



ASHA
American
Speech-Language-Hearing
Association

PREFERRED PRACTICE PATTERNS FOR THE PROFESSION OF AUDIOLOGY

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ACKNOWLEDGMENTS

The Preferred Practice Patterns are part of a continuum of policy documents related to clinical practice. As such, updates are needed periodically to ensure that the Preferred Practice Patterns are consistent with current clinical practice and Association policy. The Vice President for Professional Practices in Audiology convened a Working Group to review and revise where necessary the 1997 *Preferred Practice Patterns for the Profession of Audiology*. The Working Group participants were Harvey Abrams; Roberta B. Aungst, Monitoring Vice President; Sue Ann Erdman; Jaynee A. Handelsman; Paula P. Henry; Pamela Mason, ex officio (2006); George T. Mencher, Chair; Tina Mullins, ex officio (2005); Frank Musiek; Neil T. Shepard; and Sandra L. Turek. Additional input was provided by Janet Brown, Vic Gladstone, Lemietta McNeilly, and Diane Paul, National Office staff members; Celia Hooper, Vice President for Professional Practices in Speech Pathology (2003-2005); and Teri James Bellis, Gail Chermak, and Teresa Zwolan.

PREAMBLE

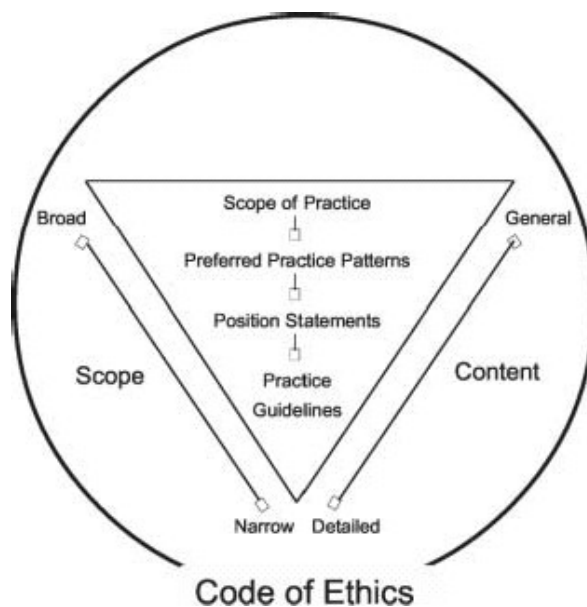
The American Speech-Language-Hearing Association (ASHA) established the *Preferred Practice Patterns for the Profession of Audiology*¹ to enhance the quality of professional services and for an educational tool for ASHA-certified audiologists, other professionals, members of the general public, consumers, administrators, regulators, and third-party payers. The Preferred Practice Patterns provide an informational base to promote quality patient care delivery in health care, education, industry, and other settings in which audiologists practice. They are sufficiently flexible to permit both innovation and acceptable practice variation yet sufficiently definitive to guide practitioners in decision making for appropriate clinical outcomes. They provide a focus for professional preparation, continuing education, and research activities. In publishing these statements, ASHA does not intend to exclude members of other professions or related fields from rendering services within their scope of practice for which they are competent by virtue of education and training.

The Preferred Practice Patterns are neither a yardstick to measure acceptable conduct nor a set of aspirational principles. Rather, they reflect the standard of care relevant to a particular set of circumstances. There may be legitimate reasons for departing from the practice patterns. Audiologists should make the ultimate judgment regarding the appropriateness of any given procedure. This should be based on individual patient circumstances and often is a collaborative decision with the patient, family, caregivers, and other professionals. These practice patterns are to be used with sensitivity to and knowledge of cultural and linguistic differences and the

individual preferences and needs of patients and their families and/or caregivers. Practitioners also need to be aware of the ASHA (2003) Code of Ethics when considering alternative practices.

These practice patterns are organized by procedure and were developed to be consistent with the World Health Organization's (2001) *International Classification of Functioning, Disability and Health*, as well as the framework of the *Scope of Practice in Audiology* (ASHA, 2004f; see Figure 1). For each procedure, the *Preferred Practice Patterns for the Profession of Audiology* specify the expected outcome(s), clinical indications for the procedure, clinical process, others who may perform the procedure, setting/equipment specifications, safety and health precautions, and documentation. For many clinical procedures, the Preferred Practice Patterns direct practitioners to more detailed guidelines in the ASHA Policy Documents and Related References section at the end of each statement as well as to related practice patterns. Adherence to the Preferred Practice Patterns does not guarantee a desired outcome.

Figure 1. Code of Ethics.



It is useful to regard these practice patterns within the conceptual framework of ASHA policy statements ranging in scope and specificity from broad to narrow and general to detailed in content. The categories are defined as follows:

- Scope of Practice Statement: A list of professional activities that define the range of services offered within the profession of audiology.
- Preferred Practice Patterns: Statements that define generally applicable characteristics of activities directed toward individual patients and that address structural requisites of the practice, processes to be carried out, and expected outcomes.
- Position Statements: Statements that specify ASHA's policy and stance on a matter that is important not only to the membership but also to consumers or to outside agencies or organizations.
- Practice Guidelines: A recommended set of procedures for a specific area of practice, based on research findings and current practice. These procedures detail the knowledge, skills, and/or competencies needed to perform the procedures effectively.

In applying these practice patterns, all ASHA-certified audiologists are bound by the ASHA Code of Ethics. All professional activity must be consistent with the Code of Ethics and with individual state licensure regulations. Particularly relevant to clinical practice are those provisions for holding paramount the welfare of persons served and providing only clinical services for which one is competent, considering education, training, and experience. The Code of Ethics also requires one to maintain the confidentiality of patient records. In addition, practitioners who hold paramount the welfare of persons served must follow standard health precautions when they are providing clinical services that would place themselves or their patients at risk for transmission of communicable diseases (ASHA, 1991). The Code of Ethics also stipulates that practitioners can only delegate the provision of audiologic services to those individuals who hold appropriate credentials or to support personnel who have appropriate training and who receive appropriate supervision by the audiologist.

Related to the framework of ASHA policy statements are the standards that have been established for the certification of audiologists and the accreditation of graduate education programs in audiology. Standards are formalized rules or requirements that must be attained or adhered to, to become part of a group that claims to have met specified criteria. Associations set standards in a variety of areas, recognizing that certain members or entities have achieved, or maintained, certain qualities or competencies. Standards are important because they assure the public and others in the profession that a specific person or program strives for excellence in practice or delivery of service. When certain standards are met, the person or program can publicly claim that they are "accredited" or "certified" by a body responsible for verifying that the standards have been met. Standards programs help to promote public confidence in the professions.

ASHA has developed standards in these areas: **certification** of audiologists and **accreditation** of graduate-level educational programs. The Council for Clinical Certification (CFCC) sets the standards for the certification of individuals and verifies that individuals have met those standards. The CFCC authorizes the use of the designator CCC-A (Certificate of Clinical Competence in Audiology) after a person's name when it has been determined that the person meets the certification standards. These standards are designed to demonstrate that certified audiologists possess the skills and knowledge levels necessary for entry into the profession of audiology and maintain their expertise through continuing education. The Council on Academic Accreditation (CAA) formulates the standards for the accreditation of graduate educational programs that provide entry-level professional preparation with a major emphasis in audiology and applies those standards in the accreditation of such programs. Accreditation is intended to protect the interests of students, benefit the public, and improve the quality of teaching, learning, research, and professional practice. Through its accreditation standards, the CAA encourages institutional freedom, ongoing improvement of educational institutions and training programs, sound educational experimentation, and constructive innovation.

The original Preferred Practice Patterns (1992) were the product of extensive peer review by ASHA members and contained patterns for the professions of audiology and speech-language pathology. In clinical areas of controversy, working groups of members with expertise were formed to reach consensus on accepted practice patterns. The 1997 revision of the Preferred Practice Patterns updated the original document, developed additional practice patterns for new or emerging areas of clinical practice, and represented the first time audiology documents were separated from speech pathology documents.

The current *Preferred Practice Patterns for the Profession of Audiology* represent the consensus of the members of the profession after the consideration of available scientific evidence, existing ASHA and related policies, current practice patterns, expert opinions, and the collective judgment and experience of practitioners in the field. Requirements of federal and state governments and accrediting and regulatory agencies also have been considered. They reflect current practice based on available knowledge. Because audiology is a dynamic and continually developing profession, advances are expected to change current practice patterns. Similarly, advances in educational and health care policy and practices influence professional practices. The practice patterns will be updated periodically to reflect new clinical, scientific, and technological developments that occur inside and outside the profession of audiology.

¹ The reader is advised that a related document, the Preferred Practice Patterns for the Profession of Speech-Language Pathology, also exists.

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

American Speech-Language-Hearing Association. (1991). *Prevention of communication disorders tutorial* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1993). *Definitions of communication disorders and variations*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998). *Support personnel in audiology: Position statement and guidelines*. Available from www.asha.org/policy/

American Speech-Language-Hearing Association. (2001). *Scope of practice in speech- language pathology*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2003). *Code of ethics (revised)*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *Clinical practice by certificate holders in the profession in which they are not certified*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *Confidentiality*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004c). *Conflicts of professional interest*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004d). *Evidence-based practice in communication disorders: An introduction* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004e). *Knowledge and skills needed by speech-language pathologists and audiologists to provide culturally and linguistically appropriate services*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004f). *Scope of practice in audiology*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). Cultural competence. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b). *Evidence-based practice in communication disorders* [Position statement]. Available from www.asha.org/policy/.

Health Insurance Portability and Accountability Act of 1996 (HIPAA) Pub L. No. 104-191 World Health Organization. (2001). *International classification of functioning, disability and health*. Geneva, Switzerland: Author.

GUIDING PRINCIPLES

The following guiding principles formed the basis of the *Preferred Practice Patterns for the Profession of Audiology*:

1. Keep paramount the welfare of patients served in all practice decisions and actions.
2. Acknowledge that a primary purpose for addressing communication issues is to effect measurable and functional change(s) in an individual's communication status so that he or she may participate as fully as possible in all aspects of life—social, educational, and vocational.
3. Recognize that communication is always an interactive process and that the focus of intervention may include training of communication partners (e.g., caregivers, family members, peers, educators).
4. Maintain sensitivity to and knowledge of cultural and linguistic differences and the individual preferences and needs of patients and their families and/or caregivers.
5. Acknowledge that the scope of practice for audiologists enables them to engage in activities that identify, assess, diagnose, manage, and interpret test results related to disorders of the auditory, balance, and other neural systems.
6. Identify appropriate support personnel who may perform certain procedures.
7. Address the clinical indications for performing any given procedure.
8. Define appropriate environmental factors related to procedures (e.g., ambient noise, setting, equipment, materials).
9. Address demographic factors pertinent to the individual (e.g., age, developmental level, education), as well as cultural, ethnic, linguistic, vocational, and social factors.
10. Consider risk as it relates to the health, safety, and welfare of patients and practitioners; severity of impairment, disability, or handicap; severity of auditory, balance, or other related disorder(s); premorbid health and cognitive status; related conditions and complications; effects of medications, surgery, and other interventions; special needs (e.g., glasses, hearing aid, wheelchair); social needs/support system; and other services needed.

11. Consider outcomes including prevention of auditory, vestibular, and other related disorders; improvement and/or maintenance of functional communication; and enhancement of the quality of life.
12. Consider intra- and interdisciplinary approaches to service delivery.
13. Recognize the dignity and privacy of individuals and consider patient rights, expectations, needs, and preferences.
14. Recognize the value and importance of obtaining fully informed consent for procedures that may present risk or are part of a research protocol and appropriate releases of information before sharing any information about patients with others.
15. Recognize a variety of appropriate service delivery models and procedures (e.g., collaborative consultation, participation in multi-, inter-, and transdisciplinary teams, use of support personnel, and new and advanced technologies).
16. Adhere to the specifications and intent of the current Code of Ethics.
17. Recognize the importance of documentation and acknowledge that privacy and security of documentation are maintained in compliance with the regulations of the Health Insurance Portability and Accountability Act, the Family Educational Rights and Privacy Act, and other state and federal laws.

PREFERRED PRACTICE PATTERNS

- 1.0 Prevention
- 2.0 Audiologic Screening
- 3.0 Speech-Language Screening
- 4.0 External Auditory Canal Examination and Cerumen Management
- 5.0 Basic Audiologic Evaluation
- 6.0 Advanced Audiologic Evaluation
- 7.0 Pediatric Audiologic Evaluation
- 8.0 Electrodiagnostic Test Procedures
- 9.0 Auditory Evoked Response Evaluation
- 10.0 Intraoperative Monitoring
- 11.0 Audiologic Management of the Surgical Patient
- 12.0 Balance System Evaluation
- 13.0 Tinnitus Management
- 14.0 Audiologic (Re)habilitation Evaluation
- 15.0 Audiologic Rehabilitation for Adults
- 16.0 Audiologic (Re)habilitation for Children
- 17.0 Hearing Aid Selection and Fitting
- 18.0 Product Repair/Modification
- 19.0 Hearing Assistive Technology Systems
- 20.0 Audiologic Management of the Cochlear Implant Patient

- 21.0 (Central) Auditory Processing Disorders Evaluation
- 22.0 Treatment and Management of (Central) Auditory Processing Disorders
- 23.0 Counseling
- 24.0 Ototoxicity: Monitoring of the Auditory and Vestibular Systems
- 25.0 Consulting Services
- 26.0 Occupational Hearing Loss Prevention and Conservation
- 27.0 Outcome Evaluation and Follow-Up Measures

1.0 PREVENTION

Procedures and programs to prevent initial or additional damage to hearing, balance, and related systems.

