are not suitable for assessments at reference equivalent threshold levels and are not recommended for clinical practice. However, for the purpose of hearing screenings, or under exceptional circumstances where accessibility to standard-compliant tests booths is not possible (such as in the provision of outreach services), frequency-specific ambient noise should be measured at octave or one-third octave bands from 125-8000 Hz using a sound level meter conforming to ANSI S1.4-1983 (R2006) (or current version). The maximum arithmetic difference (in dB) between measured and permissible levels determines the minimum thresholds for which the test environment is appropriate. Assessment documentation under such circumstances must include ambient noise measurements. Where a sound level meter is not available, the impact of ambient noise on threshold measurement (in the form of correction factors derived from the examiner's known thresholds) must be documented.

4. Sound fields produced via loudspeakers must conform to standards specified in ANSI S3.6-2004 (or current version) and ANSI S3.1-1999 (R 2003) (or current version) respectively. Specifically, loudspeakers must be positioned at the head-height of test subjects and directed along a reference axis to create a reference point at a distance of at least one metre (at 0, 45, or 90 degrees of incidence). In the absence of both a test subject and test chair, the sound pressure level (SPL) of a test signal measured 15 cm. along vertical and horizontal axes must not deviate by more than 2 dB from that measured at the reference point; these reference points must be checked annually. Sound field recalibration must be completed following the introduction of any physical changes (including new or repositioned equipment) that can alter reference point measures.
5. Inspection and biologic evaluation of equipment operational status must be conducted monthly. This may include examination of power and transducer cords, cushions and headbands, and controls to ensure normal function. Listening checks must confirm that audiometers are not producing ambient noise, crosstalk, acoustic radiation (e.g., from a bone oscillator) or interrupter switch static/hum. Proper frequency function can be determined using a 70 dB HL sweep across all settings for each earphone and noting a non-wavering tone. Attenuator linearity can be confirmed by sweeping a 1000 Hz tone through the HL range and noting the absence of other noise or distortion throughout the transition. Instruments that measure aural acoustic immittance and otoacoustic emissions must be inspected for debris; the attending audiologist must self-administer each procedure to ensure proper function.
6. Non-diagnostic machinery (e.g., computers, hearing aid shell/earmold modifiers, cerumen vacuums, etc.) must be physically checked and maintained, at a minimum, annually.
7. Portable equipment transported outside of the formal clinic setting must be inspected and/or checked prior to use with patients/clients.
8. Audiologists must also comply with any additional material maintenance, equipment servicing or calibration requirements present in any other College documents, such as Preferred Practice Guidelines.
9. Where equipment calibration and servicing is legislated under another authority (e.g., Healing Arts Radiation Protection Act, 1990), the member is not responsible for the calibration and servicing of the equipment.

REFERENCES

ANSI S1.4-1983(R 2006) American National Standard Specification for Sound Level Meters.

ANSI S3.1-1999 (R 2003) American National Standard Maximum Permissible Ambient Noise Level for Audiometric Test Rooms.

ANSI S3.6-2004 American National Standard Specification for Audiometers.

ANSI S3.39-1987 (R 2007) American National Standard Specifications for Instruments to Measure Aural Acoustic Impedance and Admittance (Aural Acoustic Immittance).

ANSI S3.46-1997 (R 2007) American National Standard Methods of Measurement of Real-Ear Performance Characteristics of Hearing Aids.

Audiology: Diagnosis (2000). Roeser, R.J., Valente, M., Hosford-Dunn, H. (Eds.) New York, N.Y.: Thieme Medical Publishers, Inc.

College of Audiologists and Speech-Language Pathologists of Ontario. Infection Control for Regulated Professionals, 2006.

Healing Arts Radiation Protection Act, 1990. Ontario.