Prevention is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Preventative actions avoid, eliminate, inhibit, or delay the onset and development of a hearing, balance, or related disorder.

Preventative actions may include minimizing susceptibility to hearing loss and associated auditory disorders or reducing exposure to potentially damaging events for susceptible persons.

Preventative actions are aimed at preventing hearing loss either on an individual or a group/community level.

CLINICAL INDICATIONS

Prevention services are indicated for the general population (e.g., community awareness or health fairs).

Prevention services are indicated for all patients and their family members/ caregivers as an integral part of audiologic services.

Monitoring services are provided for individuals with hearing loss at risk for additional hearing loss due to toxic substances or continued exposure to occupational, environmental, or recreational noise.

CLINICAL PROCESS

Prevention programs for patients with noise-induced hearing loss must be appropriate (it makes sense), adequate (it makes a difference), acceptable (one can live with it), and affordable (to the individual and/or the community).

Design, implementation, coordination, and supervision of prevention programs may include an interdisciplinary team (e.g., industrial hygienists, occupational physicians, nurses, acoustical engineers, and educators).

Prevention services may include one or more of the following:

- identifying a need for services
- establishing relationships with professionals and community groups
- selecting consultation and educational strategies
- providing general information about auditory and balance processes and related disorders and their prevention and treatment
- facilitating changes in the acoustic environment and developing programs or instrumentation for the prevention of hearing loss and associated auditory disorders
- referring to appropriate resources

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals.

SETTING/EQUIPMENT SPECIFICATIONS

Prevention services are offered in home, health care, education, business, industrial, and military settings and government agencies for individuals, families, groups, and organizations.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation should include prevention plans, pertinent information, educational materials, and recommendations for prevention strategies.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 2.0 Audiologic Screening
- 3.0 Speech-Language Screening
- 24.0 Ototoxicity

- 26.0 Occupational Hearing Loss Prevention and Conservation

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1988). *Prevention of communication disorders* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991). *Prevention of communication disorders tutorial* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004). *The audiologist's role in occupational hearing conservation and hearing loss prevention programs*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). *Acoustics in educational settings: Position statement*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b, November). *Bylaws and policies associated with the bylaws of the American Speech-Language-Hearing Association. Article II, § 2.1 (3)*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2006, February 27). *Healthy People 2010—Health objectives for the nation [ASHA Fact Sheet]*. Available from www.asha.org/members/research/reports/healthy_people_2010.htm.

World Health Organization. (2001). *International classification of functioning, disability and health*. Geneva, Switzerland: Author.

World Health Organization. (n.d.) *Strategies for prevention of deafness and hearing impairment*. Retrieved May 9, 2006, from www.who.int/pbd/deafness/activities/strategies/en/index.html

2.0 AUDIOLOGIC SCREENING

A pass/fail procedure to identify individuals who require further audiologic assessment/evaluation and/or treatment or referral for other professional services.

Hearing screening is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Audiologic screening serves to prevent further consequences from unidentified auditory impairment.

Audiologic screening identifies those persons with auditory impairment or at risk for such impairment that may impact communication, health, education, and psychosocial function.

Audiologic screening may result in recommendations for rescreening, audiologic assessment/evaluation, or referral for other assessment or treatment.

CLINICAL INDICATIONS

Individuals of all ages (from birth through adult years) are screened as needed, requested, or mandated or when they have conditions that place them at risk for hearing loss. Screen all newborns for impairment at birth or within 3 months of age, at-risk toddlers and preschoolers, and school-age children.

Neonates should receive audiologic screening before hospital discharge in accordance with the guidelines of the Joint Committee on Infant Hearing. When resource limitations or other restrictions preclude screening all newborns, all infants who receive neonatal intensive care or special care and all infants who have conditions that place them at risk (with indicators) for hearing impairment should be screened. Infants who are not tested as newborns should be screened before 3 months of age. Infants at risk for progressive or late-onset hearing loss should be screened every 6 months until 3 years of age and at appropriate intervals thereafter.

Infants and toddlers should be screened for otologic disorder and auditory impairment as needed, requested, or mandated or when they have conditions that place them at risk. Screen at well-baby visits up through 60 months of age or if family/caregiver expresses concern.

Screen school-age children on initial entry to school and annually in kindergarten through 3rd grade and in 7th and 11th grades.

Adults should be screened at least every decade through age 50 and at 3-year intervals thereafter, or more frequently on exposure to noise, toxic medications, or other risk factors associated with hearing loss.

CLINICAL PROCESS

Audiologic screening includes

- concern on the part of an individual and/or caregiver
- consent of patient or family/caregiver
- case history
- note of problems with hearing, balance, tinnitus, and speech-language
- otoscopic examination

Audiologic screening procedures may include

- for neonates and young infants, birth through 6 months, appropriate (electro) physiological measures in accordance with Joint Committee on Infant Hearing guidelines
- for children and adults, developmentally appropriate assessment procedures and stimuli and response methods
- for patients who fail the audiologic screening, referral to an audiologist for further audiologic assessment/evaluation

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals.

SETTING/EQUIPMENT SPECIFICATIONS

Audiologic screening is conducted in a clinical or natural environment conducive to obtaining valid and reliable screening results, which may, of necessity, at times include nontraditional settings such as bedside, home, or hospice.

Electroacoustic equipment meets American National Standards Institute (ANSI) and manufacturer's specifications. Ambient noise levels may not always meet ANSI standards for pure-tone threshold testing but are sufficiently low to allow accurate and reliable screening.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation should include identifying information, a case history, screening results, and recommendations including the need for rescreening, audiologic assessment, counseling, or referral.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 1.0 Prevention
- 3.0 Speech-Language Screening
- 4.0 External Auditory Canal Examination and Cerumen Management
- 23.0 Counseling

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (2002a). *Mechanical coupler measurement of bone vibration* (ANSI S3.13 R2002). New York: Author.

American National Standards Institute. (2002b). *Specifications for instruments to measure aural acoustic impedance and admittance* (aural acoustic immittance) (ANSI S3.39- R2002). New York: Author.

American National Standards Institute. (2003). *Maximum permissible ambient noise levels for audiometric test rooms* (ANSI S3.1-R2003). New York: Author.

American National Standards Institute. (2004). *Specifications for audiometers* (ANSI S3.6-R2004). New York: Author.

American Speech-Language-Hearing Association. (1987). *Calibration of speech signals delivered via earphones* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1988). *Prevention of communication disorders* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991). *Prevention of communication disorders tutorial* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997a). *Guidelines for audiologic screening*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997b). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998). *Support personnel in audiology: Position statement and guidelines*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002). *Guidelines for audiology service provision in and for schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *Clinical practice by certificate holders in the profession in which they are not certified*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *Guidelines for the audiologic assessment of children from birth to 5 years of age*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005). *Guidelines for manual pure-tone threshold audiometry*. Available from www.asha.org/policy/.

Joint Committee on Infant Hearing. (2000). *Year 2000 position statement: Principles and guidelines for early hearing detection and intervention programs*. Available from www.asha.org/policy/.

3.0 SPEECH-LANGUAGE SCREENING

A pass/fail procedure to identify individuals receiving audiology services who may require speech (articulation, voice, resonance, fluency) and/or language assessment.

Speech-language screening is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Speech-language screening identifies those persons likely to have speech, language, and/or cognitive disorders that may interfere with communication, health, education, and psychosocial function.

Failed screening results in referral for a speech-language pathology assessment/ evaluation and/or other examinations or services, as appropriate.

CLINICAL INDICATIONS

Individuals of all ages are screened as needed, requested, or mandated or when they have conditions that place them at risk.

CLINICAL PROCESS

Screen for speech production skills: articulation, fluency, resonance, and voice characteristics.

Screen for comprehension and production of language, including the cognitive and social aspects of communication.

Patients who fail the screening are referred to a speech-language pathologist for further assessment/evaluation and/or other examinations or services, as appropriate.

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals.

SETTING/EQUIPMENT SPECIFICATIONS

Speech-language screening is conducted in a clinical or natural environment conducive to eliciting a representative sample of the patient's speech and language.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation should include identifying information, screening results, other pertinent information, and recommendation for further assessment.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 2.0 Audiologic Screening
- 23.0 Counseling

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1988). *Prevention of communication disorders* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991). *Prevention of communication disorders tutorial* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1993). *Definitions of communication disorders and variations*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004). *Scope of practice in audiology*. Available from www.asha.org/policy/.

World Health Organization. (2001). *International classification of functioning, disability and health*. Geneva, Switzerland: Author.

4.0 EXTERNAL AUDITORY CANAL EXAMINATION AND CERUMEN MANAGEMENT

Procedures to assess the external auditory canal and tympanic membrane and, if necessary, to remove debris.

External auditory canal examination and cerumen management are conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

External auditory canal examination identifies the presence of external auditory canal/tympanic membrane abnormalities.

Cerumen management results in the removal of debris from the external auditory canal to facilitate the performance of other audiological procedures and/or to improve hearing sensitivity.

CLINICAL INDICATIONS

External auditory canal examination is performed on all patients in preparation for other audiologic procedures.

Cerumen management is required when the external auditory canal has an accumulation of debris that would preclude performing necessary services.

CLINICAL PROCESS

Otoscopic examination is conducted to identify abnormalities of the external auditory canal and tympanic membrane and the need for cerumen management.

Cerumen is removed from the external auditory canal using established procedures to include one or more of the following:

- mechanical removal
- irrigation
- suction

Appropriate referrals are made for further management, as required.

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Otoscopic examinations are performed with an otoscope with appropriate magnification and light source and with clean specula of appropriate size. Cerumen management is conducted in an environment that facilitates the performance of a safe and effective procedure.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation includes pertinent background information and a written statement of results of the external auditory canal examination and cerumen removal procedures.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 1.0 Prevention
- 23.0 Counseling

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following reference applies specifically to these procedures:

American Speech-Language-Hearing Association. (1991). *External auditory canal examination and cerumen management* [Position statement]. Available from www.asha.org/policy/.

5.0 BASIC AUDIOLOGIC EVALUATION

Procedures to assess, evaluate, and monitor the status and function of the peripheral auditory system, which includes the external, middle, and inner ears as well as the auditory nerve.

Basic audiologic evaluation is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Pure-tone and speech audiometry is conducted to determine the existence, type, and degree of hearing loss on the basis of behavioral responses to acoustic stimuli.

Acoustic immittance procedures are conducted to assess middle ear function.

Results from the audiologic assessment will be interpreted and may result in recommendations for dismissal or further audiologic assessment/evaluation; audiologic (re)habilitative evaluation; speech-language evaluation; or medical, psychological, and/or educational referral.

CLINICAL INDICATIONS

Basic audiologic assessment is prompted by self-referral, family/caregiver referral, failure of audiologic screening, or referral from other professionals.

CLINICAL PROCESS

Assessment includes the following:

- a case history
- external ear examination
- otoscopic examination
- acoustic immittance procedures (tympanometry, static immittance, and acoustic reflex measures)
- air-conduction and bone-conduction pure-tone threshold measures with appropriate masking
- speech reception thresholds or speech detection/awareness thresholds with appropriate masking
- word recognition measures with appropriate masking
- speech-language screening

Other procedures may be completed to supplement the basic audiologic assessment:

- otoacoustic emissions screening
- communication inventories and needs assessment inventories
- screening for central auditory processing disorders or other auditory disorders

Interpretation of the assessment may indicate one or more of the following:

- hearing within normal limits
- identification and quantification of hearing loss
- hearing loss identified but further testing required
- patient could not be tested using procedures

Evaluation may result in one of the following:

- discharge and/or recommendations for routine follow-up
- referral for audiologic rehabilitation evaluation
- referral for further audiologic evaluation and/or other services

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Assessments are conducted in a clinical environment with calibrated acoustic stimuli (e.g., pure tones, broadband noise, speech stimuli) conducive to obtaining reliable and valid results.

Electroacoustic and electrophysiological equipment and ambient noise meet American National Standards Institute and/or manufacturer's specification. Testing environment should meet the permissible ambient noise levels for audiometric test rooms.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient, audiologist, and others who participate in the clinical process and adhere to the standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation contains identifying information, case history, assessment results, interpretation, prognosis, and specific recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 1.0 Prevention
- 2.0 Audiologic Screening
- 3.0 Speech-Language Screening
- 4.0 External Auditory Canal Examination and Cerumen Management
- 23.0 Counseling

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (2002a). *Mechanical coupler for measurement of bone vibration* (ANSI 3.13-2002R). New York: Author.

American National Standards Institute. (2002b). *Specifications for instruments to measure aural acoustic impedance and admittance* (aural acoustic immittance) (ANSI S3.39- R2002). New York: Author.

American National Standards Institute. (2003). *Maximum permissible ambient noise levels for audiometric test rooms* (ANSI S3.1-R2003). New York: Author.

American National Standards Institute. (2004a). *Method for manual pure-tone threshold audiometry* (ANSI S3.21R2004). New York: Author.

American National Standards Institute. (2004b). *Specifications for audiometers* (ANSI S3.6 R2004). New York: Author.

American Speech-Language-Hearing Association. (1988a). *Guidelines for determining threshold level for speech*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1988b). *Prevention of communication disorders* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1990). *Guidelines for audiometric symbols*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991a). *Acoustic immittance: A bibliography*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991b). *Prevention of communication disorders tutorial* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1992). *External auditory canal examination and cerumen management* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1993). *Definitions of communication disorders and variations*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994). *Guidelines for the audiologic management of individuals receiving cochleotoxic drug therapy*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997a). *Guidelines for audiologic screening*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997b). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2000). *Guidelines for graduate education in amplification*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002). *Guidelines for audiology service provision in and for schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *Clinical practice by certificate holders in the profession in which they are not certified*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *Guidelines for the audiologic assessment of children from birth to 5 years of age*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). *Audiologists providing clinical services via telepractice: Position statement*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b). *Guidelines for addressing acoustics in educational settings*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005c). *Guidelines for manual pure-tone threshold audiometry*. Available from www.asha.org/policy/.

Joint Committee on Infant Hearing. (2000). *Year 2000 position statement: Principles and guidelines for early hearing detection and intervention programs*. Available from www.asha.org/policy/.

6.0 ADVANCED AUDIOLOGIC EVALUATION

Procedures beyond basic audiologic evaluation to further assess, evaluate, and monitor the status and function of the peripheral auditory system (external, middle, and inner ears as well as the auditory nerve) and the central auditory nervous system.

Please refer to Section 7: Pediatric Audiologic Evaluation for assessment of infants, children, and those whose developmental levels preclude the use of a basic audiologic evaluation.

Advanced audiologic evaluations are conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Advanced audiologic evaluations are conducted to determine the existence, type, and degree of hearing impairment on the basis of behavioral, physiological, or electrophysiological response to acoustic stimuli.

Results from the advanced audiologic diagnostic procedures will be interpreted and may result in recommendations for discharge or audiologic (re)habilitative evaluation; speech-language evaluation; or medical, psychological, and/or educational referral.

CLINICAL INDICATIONS

Advanced audiologic evaluations are prompted by inconclusive and/or inconsistent results on the basic audiologic evaluation or referral from other professionals.

CLINICAL PROCESS

Advanced audiologic diagnostic measures should not be completed in the absence of results obtained from a basic audiologic evaluation. Specific procedures will vary depending on practitioner judgment and patient need.

Assessment may include the following:

- basic audiologic evaluation
- acoustic reflex patterns
- acoustic reflex decay
- auditory evoked potentials
- performance intensity function with standardized speech materials
- otoacoustic emissions
- Stenger tests
- central auditory processing disorder evaluation
- tinnitus evaluation
- dynamic range assessment
- high-frequency audiometry

Interpretation of the assessment may indicate one or more of the following:

- normal hearing
- nonorganic hearing loss
- existence, type, and degree of hearing loss
- site of lesion
- hyperacusis
- inconclusive test results

Evaluation may result in one or more of the following:

- discharge and/or recommendations for routine follow-up
- referral for audiologic rehabilitation evaluation
- referral to other professionals

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Assessments are conducted in a clinical environment with calibrated acoustic stimuli (e.g., pure tones, broadband noise, speech stimuli) conducive to obtaining reliable and valid results.

Compact discs and disc players or high-quality tapes and tape players should be used.

Electroacoustic and electrophysiological equipment and ambient noise must meet American National Standards Institute and/or manufacturer's specification.

Testing environment should meet the permissible ambient noise levels for audiometric test rooms.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient, audiologist, and others who participate in the clinical process and adhere to the standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation contains identifying information, case history, assessment results, interpretation, prognosis, and specific recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 3.0 Speech-Language Screening
- 4.0 External Auditory Canal Examination and Cerumen Management
- 5.0 Basic Audiologic Evaluation
- 8.0 Electrodiagnostic Test Procedures
- 9.0 Auditory Evoked Response Evaluation
- 21.0 (Central) Auditory Processing Disorders Evaluation
- 23.0 Counseling

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (2002a). *Mechanical coupler measurement of bone vibration* (ANSI S3.13 R2002). New York: Author.

American National Standards Institute. (2002b). *Specifications for instruments to measure aural acoustic impedance and admittance* (aural acoustic immittance) (ANSI S3.39- R2002). New York: Author.

American National Standards Institute. (2003). *Maximum permissible ambient noise levels for audiometric test rooms* (ANSI S3.1-R2003). New York: Author.

American National Standards Institute. (2004). *Specifications for audiometers* (ANSI S3.6- R2004). New York: Author.

American Speech-Language-Hearing Association. (1987a). *Calibration of speech signals delivered via earphones* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1987b). *Short latency auditory evoked potentials* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1988). *Guidelines for determining threshold level for speech*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1990). *Guidelines for audiometric symbols*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991). *Sound field measurement tutorial* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994). *Guidelines for audiologic management of individuals receiving cochleotoxic drug therapy*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998). *Support personnel in audiology: Position statement and guidelines*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999a). *Role of audiologists in vestibular and balance rehabilitation: Guidelines*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999b). *Role of audiologists in vestibular and balance rehabilitation: Position statement*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999c). *Role of audiologists in vestibular and balance rehabilitation: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002). *Guidelines for audiology services in the schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2003). *Guidelines for competencies in auditory evoked potential measurement and clinical applications*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *Cochlear implants* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *Guidelines for the audiologic assessment of children from birth to 5 years of age*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). *(Central) auditory processing disorders—The role of the audiologist* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b). *(Central) auditory processing disorders* [Technical report]. Available from www.asha.org/policy/.

7.0 PEDIATRIC AUDIOLOGIC EVALUATION

Procedures to determine the status of the auditory system in individuals whose developmental levels preclude use of a basic audiologic evaluation.

Pediatric audiologic evaluation is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Infants and toddlers at risk for hearing impairment that may affect communication, development, health, and education are identified.

Pediatric audiologic assessment is conducted to determine the existence, type, and degree of hearing loss on the basis of behavioral, physiological, or electrophysiological responses to acoustic stimuli.

Acoustic immittance procedures are conducted to assess middle ear function, irrespective of hearing status.

Results from the audiologic assessment will be interpreted and may result in recommendations for discharge or further audiologic assessment/evaluation; audiologic (re)habilitative evaluation; speech-language evaluation; or medical, psychological, and/or educational referral.

CLINICAL INDICATIONS

Assessment of infants, children, and those whose developmental levels preclude the use of a basic audiologic evaluation is prompted by failure of an audiologic hearing screening, presence of an at-risk indicator associated with hearing impairment, parental/caregiver concern, or referral.

Children who are at risk for late onset or progressive hearing loss require periodic monitoring of their auditory status.

CLINICAL PROCESS

Before evaluating a child, consent must be obtained from the parent or legal guardian. State statutes, regulations, or institutional policies may supersede this recommendation.

Assessment may include the following

- a case history
- external ear examination
- otoscopic examination
- acoustic immittance procedures (tympanometry, static immittance, and acoustic reflex measures)
- otoacoustic emissions testing
- developmentally appropriate behavioral procedures (e.g., behavioral observation, visual reinforcement audiometry, conditioned play audiometry) to obtain frequency-specific and ear-specific information regarding auditory status

- developmentally appropriate behavioral procedures to obtain speech detection/awareness/reception thresholds with appropriate masking
- word recognition measures with appropriate masking
- auditory evoked potentials
- speech-language screening

Other procedures may be completed to supplement the basic audiologic assessment:

- a case history
- physiological tests of central auditory function
- communication inventories and needs assessment inventories

Interpretation of the assessment may indicate one or more of the following:

- hearing within normal limits
- identification and quantification of hearing loss
- hearing loss identified but further testing required
- patient could not be tested using procedures

Evaluation may result in one or more of the following:

- discharge and/or recommendations for routine follow-up
- ongoing audiologic evaluation and monitoring
- parental counseling
- audiologic habilitation evaluation
- referral to or collaboration with other professionals (e.g., physician, speech-language pathologist, early intervention program, genetic counselor, educator)

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Assessments are conducted in a clinical environment with calibrated acoustic stimuli (e.g., pure tones, broadband noise, speech stimuli) conducive to obtaining reliable and valid results.

Electroacoustic and electrophysiological equipment and ambient noise must meet American National Standards Institute and/or manufacturer's specification.

Testing environment should meet the permissible ambient noise levels for audiometric test rooms.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient, audiologist, and others who participate in the clinical process and adhere to standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

When sedation is necessary, proper administration is ensured, and all protocols regarding procedures and equipment are strictly followed.

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Document contains identifying information, case history, assessment results, interpretation, prognosis, and specific recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 3.0 Speech-Language Screening
- 4.0 External Auditory Canal Examination and Cerumen Management
- 5.0 Basic Audiologic Evaluation
- 6.0 Advanced Audiologic Evaluation
- 8.0 Electrodiagnostic Test Procedures
- 9.0 Auditory Evoked Response Evaluation
- 21.0 (Central) Auditory Processing Disorders Evaluation
- 23.0 Counseling

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (2002a). *Mechanical coupler for measurement of bone vibration* (ANSI 3.13-2002R). New York: Author.

American National Standards Institute. (2002b). *Specifications for instruments to measure aural acoustic impedance and admittance (aural acoustic immittance)* (ANSI S3.39- R2002). New York: Author.

American National Standards Institute. (2003). *Maximum permissible ambient noise levels for audiometric test rooms* (ANSI S3.1-R2003). New York: Author.

- American National Standards Institute. (2004a). *Method for manual pure-tone threshold audiometry* (ANSI S3.21-R2004). New York: Author.
- American National Standards Institute. (2004b). *Specifications for audiometers* (ANSI S3.6-R2004). New York: Author.
- American Society of Anesthesiologists. (2002). Practice guidelines for sedation and analgesia by non-anesthesiologists. *Anesthesiology*, 96, 1004-1017.
- American Speech-Language-Hearing Association. (1987). *Calibration of speech signals delivered via earphones* [Relevant paper]. Available from www.asha.org/policy/.
- American Speech-Language-Hearing Association. (1988). *Guidelines for determining threshold level for speech*. Available from www.asha.org/policy/.
- American Speech-Language-Hearing Association. (1990). *Guidelines for audiometric symbols*. Available from www.asha.org/policy/.
- American Speech-Language-Hearing Association. (1991). *Sound field measurement tutorial* [Relevant paper]. Available from www.asha.org/policy/.
- American Speech-Language-Hearing Association. (1992). *External auditory canal examination and cerumen management* [Position statement]. Available from www.asha.org/policy/.
- American Speech-Language-Hearing Association. (1993). *Definitions of communication disorders and variations*. Available from www.asha.org/policy/.
- American Speech-Language-Hearing Association. (1994). *Guidelines for audiologic management of individuals receiving cochleotoxic drug therapy*. Available from www.asha.org/policy/.
- American Speech-Language-Hearing Association. (1997a). *Guidelines for audiologic screening*. Available from www.asha.org/policy/.
- American Speech-Language-Hearing Association. (1997b). *Maximizing the provision of appropriate technology services and devices for students in schools: Technical report*. Available from www.asha.org/policy/.
- American Speech-Language-Hearing Association. (2002). *Guidelines for fitting and monitoring FM systems*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2003). *Guidelines for competencies in auditory evoked potential measurement and clinical applications*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004). *Guidelines for the audiologic assessment of children from birth to 5 years of age*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). *Acoustics in educational settings: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b). *Guidelines for addressing acoustics in educational settings*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005c). *Guidelines for manual pure-tone threshold audiometry*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2006). *Roles, knowledge, and skills: Audiologists providing clinical services to infants and young children birth to 5 years of age*. Available from www.asha.org/policy/.

Joint Committee on Infant Hearing. (2000). *JCIH year 2000 position statement: Principles and guidelines for early hearing detection and intervention programs*. Available from www.asha.org/policy/.

National Institutes of Health. (1993). *Early identification of hearing impairment in infants and young children. NIH Consensus Statement, 11(1), 1-24.*

8.0 ELECTRODIAGNOSTIC TEST PROCEDURES

Procedures to assess the functional status of the central or peripheral neural pathways and associated sensory systems using electrophysiological testing methods.

Electrodiagnostic test procedures are conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOMES

Electrodiagnostic tests are conducted to determine the sensory sensitivity and/or functional status of the auditory, vestibular, visual, and/or somatosensory systems or pathways.

Electrodiagnostic tests may be conducted to monitor change in one or more sensory systems.

Results of electrodiagnostic assessment will be interpreted and may result in recommendations for discharge, further electrodiagnostic assessment, the need for rehabilitation assessment, and/or referral for specialized medical evaluation.

CLINICAL INDICATIONS

Electrodiagnostic testing is prompted by inconclusive and/or inconsistent results on audiologic evaluation or as part of a site of lesion test battery.

Electrodiagnostic testing may also be conducted with patients who are difficult to test or when supplemental information is required.

Electrodiagnostic procedures may be indicated for an individual with signs, symptoms, or complaints of a possible central or peripheral neural pathway disease or disorder.

CLINICAL PROCESS

Electrodiagnostic testing can be performed as a component of a complete evaluation of sensory system function. Specific tests will vary depending on practitioner judgment, medical referral, and patient need and ability.

Meaningful data descriptors are extracted from the electrophysiological response. These data are compared with normative data.

Electrodiagnostic assessment may include the following:

- auditory evoked response assessment
- balance system assessment
- visual evoked response assessment
- somatosensory evoked response assessment

Interpretation of the assessment may indicate one or more of the following:

- normal sensory and neural system function
- abnormal sensory and neural system function
- determination of site of lesion
- inconclusive test results

Evaluation may result in one or more of the following:

- discharge and/or recommendations for routine follow-up
- recommendation for further evaluation
- referral for audiologic rehabilitation evaluation

- referral to other professionals

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Power-line-operated instruments conform to minimum American National Standards Institute (ANSI) safety requirements. Recording and stimulating electrodes conform to acceptable sterile conditions.

Electrodiagnostic testing is conducted in an environment that is satisfactorily free of electrical interference. Ambient noise levels meet ANSI specifications, and calibrated acoustic stimuli are used as appropriate.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

AC-line-powered equipment is grounded adequately for equipment and patient.

The audiologist performing electrodiagnostic test procedures is familiar with facility-specific emergency medical protocols and adheres to all hospital, state, and federal regulations.

Safe levels of electrical stimulation are presented.

DOCUMENTATION

Documentation contains identifying information, case history, pertinent procedural details (e.g., electrodiagnostic equipment, electrode types and sites, electrical stimulation probes, acoustic transducers, and stimulating and recording parameters) and documentation of clinical events (e.g., patient sleep status, sedation, procedural problems, patient comments). Documentation also includes assessment results, interpretation, prognosis, and specific recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 4.0 External Auditory Canal Examination and Cerumen Management
- 5.0 Basic Audiologic Evaluation
- 6.0 Advanced Audiologic Evaluation
- 9.0 Auditory Evoked Response Evaluation
- 12.0 Balance System Evaluation
- 23.0 Counseling

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (1993). *Safe current limits for electromedical apparatus* (ANSI/AAMI ES1-1993). New York: Author.

American Society of Anesthesiologists. (2002). Practice guidelines for sedation and analgesia by non-anesthesiologists. *Anesthesiology*, *96*, 1004-1017.

American Speech-Language-Hearing Association. (1987a). *Calibration of speech signals delivered via earphones* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1987b). *Short latency auditory evoked potentials* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991). *External auditory canal examination and cerumen management* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1992). *Neurophysiologic intraoperative monitoring* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999). *Role of audiologists in vestibular and balance rehabilitation: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2003). *Guidelines for competencies in auditory evoked potential measurement and clinical applications*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *Cochlear implants* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *Guidelines for the audiologic assessment of children from birth to 5 years of age*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005). *Guidelines for manual pure-tone threshold audiometry*. Available from www.asha.org/policy/.

9.0 AUDITORY EVOKED RESPONSE EVALUATION

Procedures to assess auditory sensitivity and/or neural pathway integrity using electrophysiological testing methods.

Auditory evoked response (AER) evaluations are conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

An AER evaluation determines the status of the peripheral and central auditory system.

An AER evaluation provides one or more of the following:

- an estimation of auditory sensitivity
- a determination of neural pathway integrity
- a determination of probable site of lesion

An AER evaluation may include a recommendation for a referral for specialized medical evaluation and/or audiologic rehabilitative evaluation.

CLINICAL INDICATIONS

AER evaluations may be indicated for objective evaluation of auditory sensitivity and neural pathway status.

AER evaluations are conducted with patients who are difficult to test by conventional behavioral methods and/or to supplement behavioral information.

AER evaluations are conducted to determine site of lesion or resolve conflicting information.

CLINICAL PROCESS

AER evaluations should be completed in conjunction with an audiologic evaluation. Specific tests will vary depending on practitioner judgment, referral request, and patient need and ability.

Assessment may include the following:

- electrocochleography

- auditory brainstem response
- auditory steady state response
- auditory middle latency response
- auditory late (long latency) response
- P300 response
- mismatch negativity response

Interpretation of the assessment may indicate one or more of the following:

- normal auditory system function including status of the peripheral and ascending neural auditory pathways and hearing sensitivity
- identification and quantification of hearing loss
- abnormal sensory system function and/or abnormal neural pathway function
- determination of site of lesion
- inconclusive test results

Evaluation may result in one or more of the following:

- discharge and/or recommendations for routine follow-up
- recommendation for further testing
- referral for audiologic rehabilitation evaluation
- referral to other professionals

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Procedures are conducted in a clinical environment with calibrated acoustic stimuli (e.g., pure tones, broadband noise, speech stimuli) conducive to obtaining reliable and valid results.

Electroacoustic and electrophysiological equipment and ambient noise meet American National Standards Institute (ANSI) and/or manufacturer's specification.

AER testing is conducted in an environment that is satisfactorily free of electrical interference. Ambient noise levels meet ANSI specifications, and calibrated acoustic stimuli are used as appropriate.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

The audiologist performing AER evaluations is familiar with facility-specific emergency medical protocols and adheres to all hospital, state, and federal regulations.

When sedation is necessary, proper administration is ensured, and all protocols regarding procedures and equipment are strictly followed.

DOCUMENTATION

Documentation contains identifying information, case history, pertinent procedural details (e.g., electrodiagnostic equipment, electrode types and sites, electrical stimulation probes, acoustic transducers, and stimulating and recording parameters) and documentation of clinical events (e.g., patient sleep status, sedation, procedural problems, patient comments). Documentation also includes assessment results, interpretation, prognosis, and specific recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 4.0 External Auditory Canal Examination and Cerumen Management
- 5.0 Basic Audiologic Evaluation
- 6.0 Advanced Audiologic Evaluation
- 8.0 Electrodiagnostic Test Procedures
- 23.0 Counseling

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (1993). *Safe current limits for electromedical apparatus* (ANSI/AAMI ES1-1993). New York: Author.

American Society of Anesthesiologists. (2002). Practice guidelines for sedation and analgesia by non-anesthesiologists. *Anesthesiology*, 96, 1004-1017.

American Speech-Language-Hearing Association. (1987a). *Calibration of speech signals delivered via earphones* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1987b). *Short latency auditory evoked potentials* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991). *External auditory canal examination and cerumen management* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1992). *Neurophysiologic intraoperative monitoring* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999). *Role of audiologists in vestibular and balance rehabilitation: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2003). *Guidelines for competencies in auditory evoked potential measurement and clinical applications*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *Cochlear implants* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *Guidelines for the audiologic assessment of children from birth to 5 years of age*. Available from www.asha.org/policy/.

10.0 INTRAOPERATIVE MONITORING

Procedures to assess and monitor the status of cranial nerves and intracranial or peripheral neural structures that may be at risk during operative procedures.

Intraoperative monitoring (IOM) is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOMES

IOM reduces the morbidity associated with operative procedures (e.g., neurosurgical, otorhinolaryngological, and orthopedic).

IOM assists the surgeon in recognizing the status of cranial nerves and other neurological structures and the potential for damage during an operative procedure.

IOM assesses the functional status of the neurological structures, thus increasing the likelihood of a successful operative procedure.

CLINICAL INDICATIONS

IOM is indicated when an operative procedure presents a significant risk for damage to a neurological structure, as determined by the surgeon.

IOM is indicated when monitoring of the functional status of a neurological structure is required.

CLINICAL PROCESS

IOM preoperative considerations include but are not limited to the following:

- thorough review of the patient's medical records including results of a baseline evoked response assessment
- case history directly from the patient and all other available sources
- explanation to patient regarding the role of the monitoring team during the operative procedure
- discussion with the surgeon regarding the extent of the monitoring
- discussion with the anesthesiologist regarding the use of anesthetic agents and drugs for generalized paralysis

IOM during the operative procedure includes but is not limited to the following:

- electrocochleography
- auditory brainstem evoked responses
- auditory evoked middle or late potentials
- visual evoked potentials
- somatosensory evoked potentials
- electroencephalography
- recording of neural activity with direct, near field recording techniques
- recording of electromyography from a variety of muscles
- electrical stimulations and/or recording through a variety of surface and/or subdural needle electrode arrays
- simultaneous recording of spontaneous and sensory provoked activity
- recording of response to direct electrical stimulation

Interpretation of the recorded activity during and after the procedure may indicate the following:

- status of the function of monitored structure
- no impending or endured damage
- status of monitored structure just before awakening of the patient

- monitoring of the status of a structure for spontaneous and/or evoked responses was successful

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

The setting for IOM will be either an operating room within the operative suite area of a hospital or a minor procedures room of an outpatient clinic.

Equipment will be of a type used for neurophysiological recordings with real-time display and archived for offline analysis and with the capability of the following:

- presenting ongoing spontaneous activity
- performing averaged responses
- providing for sensory stimulation via auditory, visual, or electrical stimuli

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient, audiologist, and others who participate in the clinical process and adhere to the standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

The audiologist performing IOM must be familiar with facility-specific emergency medical protocols and adhere to all hospital, state, and federal regulations.

DOCUMENTATION

Documentation contains pertinent background information; tests performed; test parameters; assessment results; patient condition before, during, and after the operative procedure during the interval of IOM (including any patient adverse reactions to the use of the monitoring electrodes or electrical stimulations); interpretation; communications with the surgeon and anesthesiologist during the procedures; vital parameters during the procedure; and specific recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 8.0 Electrodiagnostic Test Procedures
- 9.0 Auditory Evoked Response Evaluation
- 11.0 Audiologic Management of the Surgical Patient
- 23.0 Counseling

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (1993). *Safe current limits for electromedical apparatus* (ANSI/AAMI ES1-1993). New York: Author.

American Speech-Language-Hearing Association. (1987). *Short latency auditory evoked potentials* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1992). *Neurophysiologic intraoperative monitoring* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2003). *Guidelines for competencies in auditory evoked potential measurement and clinical applications*. Available from www.asha.org/policy/.

11.0 AUDIOLOGIC MANAGEMENT OF THE SURGICAL PATIENT

Procedures to ensure the proper audiologic management of patients requiring surgical intervention for hearing, balance, or related disorders.

Audiologic management of the surgical patient is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Presurgical diagnostic audiologic services and counseling assist the surgeon and patient in determining the potential benefit from surgical intervention.

Intraoperative monitoring is performed for the preservation of hearing and facial nerve function.

Postsurgical diagnostic audiologic services assess the efficacy and outcome of the surgery and the need for further intervention.

Postsurgical counseling and/or audiologic rehabilitation services assist the patient with achieving maximum audiologic potential.

CLINICAL INDICATIONS

Pre- and postsurgery audiologic management is indicated for patients with a variety of diseases and disorders, including but not limited to outer and middle ear pathology and reconstruction, genetic disorders, cochlear implants, diseases and disorders of the labyrinth, and tumors of the auditory nerve.

CLINICAL PROCESS

Audiologic management of the surgical patient may include one or more of the following:

- standardized identification, diagnostic and audiologic consultation
- intraoperative monitoring
- audiologic rehabilitation, hearing aid and other audiologic services and devices

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Hearing evaluations are conducted with calibrated acoustic stimuli (e.g., pure tones, broadband noise). Electroacoustic equipment and ambient noise must meet American National Standards Institute and manufacturer's standards, where applicable. Evaluations of vestibular and balance function are conducted in a clinical environment with calibrated stimuli conducive to obtaining reliable and valid results. Invasive recording or stimulating devices (electrodes) conform to sterile conditions within the operating room. Follow-up procedures are conducted in a clinical or natural environment.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation includes a statement of identifying information; results of audiologic evaluations in the pre-, peri-, and postsurgery phases; and recommendations, including the need for further assessment, further medical evaluation/treatment, audiologic treatment, audiologic rehabilitation, or referral.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 4.0 External Auditory Canal Examination and Cerumen Management
- 6.0 Advanced Audiologic Evaluation
- 8.0 Electrodiagnostic Test Procedures
- 9.0 Auditory Evoked Response Evaluation
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (1993). *Safe current limits for electromedical apparatus* (ANSI/AAMI ES1-1993). New York: Author.

American Speech-Language-Hearing Association. (1987). *Short latency auditory evoked potentials* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1988). *Guidelines for determining threshold level for speech*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1992). *Neurophysiologic intraoperative monitoring* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994). *Guidelines for audiologic management of individuals receiving cochleotoxic drug therapy*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999). *Role of audiologists in vestibular and balance rehabilitation: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001a). *AR-BIB: Audiologic rehabilitation—Basic information bibliography* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001b). *Knowledge and skills required for the practice of audiologic/aural rehabilitation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2003). *Guidelines for competencies in auditory evoked potential measurement and clinical applications*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004). *Cochlear implants* [Technical report]. Available from www.asha.org/policy/.

12.0 BALANCE SYSTEM EVALUATION

Procedures to assess and monitor the functional status of the peripheral and central vestibular system and the sensory and motor components of balance.

Balance system evaluation is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Balance system evaluation is conducted to detect abnormal functioning within the vestibular or balance system.

Results of the balance system assessment are interpreted, and the evaluation may assist in making recommendations for vestibular and balance rehabilitation therapy, reduction in falls risk, and possible referral for medical evaluation.

CLINICAL INDICATIONS

Vestibular or balance system evaluation is indicated when a patient presents with nystagmus, complaints of vertigo, balance dysfunction, or gait abnormalities, or when peripheral or central vestibulopathy is suspected.

Balance system evaluation is prompted by medical referral or by results of an audiologic assessment.

CLINICAL PROCESS

A case history is taken, including the characteristics of dizziness, the associated signs and symptoms, and perceived hearing loss.

The patient is given instructions regarding restrictions of medications and food/ liquid intake before testing.

Assessment may include one or more of the following:

- assessment for gaze stabilization, smooth pursuit, saccades, and head thrust may be made before clinical vestibular and balance studies
- electronystagmography (ENG)/videonystagmography (VNG)
ENG/VNG subtests may include the following:
 - oculomotor tests, such as gaze fixation, saccades, smooth pursuit, and optokinetics
 - spontaneous nystagmus test with fixation removed
 - hyperventilation nystagmus test
 - post-head-shake nystagmus test
 - dynamic positioning (Dix-Hallpike maneuver)
 - static positional tests
 - bithermal or monothermal caloric irrigations
 - ice caloric irrigations
 - failure of fixation suppression
- dynamic visual acuity
- computerized rotary chair
 - step test sinusoidal
 - harmonic acceleration
- computerized dynamic posturography
 - sensory organization test
 - motor control test
 - postural evoked responses
- otolith function testing
 - vestibular evoked myogenic potentials
 - subjective visual vertical
- Falls risk assessment that may include, but not be limited to, the above assessment procedures in addition to screening measures of gait, blood pressure, mentation, depression, vision, and reaction time.

Interpretation of the assessment may indicate one or more of the following:

- normal balance system function
- abnormal balance system function reflecting the aging process—functional impact of the aging process (this may be a multisystem problem)
- abnormal balance system function reflecting a pathological process with a suggestion of probable site of lesion

- functional impact of the pathological process
- disequilibrium of multisensory system deficit origin, nonvestibular disequilibrium

Evaluation may result in one or more of the following:

- discharge and/or recommendations for routine follow-up
- referral for vestibular and balance rehabilitation
- referral to other professionals

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Power-line-operated instruments must conform to minimum American National Standards Institute (ANSI) safety requirements.

The ENG/VNG system should conform to current ANSI standards.

Balance system testing must be conducted in an environment that is satisfactorily free of electrical interference.

Test environment must have appropriate control of lighting and ventilation.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient, audiologist, and others who participate in the clinical process and adhere to the standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation contains pertinent background information; tests performed; test parameters; assessment results; patient condition before, during, and after the test (including any patient adverse reactions such as vomiting or falling); interpretation; and specific recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 4.0 External Auditory Canal Examination and Cerumen Management
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1992). *Balance system assessment* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994). *Guidelines for the audiological management of individuals receiving cochleotoxic drug therapy*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999a). *Role of audiologists in vestibular and balance rehabilitation: Guidelines*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999b). *Role of audiologists in vestibular and balance rehabilitation: Position statement*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999c). *Role of audiologists in vestibular and balance rehabilitation: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001a). *AR-BIB: Audiologic rehabilitation- Basic information bibliography* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001b). *Knowledge and skills required for the practice of audiology/aural rehabilitation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005). *Guidelines for manual pure-tone threshold audiometry*. Available from www.asha.org/policy/.

13.0 TINNITUS MANAGEMENT

Procedures designed to minimize the effects of tinnitus.

Tinnitus management is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Tinnitus management minimizes the auditory perception of tinnitus (e.g., ringing, chirping, buzzing).

Tinnitus management reduces negative cognitive, affective, and physical reactions to tinnitus and improves the patient's well-being and quality of life.

CLINICAL INDICATIONS

Tinnitus management is indicated for individuals who have complaints of tinnitus with or without psychological distress, and whose tinnitus cannot be resolved through medical intervention.

CLINICAL PROCESS

Tinnitus management is based on the patient's complaints, history, audiologic evaluation, and self-assessment, and should include family/caregivers.

Tinnitus management may include one or more of the following:

- tinnitus matching to determine the frequency and intensity of the perceived tinnitus
- evaluation of tolerance problems to determine the presence of hyperacusis
- counseling regarding the causes, sources, and audiologic significance of tinnitus
- management of hyperacusis
- fitting and monitoring the use of tinnitus maskers, hearing aids, or other ear-level sound generators to reduce the perception of tinnitus
- the use of environmental sounds to aid in the reduction of tinnitus perception
- identification of factors that may exacerbate tinnitus
- use of hearing protection in noise
- counseling to promote adaptive coping behaviors and stress reduction
- counseling to minimize sleep difficulties related to tinnitus
- outcome measures to evaluate success of treatment
- referral to other professionals

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Tinnitus management is conducted in a setting that includes the equipment and surroundings for audiologic evaluation, patient and family/caregiver counseling, and fitting of tinnitus maskers, sound generators, and/or hearing aids.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation contains pertinent background information, devices used, treatment goals, results, prognosis, and specific recommendations.

Recommendations may address the need for further assessment, follow-up, or referral. When additional treatment is recommended, information should be provided concerning the frequency, estimated duration, and type of service.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 1.0 Prevention
- 5.0 Basic Audiologic Evaluation
- 6.0 Advanced Audiologic Evaluation
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1987). *Calibration of speech signals delivered via earphones*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1988). *Guidelines for determining threshold level for speech*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994). *Guidelines for audiologic management of individuals receiving cochleotoxic drug therapy*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1996). *Guidelines on the audiologist's role in occupational and environmental hearing conservation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997a). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997b). *Issues: Occupational and environmental hearing conservation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004). *The audiologist's role in occupational hearing conservation and hearing loss prevention programs: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005). *Guidelines for manual pure-tone threshold audiometry*. Available from www.asha.org/policy/.

14.0 AUDIOLOGIC (RE)HABILITATION EVALUATION

Procedures to assess the impact of a hearing loss on communication, personal adjustment, limitations on activities, and restrictions on participation.

Audiologic (re)habilitation evaluation is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Audiologic (re)habilitation (AR) assessment identifies the impact of a hearing loss on communication skills and capabilities

AR assessment identifies the psychosocial impact of the loss on the individual/ family/caregiver.

Results of the assessment are interpreted and may result in recommendations for AR and/or referral to other professionals.

CLINICAL INDICATIONS

AR evaluation for individuals of all ages is prompted by the identification of hearing impairment.

AR evaluation is conducted to identify rehabilitative needs and to monitor progress and assess outcome of treatment programs.

CLINICAL PROCESS

AR evaluation is an ongoing process requiring frequent monitoring and adjusting of services provided to patients. Evaluations can be repeated.

Assessment may include one or more of the following:

- a case history
- basic audiologic evaluation or pediatric evaluation as appropriate
- speech-language screening
- determination of rehabilitative needs
- evaluation of current amplification
- hearing aid selection and evaluation
- procedures to determine cochlear implant candidacy
- self-report measures of communication problems, coping skills, and adjustment issues by the individual and/or family/caregiver
- ongoing monitoring of treatment progress and benefit (outcome measures)
- hearing assistive technology system selection

Interpretation may indicate one or more of the following:

- need for AR services
- no changes in AR management
- need for services from other professionals

Evaluation may result in one or more of the following:

- dismissal with recommendation for periodic reassessment of rehabilitative needs
- ongoing evaluation and monitoring
- additional AR services
- fitting with amplification, hearing assistive technology systems
- referral to a cochlear implant team
- referral to other professionals (e.g., speech-language pathologist, early intervention program, special education)

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

AR assessment is conducted in clinical or natural settings with consideration of the physical and acoustic environment as well as the physical capabilities of the patient.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation contains identifying information, case history, assessment results, interpretation, prognosis, and specific recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 3.0 Speech-Language Screening
- 5.0 Basic Audiologic Evaluation
- 7.0 Pediatric Audiologic Evaluation
- 17.0 Hearing Aid Selection and Fitting
- 19.0 Hearing Assistive Technology Systems
- 20.0 Audiologic Management of the Cochlear Implant Patient
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1984). *Definition of and competencies for aural rehabilitation* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1988). *Prevention of communication disorders* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991a). *Amplification as a remediation technique for children with normal peripheral hearing*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991b). *Prevention of communication disorders tutorial* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991c). *The use of FM amplification instruments for infants and preschool children with hearing impairment*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994). *Guidelines for the audiologic management of individuals receiving cochleotoxic drug therapy*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997a). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997b). *Maximizing the provision of appropriate technology services and devices for students in schools: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998a). *Guidelines for hearing aid fitting for adults*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998b). *Support personnel in audiology: Position statement and guidelines*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001a). *AR-BIB: Audiologic rehabilitation-Basic information bibliography* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001b). *Knowledge and skills required for the practice of audiologic/aural rehabilitation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002a). *Guidelines for audiology service provision in and for schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002b). *Guidelines for fitting and monitoring FM systems*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *The audiologist's role in occupational hearing conservation and hearing loss prevention programs*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *Clinical practice by certificate holders in the profession in which they are not certified*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). *Acoustics in educational settings: Position statement*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b). *Acoustics in educational settings: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005c). *Guidelines for addressing acoustics in educational settings*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2006). *Healthy People 2010—Health objectives for the nation* [Fact sheet]. Available from http://www.asha.org/members/research/reports/healthy_people_2010.htm.

World Health Organization. (2006). *Strategies for prevention of deafness and hearing impairment*. Retrieved May 9, 2006, from www.who.int/pbd/deafness/activities/strategies/en/index.html.

15.0 AUDIOLOGIC REHABILITATION FOR ADULTS

Audiologic rehabilitation is a facilitative process that provides intervention to address the impairments, activity limitations, participation restrictions, and possible environmental and personal factors that may affect the communication, functional health, and well-being of persons with hearing impairment or by others who participate with them in those activities.

Audiologic rehabilitation is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Audiologic rehabilitation (AR) enhances the communication performance of individuals with hearing impairment.

AR facilitates adjustment to and enhances benefits from the use of hearing aids, cochlear implants, and assistive technologies.

AR enhances the interpersonal, psychosocial, educational, and vocational functioning of individuals with hearing impairment.

AR enhances the well-being and quality of life of individuals with hearing impairment, their family members, and caregivers.

CLINICAL INDICATIONS

AR is indicated for individuals with hearing impairment who experience, or are at risk for, communication problems that impose activity limitations and participation restrictions.

CLINICAL PROCESS

The AR process actively engages individuals with hearing impairment in the identification and implementation of a treatment plan to enhance compliance with the treatment regimen, to improve treatment benefits, and to ensure satisfaction with treatment outcome.

AR for adults may consist of one or more of the following:

- counseling regarding the nature of the hearing impairment and the effects of the hearing impairment on communication and well-being
- counseling to address the specific interpersonal, psychosocial, educational, and vocational implications of hearing impairment for the patient, family members, and/or caregivers
- counseling regarding the use of effective coping and compensatory skills appropriate for the individual to minimize the effects of his or her hearing impairment on communication, well-being, and interpersonal, psychosocial, educational, and vocational functioning
- selection and fitting of amplification devices and assistive technologies and education regarding the use of, benefits from, and adjustment to these systems
- training in selected modalities to maximize receptive communication skills and performance in environments relevant to the patient
- periodic review of short- and long-term treatment goals and specific objectives determined from self-assessments and interactive decision making, to determine appropriateness and relevance
- regularly scheduled outcome measures to identify need for modifications to the treatment plan
- follow-up to monitor treatment benefit and outcome
- involvement of family members and/or caregivers in the rehabilitation process
- referrals to speech-language pathologists for individuals whose speech and/or voice production may be affected by their hearing impairment
- referrals to other professionals as necessary

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

AR is conducted in planned physical, acoustic, and visual environments, as well as in natural environments.

Functioning of hearing aids, cochlear implants, and/or assistive listening devices is evaluated before treatment and at appropriate intervals thereafter.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation contains pertinent background information, types of amplification and assistive listening systems used with specific settings, treatment goals, results, prognosis, and specific recommendations. Recommendations may address the need for further assessment, follow-up, or referral. When additional treatment is recommended, information should be provided concerning the frequency, estimated duration, and type of service.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 17.0 Hearing Aid Selection and Fitting
- 18.0 Product Repair/Modification
- 19.0 Hearing Assistive Technology Systems
- 20.0 Audiologic Management of the Cochlear Implant Patient
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1984). *Definition of and competencies for aural rehabilitation* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1990). *Aural rehabilitation: An annotated bibliography*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998). *Guidelines for hearing aid fitting for adults*. *American Journal of Audiology*, 7(1), 5-13.

American Speech-Language-Hearing Association. (2001). *Knowledge and skills required for the practice of audiologic/aural rehabilitation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002). *Guidelines for fitting and monitoring FM systems*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004). *Clinical practice by certificate holders in the profession in which they are not certified*. Available from www.asha.org/policy/.

16.0 AUDIOLOGIC (RE)HABILITATION FOR CHILDREN

Audiologic rehabilitation is a facilitative process that provides intervention to address the impairments, activity limitations, participation restrictions, and possible environmental and personal factors that may affect the communication, functional health, and well-being of persons with hearing impairment or by others who participate with them in those activities.

Audiologic (re)habilitation for children is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Audiologic (re)habilitation (AR) facilitates the speech-language, cognitive, and social-emotional development and functioning of children with hearing impairment.

AR enhances the educational and vocational potential of children with hearing impairment.

AR enhances well-being and quality of life for children with hearing impairment and their families/caregivers.

AR facilitates parents' adjustment to and management of their children's hearing impairment.

CLINICAL INDICATIONS

AR is indicated for infants, toddlers, and children with hearing impairment who experience, or are at risk for, communication problems that impose activity limitations and participation restrictions.

CLINICAL PROCESS

Initiation of AR for children takes place as soon as possible following identification of hearing loss.

Parental involvement is an integral component of all aspects of AR for children.

AR for children may consist of one or more of the following:

- ongoing, developmentally appropriate audiologic evaluations to verify/
- validate results and monitor for changes in hearing levels
- counseling parents regarding their child's hearing impairment and the potential effects on speech-language, cognitive, and social-emotional development and functioning
- selection of age-appropriate amplification devices and hearing assistive technology systems (HATS) to minimize auditory deprivation and maximize auditory stimulation
- counseling parents and/or the child regarding the use, care, and maintenance of amplification devices and HATS
- counseling parents regarding optional and optimal modes of communication
- determination of optimal training and education settings
- evaluating acoustics of classroom settings and providing recommendations for modifications
- consultation and/or team management with speech-language pathologists, educators, and other professionals
- referral for evaluation of concomitant developmental and/or medical conditions
- counseling the child with hearing impairment regarding peer pressure, stigma, and other issues related to psychosocial adjustment
- counseling the child regarding behavioral coping strategies
- follow-up to monitor treatment benefit and outcome

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

AR is conducted in planned physical, acoustic, and visual environments, as well as in natural environments.

Functioning of hearing aids, cochlear implants, and/or assistive listening devices is evaluated before treatment and at appropriate intervals thereafter.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient/client and clinician and adhere to universal health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation contains pertinent background information, types of amplification and assistive listening systems used with specific settings, treatment goals, results, prognosis, progress statements, and specific recommendations. Recommendations may address the need for further assessment, follow-up, or referral. When additional treatment is recommended, information should be provided concerning the frequency, estimated duration, and type of service.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 7.0 Pediatric Audiologic Evaluation
- 17.0 Hearing Aid Selection and Fitting
- 18.0 Product Repair/Modification
- 19.0 Hearing Assistive Technology Systems
- 20.0 Audiologic Management of the Cochlear Implant Patient
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1984). *Definition of and competencies for aural rehabilitation* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1990). *Aural rehabilitation: An annotated bibliography*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991a). *Amplification as a remediation technique for children with normal peripheral hearing*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991b). *The use of FM amplification instruments for infants and preschool children with hearing impairment* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997). *Maximizing the provision of appropriate technology services and devices for students in schools: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001). *Knowledge and skills required for the practice of audiologic/aural rehabilitation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002). *Guidelines for fitting and monitoring FM systems*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004). *Clinical practice by certificate holders in the profession in which they are not certified*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005). *Acoustics in educational settings: Position statement*. Available from www.asha.org/policy/.

17.0 HEARING AID SELECTION AND FITTING

Procedures to determine the appropriateness and design of individual amplification systems. Hearing aid fitting is one component of an audiologic rehabilitation plan.

Hearing aid selection and fitting are conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOMES

Hearing aid selection and fitting are conducted to determine whether (a) a patient is a candidate for amplification or (b) the patient's amplification system is effective.

Hearing aid selection and fitting help individuals to achieve maximum understanding of, and performance with, their hearing aid(s). Fitting may result in recommendation for further audiologic rehabilitation assessment or treatment.

Hearing aid selection and fitting should improve the patient's ability both to hear sounds in the environment including warning/danger signals and to improve the audibility of speech, as the interpretation of the speech signal is basic to communication.

Hearing aid selection and fitting may result in follow-up and/or referral for assistive listening system/device selection, alerting systems/device selection, product dispensing, sensory aids assessment, and/or further audiologic rehabilitation assessment.

Counseling is provided about personal adjustment to and the effects of hearing loss, the potential benefits to be gained from participating in a total audiologic rehabilitation program, and sensory aids including hearing and tactile aids, hearing assistive devices, cochlear implants, captioning devices, and signal/warning devices.

CLINICAL INDICATIONS

Individuals throughout the life span identified with hearing loss are referred as a result of audiologic assessment and personal communication needs or preferences.

CLINICAL PROCESS

The process of fitting hearing aids is composed of six stages: assessment, treatment planning, selection, verification, orientation, and validation.

Assessment may include one or more of the following:

- external auditory canal examination and cerumen management
- basic or advanced audiologic evaluation
- determination of medical clearance, as outlined by the Food and Drug Administration and by state law/regulation
- administration of communication inventories or questionnaires
- discussion of benefits and limitations of hearing aids given the patient's audiologic assessment and psychosocial and communication needs

Treatment planning includes the following:

- recommendation of hearing aids based on the patient's audiologic and communicative needs
- joint decisions made among the audiologist, the patient, and the family/ caregivers
- ongoing counseling of the patient and family/caregivers about the potential benefits and limitations of hearing aids

Hearing aid selection

- determines appropriate physical and electroacoustic characteristics of the hearing aid(s)
- defines electroacoustic characteristics based on frequency-gain characteristics, maximum output sound pressure level, and input-output characteristics
- defines nonelectroacoustic characteristics in the audiologic rehabilitation plan and results from ongoing interaction among the audiologist, patient, and family/caregiver. Nonelectroacoustic characteristics include choices made about style, earmold/shell configuration, user control options, telecoil, direct audio input, and color/shape.

Hearing aid verification

- confirms that the hearing aid(s) meet(s) a set of standards for quality control
- includes electroacoustic measurements performed according to the American National Standards Institute (ANSI) standard ANSI-S3.22 (ANSI-S3.22-2003 or current standard)
- rules out excessive circuit noise, intermittency, and/or poor sound quality
- assesses physical fit through examination of cosmetic appeal, physical comfort/security, absence of feedback, ease of insertion and removal, ease of control, and placement of microphone port
- uses real-ear measurements to establish audibility, comfort, and tolerance of speech and sounds in the environment and to verify compression, directionality, and automatic noise management performance
- incorporates sound field functional gain testing when fitting bone-anchored hearing aids

Hearing aid orientation

- includes appropriate training, counseling, and referrals. Key topics include instrument insertion and removal, battery safety/management, use and routine maintenance, assistive listening device coupling, telephone use, and use patterns/adjustment. Individuals can receive hearing aid training in a variety of formats, including group or individual sessions.
- includes counseling to establish realistic expectations for amplification (e.g., communication, freedom from feedback, minimization of the occlusion effect, and greater auditory benefit in quiet than in noise)

Hearing aid validation

- documents that the disability has been reduced and audiologic treatment goals have been addressed
- includes self-assessment tools that measure benefit and satisfaction
- measures speech perception using either objective or subjective techniques. The effects of stimulus selection, presentation levels, noise type, signal-to-noise ratio, and the number of

test items on the reliability and validity of speech perception measures should be indicated.

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Specifications for electroacoustic equipment and environmental ambient noise must meet ANSI standards, where applicable.

Instrumentation and test environments are available for sound field testing, electroacoustic evaluation of hearing aids, and real-ear measurements.

Hardware and software required for fitting and assessment of programmable hearing aids are available.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to universal health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control procedures and manufacturer's instructions.

DOCUMENTATION

Documentation must contain pertinent patient information, hearing aid fitting results, prognosis, and specific referrals and recommendations. The audiologist should provide written instructions on battery safety and management and document the provision of this information and the client's acknowledgment of receiving this information.

Recommendations may address the need for further assessment, follow-up, or referral. When treatment is recommended, information must be provided concerning the frequency, estimated duration, and type of service (e.g., individual, group, home program) required.

Documentation must include a record of compliance with federal and state laws and regulations for hearing aid fitting and/or dispensing.

Documentation should include the decisions regarding the hearing aid(s) made by consensus among the audiologist, patient, and family/caregivers. Decisions that were not made by consensus should also be documented.

Documentation should include providing information to the patient regarding the benefits and limitations from telecoil use and the potential interference problems found with telecoils and wireless phones.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 4.0 External Auditory Canal Examination and Cerumen Management
- 5.0 Basic Audiologic Evaluation
- 6.0 Advanced Audiologic Evaluation
- 7.0 Pediatric Audiologic Evaluation
- 14.0 Audiologic (Re)habilitation Evaluation
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (1992). *Testing hearing aids with a broad-band noise signal* (ANSI S3.42-1992). New York: Author.

American National Standards Institute. (2003a). *Maximum permissible ambient noise levels for audiometric test rooms* (ANSI S3.1-R2003). New York: Author.

American National Standards Institute. (2003b). *Specification of hearing aid characteristics* (ANSI S3.22-2003). New York: Author.

American National Standards Institute. (2004a). *Method for manual pure-tone threshold audiometry* (ANSI S3.21R2004). New York: Author.

American National Standards Institute. (2004b). *Specifications for audiometers* (ANSI S3.6-R2004). New York: Author.

American Speech-Language-Hearing Association. (1987). *Calibration of speech signals delivered via earphones* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1988). *Guidelines for determining threshold level for speech*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991a). *Amplification as a remediation technique for children with normal peripheral hearing* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991b). *Business, marketing, ethics, and professionalism in audiology: Annotated bibliography (1986-1989)*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991c). *Considerations for establishing a private practice in audiology and/or speech-language pathology*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991d). *Sound field measurement tutorial* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991e). *The use of FM amplification instruments for infants and preschool children with hearing impairment* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1992). *External auditory canal examination and cerumen management* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994). *Professional liability and risk management for the audiology and speech-language pathology professions* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1995). *Education in audiology practice management* [Guidelines]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997a). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997b). *Guidelines for hearing aid fitting for adults*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998). *Support personnel in audiology: Position statement and guidelines*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2000). *Guidelines for graduate education in amplification*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001a). *AR-BIB: Audiologic rehabilitation—Basic information bibliography* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001b). *Knowledge and skills required for the practice of audiologic/aural rehabilitation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002a). *Guidelines for audiology service provision in and for schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002b). *Guidelines for fitting and monitoring FM systems*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *Cochlear implants* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *Guidelines for the audiologic assessment of children from birth to 5 years of age*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). *Acoustics in educational settings: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b). *(Central) auditory processing* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005c). *Guidelines for manual pure-tone threshold audiometry*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2006). *Healthy People 2010—Health objectives for the nation* [Fact sheet]. Available from http://www.asha.org/members/research/reports/healthy_people_2010.htm.

U.S. Food and Drug Administration. (1977, February 15). *Hearing aid devices: Professional and patient labeling and conditions for sale*. Available from www.fda.gov.

World Health Organization. (2006). *Strategies for prevention of deafness and hearing impairment*. Retrieved May 9, 2006, from www.who.int/pbd/deafness/activities/strategies/en/index.html.

18.0 PRODUCT REPAIR/MODIFICATION

Procedures to restore or adjust a product used to facilitate an individual's auditory and related abilities and/or reduce noise or tinnitus. Products include but are not limited to hearing aids, assistive listening systems/devices, alerting systems/devices, related accessories, and large area amplification systems.

Product repair/modification is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Product repair/modification may restore the product to functional status, relieve discomfort, affect the product's capacity to improve function, and respond to the concerns of the user's family or caregiver about the product.

CLINICAL INDICATIONS

Malfunction, discomfort, or reduced benefit of a product is observed, measured, or reported.

CLINICAL PROCESS

Procedures are established to facilitate the adjustment, repair, maintenance, and modification of products, and verification of the changes or repairs is made.

Patients and families are informed about cost, warranty, and how to obtain the repair or modification of their products.

Dispensing and repair or adjustment practices must be in compliance with existing federal and state statutes and regulations, including state regulations specific to assistive device technology.

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

For some products, precision measurement equipment is required to identify and adjust or repair malfunctions. Products may need to be sent to an authorized repair source.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation includes information about the complaint or problem and its resolution.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 17.0 Hearing Aid Selection and Fitting
- 19.0 Hearing Assistive Technology Systems
- 23.0 Counseling

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1991). *Use of FM amplification instruments for infants and preschool children with hearing impairment* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997a). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997b). *Maximizing the provision of appropriate technology services and devices for students in schools* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998). *Guidelines for hearing aid fitting for adults*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002a). *Guidelines for audiology service provision in and for schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002b). *Guidelines for fitting and monitoring FM systems*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). *(Central) auditory processing disorders* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b). *Guidelines for addressing acoustics in educational settings*. Available from www.asha.org/policy/.

U.S. Food and Drug Administration. (1977, February 15). *Hearing aid devices: Professional and patient labeling and conditions for sale*. Available from www.fda.gov.

19.0 HEARING ASSISTIVE TECHNOLOGY SYSTEMS

Procedures to assess the effectiveness and appropriateness of hearing assistive technology systems/devices for individual patients/clients or facilities, often involving the dispensing and/or installation of systems/devices and monitoring their use over time.

Hearing assistive technology system selection is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Use of hearing assistive technology systems (HATS) reduces the impact of hearing loss on the patient's life and facilitates communication and personal safety in various environments.

Information regarding the potential benefits and accessibility of HATS is provided.

CLINICAL INDICATIONS

HATS are indicated for individuals

- throughout their life span on the basis of their communication, educational, vocational, and social needs
- for whom conventional amplification is not indicated or provides limited benefit
- who require access in public and private settings in accordance with federal and state regulations
- who require accommodation in the work setting in accordance with federal and state regulations

CLINICAL PROCESS

The need for and benefit from HATS are determined for the patient.

Electroacoustic characteristics of HATS must be appropriate for the patient's hearing impairment.

The selection process addresses compatibility of HATS when used in conjunction with hearing aids, cochlear implants, and other devices.

The selection process addresses compatibility of HATS in different environments (e.g., church, home, school).

The patient is instructed in the use, care, and maintenance of the HATS to include safety considerations.

Self-reports document successful use of and satisfaction with HATS.

The audiologist may provide consulting services in the installation and operation of multi-user systems in a variety of environments (e.g., theaters, churches, schools).

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

The audiologist has the products required to individualize HATS.

For some products, precision measurement equipment is required to verify and adjust HATS.

Some products may require consultation with outside sources.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation specifies the rationale for system/device selection, counseling provided, procedures involved in the assessment of the system/device, measures of satisfaction, prognosis for benefit, plan for monitoring and orientation, and final disposition/reassessment plans.

When providing consulting services, written plans, reports of services rendered, findings, and recommendations are maintained as indicated in the agreement between the parties involved.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 5.0 Basic Audiologic Evaluation
- 7.0 Pediatric Audiologic Evaluation
- 15.0 Audiologic Rehabilitation for Adults
- 16.0 Audiologic (Re)habilitation for Children
- 17.0 Hearing Aid Selection and Fitting
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1984). *Definition of and competencies for aural rehabilitation* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1990). *Audiological assessment of central auditory processing: An annotated bibliography* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991a). *Business, marketing, ethics, and professionalism in audiology: Annotated bibliography (1986-1989)*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991b). *The use of FM amplification instruments for infants and preschool children with hearing impairment* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1992). *Amplification as a remediation technique for children with normal peripheral hearing* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994). *Professional liability and risk management for the audiology and speech-language pathology professions* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1995). *Education in audiology practice management* [Guidelines]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997a). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997b). *Maximizing the provision of appropriate technology services and devices for students in schools* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998a). *Guidelines for hearing aid fitting for adults*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998b). *Support personnel in audiology: Position statement and guidelines*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001a). *AR-BIB: Audiologic rehabilitation-Basic information bibliography*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001b). *Knowledge and skills required for the practice of audiologic/aural rehabilitation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002a). *Guidelines for audiology service provision in and for schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002b). *Guidelines for fitting and monitoring FM systems*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *Cochlear implants* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *Guidelines for the audiologic assessment of children from birth to 5 years of age*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). *Acoustics in educational settings: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b). *(Central) auditory processing disorders*. Available from www.asha.org/policy/.

U.S. Department of Education, National Institute on Disability and Rehabilitation Research. (2005, August). *Assistive technology and information technology use and need by persons with disabilities in the United States, 2001*. Available from www.ed.gov.

U.S. Food and Drug Administration. (1977, February 15). *Hearing aid devices: Professional and patient labeling and conditions for sale*. Available from www.fda.gov.

20.0 AUDIOLOGIC MANAGEMENT OF THE COCHLEAR IMPLANT PATIENT

Procedures to determine candidacy for a cochlear implant, postoperative mapping, and optimization of the speech processor, including evaluation of performance with the device.

Audiologic management of the cochlear implant patient is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Presurgical diagnostic audiologic services and counseling assist the surgeon and patient in determining the potential benefit from a cochlear implant.

Psychophysical and/or electrophysiological testing and monitoring optimize the speech processor mapping. The cochlear implant improves the ability to understand speech.

CLINICAL INDICATIONS

Individuals for whom conventional amplification is not sufficient or appropriate for function in daily activities.

Determination of candidacy for a cochlear implant is based on current Food and Drug Administration guidelines.

CLINICAL PROCESS

Determination of candidacy includes the following:

- a multidisciplinary team of professionals
- advanced audiologic assessment
- electrophysiological and vestibular tests, if necessary
- assessment of benefit from conventional amplification
- administration of communication inventories or questionnaires
- counseling of the patient and family/caregivers regarding the benefits and limitations of a cochlear implant

- medical evaluation
- referral to other professionals as indicated

Procedures after surgery include the following:

- fitting of equipment (speech processor, headset, and appropriate cables)
- speech processor mapping using age-appropriate methods
- electrophysiological testing to aid in speech processor mapping (e.g., neural response telemetry, neural response imaging, electrical auditory brainstem response)
- evaluation of the patient's ability to detect speech-related sounds and/or understand speech
- counseling for patient and family/caregivers regarding the speech processor and its accessories and review of expectations for performance based on patient's age, auditory skill level, and additional factors that may influence outcome
- subsequent, regularly scheduled follow-up visits to ensure appropriateness of speech processor map(s) and integrity of the cochlear implant
- referral to implant surgeon if concerns arise regarding the patient's medical status or if integrity testing reveals failure of the internal device
- referral to and consultation with other professionals, as needed

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Instrumentation and test environments are available for sound field testing.

Hardware and software required for fitting and assessment of cochlear implants are available.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient, audiologist, and others who participate in the clinical process and adhere to the standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation must contain pertinent background information; cochlear implant candidacy assessment results; decisions made regarding device to be implanted, ear to be implanted, and make and model of the speech processor; summary of mapping sessions; documentation that device warranty information has been provided to the patient; and information regarding referrals and recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 5.0 Basic Audiologic Evaluation
- 6.0 Advanced Audiologic Evaluation
- 7.0 Pediatric Audiologic Evaluation
- 8.0 Electrodiagnostic Test Procedures
- 15.0 Audiologic Rehabilitation for Adults
- 16.0 Audiologic (Re)habilitation for Children
- 19.0 Hearing Assistive Technology Systems
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1997). *Maximizing the provision of appropriate technology services and devices for students in schools* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001). *Knowledge and skills required for the practice of audiologic/aural rehabilitation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002). *Guidelines for fitting and monitoring FM systems*. Available from www.asha.org/policy/.

Center for Devices and Radiological Health, U.S. Food and Drug Administration. (2004, October 26). *Cochlear implants*. Available from <http://www.fda.gov/cdrh/cochlear/index.html>.

Centers for Medicare and Medicaid Services. (2005, April 4). *Decision memo for cochlear implantation (CAG-00107N)*. Available from <http://www.cms.hhs.gov/mcd/viewdecisionmemo.asp?id=134>.

21.0 (CENTRAL) AUDITORY PROCESSING DISORDERS EVALUATION

Procedures to assess, evaluate, and monitor central auditory processes (e.g., sound localization and lateralization, auditory discrimination, auditory pattern recognition, temporal aspects of audition, auditory performance in competing acoustic signals, and auditory performance with degraded acoustic signals).

Evaluation of (central) auditory processing disorders (adults and children) is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

(Central) auditory processing disorders [(C)APD] assessment helps define the functional status of the central auditory nervous system and central auditory processes.

Results of the (C)APD assessment will be interpreted and may assist in making recommendations for dismissal, further assessment, rehabilitation and communication planning, and referral for medical and/or educational assessment.

CLINICAL INDICATIONS

APD evaluation is indicated for individuals of all ages who demonstrate one or more of the following:

- symptoms and/or complaints of hearing difficulty with documented normal peripheral auditory function
- central nervous system disorder potentially affecting the central auditory system
- learning problems possibly related to auditory difficulties

CLINICAL PROCESS

(C)APD evaluation is conducted as part of an interdisciplinary process.

(C)APD and other audiologic findings are integrated with reports from other professionals (e.g., speech-language pathology, neuropsychology, or neurology) to provide an evaluation of the following:

- overall cognitive status
- communication behavior, including spoken language processing and production
- educational achievement

Assessment includes the following:

- case history

- basic audiologic evaluation
- advanced audiologic evaluation

Central auditory electrophysiological tests may include the following:

- auditory brainstem response
- middle latency evoked response
- N1 and P2 (late potentials) responses
- P300
- mismatched negativity

Central auditory electroacoustic tests may include the following:

- acoustic reflex
- crossed suppression of otoacoustic emissions

Central auditory behavioral tests may include the following:

- tests of temporal processes (e.g., pattern perception tests, gap detection)
- tests of dichotic listening (e.g., dichotic digits, dichotic Spondaic Word Test)
- low-redundancy monaural speech tests (e.g., filtered speech)
- tests of binaural interaction (e.g., masking level differences)

Interpretations are derived from multiple tests based on age-appropriate norms, intrasubject comparisons (e.g., interaural, interelectrode comparisons) and knowledge of the central auditory nervous system in normal and disordered states.

Evaluation may result in one of the following:

- discharge
- monitoring
- further assessment
- rehabilitation and communication planning
- (C)APD treatment
- referral for medical and/or educational assessment

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Assessments are conducted in a clinical environment with calibrated acoustic stimuli (e.g., pure tones, broadband noise, speech stimuli) conducive to obtaining reliable and valid results.

Test equipment should deliver the highest quality test signals.

Electroacoustic and electrophysiological equipment must meet American National Standards Institute and/or manufacturer's specification.

Testing environment should meet the permissible ambient noise levels for audiometric test rooms.

SAFETY AND HEALTH PRECAUTIONS

All procedures must ensure the safety of the patient, audiologist, and others who participate in the clinical process and adhere to standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation must contain identifying information, case history, assessment results, interpretation, prognosis, and specific recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 5.0 Basic Audiologic Evaluation
- 6.0 Advanced Audiologic Evaluation
- 7.0 Pediatric Audiologic Evaluation
- 8.0 Electrodiagnostic Test Procedures
- 9.0 Auditory Evoked Response Evaluation
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures.

American National Standards Institute. (2002a). *Mechanical coupler measurement of bone vibration* (ANSI S3.13 R2002). New York: Author.

American National Standards Institute. (2002b). *Specifications for instruments to measure aural acoustic impedance and admittance (aural acoustic immittance)* (ANSI S3.39- R2002). New York: Author.

American National Standards Institute. (2002). *Maximum permissible ambient noise levels for audiometric test rooms* (ANSI S3.1-R2003). New York: Author.

American National Standards Institute. (2004). *Specifications for audiometers* (ANSI S3.6-R2004). New York: Author.

American Speech-Language-Hearing Association. (1990a). *Audiological assessment of central auditory processing: An annotated bibliography* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1990b). *The use of FM amplification instruments for infants and preschool children with hearing impairment* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998). *Competencies in auditory evoked potential measurement and clinical applications: Guidelines*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002a). *Guidelines for audiology service provision in and for schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002b). *Guidelines for fitting and monitoring FM systems*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2003). *Guidelines for competencies in auditory evoked potential measurement and clinical applications*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004). *Guidelines for the audiologic assessment of children from birth to 5 years of age*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). *Acoustics in educational settings: Position statement*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b). *Acoustics in educational settings: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005c). *(Central) auditory processing disorders* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005d). *(Central) auditory processing disorders—The role of the audiologist* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005e). *Guidelines for addressing acoustics in educational settings*. Available from www.asha.org/policy/.

22.0 TREATMENT AND MANAGEMENT OF (CENTRAL) AUDITORY PROCESSING DISORDERS

Comprehensive treatment and management of (central) auditory processing disorders is designed to improve auditory processing.

Treatment and management of (central) auditory processing disorders are conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Comprehensive treatment and management plans are implemented to improve auditory processing, listening, spoken language processing, and the overall communication process.

Improvements in auditory processing and listening may enhance communication, learning, and participation in daily activities.

CLINICAL INDICATIONS

Individuals of all ages whose auditory processing abilities are documented to be impaired or compromised on the basis of the results of a central auditory processing evaluation are candidates for treatment and management.

Treatment is recommended when there is a reasonable likelihood of improving auditory processing.

CLINICAL PROCESS

Intervention is based on the patient's complaints, symptoms, history, central auditory processing evaluation, and functional performance deficits.

Treatment may be conducted in an intradisciplinary (audiology and speech- language pathology) and interdisciplinary (e.g., neuropsychology, neurology, education) manner.

Treatment should include one or more of the following:

- auditory training and stimulation
 - formal procedures are conducted in a clinical setting
 - informal approaches do not require sophisticated equipment or settings
- communication and/or educational strategies
- metalinguistic and metacognitive skills and strategies
- hearing assistive technology systems
- acoustics enhancement and environmental modification of the listening environment
- length and frequency of auditory training sufficient for successful outcomes
- outcome measurements obtained and reviewed periodically to help direct the course of treatment and ascertain efficacy of treatment
- criteria for discharge and a description of outcome goals
- training tasks to maintain motivation and provide for success
- counseling families regarding treatment and their role in this process

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Treatment must be conducted in an appropriate environment. This can be a home or school environment for certain activities, whereas the audiology clinic may be necessary for more technical therapies.

Auditory training requires appropriate instrumentation and materials (e.g., computer software).

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation includes pertinent background information, treatment goals, frequency and estimated duration of treatment, delineation of specific treatment approaches, contributions of

professionals and family members collaborating in treatment program, outcome measurements, prognosis, and specific recommendations, which may include the need for follow-up or referral to address related deficits.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 19.0 Hearing Assistive Technology Systems
- 21.0 (Central) Auditory Processing Disorders Evaluation
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (2002a). *Mechanical coupler measurement of bone vibration* (ANSI S3.13 R2002). New York: Author.

American National Standards Institute. (2002b). *Specifications for instruments to measure aural acoustic impedance and admittance (aural acoustic immittance)* (ANSI S3.39- R2002). New York: Author.

American National Standards Institute. (2003). *Maximum permissible ambient noise levels for audiometric test rooms* (ANSI S3.1-R2003). New York: Author.

American National Standards Institute. (2004). *Specifications for audiometers* (ANSI S3.6-R2004). New York: Author.

American Speech-Language-Hearing Association. (1984). *Definition of and competence for aural rehabilitation* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1989). *Learning disabilities: Issues on definition* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1990a). *Audiological assessment of central auditory processing: An annotated bibliography* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1990b). *The use of FM amplification instruments for infants and preschool children with hearing impairment* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991). *Amplification as a remediation technique for children with normal peripheral hearing* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994). *Clinical record keeping in audiology and speech-language pathology* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997). *Maximizing the provision of appropriate technology services and devices for students in schools* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002a). *Guidelines for audiology service provision in and for schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002b). *Guidelines for fitting and monitoring FM systems*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). *Acoustics in educational settings: Position statement*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b). *Acoustics in educational settings: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005c). *(Central) auditory processing disorders* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005d). *(Central) auditory processing disorders—The role of the audiologist* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005e). *Guidelines for addressing acoustics in educational settings*. Available from www.asha.org/policy/.

23.0 COUNSELING

The process of counseling is interactive and facilitative, wherein the communicative, psychosocial, and behavioral adjustment problems associated with auditory, vestibular, or other related disorders can be ameliorated.

Counseling is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Counseling enhances patients' and their families' understanding of, acceptance of, and adjustment to auditory, vestibular, or related disorders.

Counseling enhances acceptance of and adjustment to hearing aids and hearing assistive technology systems designed to maximize communication skills.

Counseling engages patients in the management of their communication problems and enhances the physical and psychosocial well-being and quality of life for individuals with hearing impairment and other auditory disorders.

Counseling increases awareness of the need for prevention of further damage to auditory, vestibular, or related systems.

Counseling enhances compliance with treatment recommendations. Counseling enhances benefit from and satisfaction with treatment.

CLINICAL INDICATIONS

Counseling is indicated for all patients and their family members/caregivers as an integral part of audiologic services.

CLINICAL PROCESS

Counseling goals are established based on assessment of patient's needs.

Counseling goals and approaches are modified to facilitate patients' motivation, progress, and engagement in the management of auditory and nonauditory effects of hearing impairment and other auditory, vestibular, or related disorders.

Counseling is individualized for each patient using culturally and linguistically appropriate language.

Counseling approaches may be cognitive, affective, behavioral, or eclectic in nature based on the patient's specific needs and target goals.

Counseling for patients and their families/caregivers may focus on one or more of the following:

- evaluation procedures
- diagnosis and results of evaluations
- treatment options
- communication problems experienced secondary to hearing disorders

- effects of hearing and balance disorders on psychosocial and behavioral adjustment including interpersonal relationships, social activities, and occupational options and performance
- affective/emotional reactions to auditory, vestibular, or other related disorders
- development of problem-solving skills and compensatory behaviors
- development and coordination of self-help and support groups

Counseling should include referral to and consultation with appropriate professionals and nonprofessionals as appropriate.

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Counseling is conducted in quiet, comfortable settings that ensure confidentiality and privacy. Appropriate space is provided for the patient, family/caregivers, or group counseling sessions.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient, audiologist, and others who participate in the clinical process and adhere to the standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation of counseling goals and procedures is included in the patient's file. The presence of other participants in a counseling session is noted. Confidential information is protected. Recommendations, including the need for further counseling or referral, are noted.

ASSOCIATED PREFERRED PRACTICE PATTERNS

Counseling is a part of all preferred practice patterns.

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1984). *Definition of and competencies for aural rehabilitation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1993). *Audiologic management of individuals receiving cochleotoxic drug therapy* [Guidelines]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1996a). *Guidelines for audiologic screening*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1996b). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997). *Guidelines for hearing aid fitting for adults*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998). *Role of audiologists in vestibular and balance rehabilitation: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2000). *JCIH Year 2000 position statement: Principles and guidelines for early hearing detection and intervention programs*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002). *Guidelines for audiology service provision in and for schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *The audiologist's role in occupational hearing conservation and hearing loss prevention programs* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *Cochlear implants* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004c). *Guidelines for the audiologic assessment of children from birth to 5 years of age*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005). *Knowledge and skills needed by audiologists providing clinical services via telepractice*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2006). *Roles, knowledge, and skills: Audiologists providing clinical services to infants and young children birth to 5 years of age*. Available from www.asha.org/policy/.

Joint Audiology Committee on Clinical Practice. (1999). *Joint Audiology Committee clinical practice statements and algorithms* [Guidelines]. Available from www.asha.org/policy/.

Paul-Brown, D. (1994). *Clinical record keeping in audiology and speech-language pathology* [Relevant paper]. Available from www.asha.org/policy/.

24.0 OTOTOXICITY MONITORING OF THE AUDITORY AND VESTIBULAR SYSTEMS

Procedures to assess, evaluate, and monitor the status and function of the auditory and vestibular systems when the potential for damage exists secondary to toxic agents.

Ototoxicity monitoring is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Assessment of peripheral and central auditory and vestibular system function establishes baseline performance before the administration of potentially toxic agents.

Ongoing assessment determines the effects of toxic agents on auditory and/or vestibular system function.

Interpretation of the assessment may result in recommendations regarding the need for further diagnostic evaluation, consultation with physicians regarding medical management, and/or possible auditory and/or vestibular rehabilitation assessment.

Ototoxicity monitoring facilitates prevention of further damage to the auditory and vestibular systems.

CLINICAL INDICATIONS

Auditory and vestibular system assessment to monitor for toxicity is indicated before, during, and after administration of or exposure to agents known to be toxic (e.g., aminoglycosides, chemotherapy agents, and heavy metals).

CLINICAL PROCESS

Request for audiologic or vestibular monitoring should be initiated before the administration of or exposure to toxic agents. When pre-exposure testing is not performed, monitoring should be initiated as soon after administration of or exposure to toxic agents as possible.

Maintaining serum levels within clinically accepted ranges is not sufficient for the prevention of toxic damage; therefore, periodic monitoring of hearing and vestibular system function should occur throughout and after administration of or exposure to toxic agents.

Auditory assessment may include the following:

- basic audiologic evaluation
- high-frequency audiometry
- evoked otoacoustic emissions
- tests of central auditory function

Vestibular assessment may include the following:

- dynamic visual acuity testing
- electronystagmography (ENG)/videonystagmography (VNG), including bithermal caloric irrigations
- computerized rotary chair
- computerized dynamic posturography
- otolith function testing
- office techniques for physiological and functional assessment of the vestibulo-ocular reflex (e.g., head thrust test, dynamic visual acuity)

Interpretation of the assessment may indicate one or more of the following:

- normal auditory and vestibular system function
- significant change in auditory and/or vestibular system function
- existence, type, and degree of auditory dysfunction with or without significant change
- existence, type, and degree of vestibular dysfunction with or without significant change

Evaluation may result in one or more of the following:

- discharge and/or recommendations for routine follow-up
- referral for audiologic rehabilitation evaluation
- referral for tinnitus evaluation and management
- referral for vestibular and balance rehabilitation therapy
- referral to other professionals

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Auditory assessments are conducted in a clinical environment with calibrated acoustic stimuli (e.g., pure tones, broadband noise, speech stimuli) conducive to obtaining reliable and valid results. Electroacoustic and electrophysiological equipment and ambient noise must meet American National Standards Institute (ANSI) and/or manufacturers' specification. Testing environment should meet the permissible ambient noise levels for audiometric test rooms.

The ENG/VNG system should conform to current ANSI standards. Other assessments for vestibular and balance function are conducted with calibrated stimuli conducive to obtaining reliable and valid results.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient, audiologist, and others who participate in the clinical process and adhere to the standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions. The audiologist performing electrodiagnostic test procedures is familiar with facility-specific emergency medical protocols and adheres to all hospital, state, and federal regulations.

DOCUMENTATION

Documentation must contain identifying and pertinent background information to include identification of toxic agents, assessment results, patient condition before, during, and after the tests (including patient reactions), interpretation, prognosis, and specific recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 1.0 Prevention
- 5.0 Basic Audiologic Evaluation
- 6.0 Advanced Audiologic Evaluation
- 7.0 Pediatric Audiologic Evaluation
- 8.0 Electrodiagnostic Test Procedures
- 9.0 Auditory Evoked Response Evaluation
- 12.0 Balance System Evaluation
- 21.0 (Central) Auditory Processing Disorders Evaluation
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (1993). *Safe current limits for electromedical apparatus* (ANSI/AAMI ES1-1993). New York: Author.

American National Standards Institute. (2003). *Maximum permissible ambient noise levels for audiometric test rooms* (ANSI S3.1-R2003). New York: Author.

American Speech-Language-Hearing Association. (1992). *Balance system assessment* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994). *Guidelines for the audiologic management of individuals receiving cochleotoxic drug therapy*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999a). *Role of audiologists in vestibular and balance rehabilitation: Guidelines*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999b). *Role of audiologists in vestibular and balance rehabilitation: Position statement*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1999c). *Role of audiologists in vestibular and balance rehabilitation: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001a). *AR-BIB: Audiologic rehabilitation-Basic information bibliography* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2001b). *Knowledge and skills required for the practice of audiologic/aural rehabilitation*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005). *Guidelines for manual pure-tone threshold audiometry*. Available from www.asha.org/policy/.

25.0 CONSULTING SERVICES

Procedures to provide expertise to other professionals, business, industry, courts, attorneys, public and private agencies, and/or individuals in all areas related to the profession of audiology including program development, evaluation, or supervision.

Consulting services are conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Consulting services enhance the understanding of auditory and vestibular systems and the appropriate management of hearing loss, related auditory disorders, and vestibular dysfunction.

Consulting services facilitate changes in the acoustic environment and development of programs or instrumentation for the prevention, identification, diagnosis, treatment of auditory and vestibular system dysfunction, or referral to appropriate resources

Expected outcomes of consulting services are variable and are negotiated between the consultant and consultee(s).

CLINICAL INDICATIONS

Consulting services are provided based on requests from within the profession or from outside sources (e.g., educational, industrial, environmental, governmental, legal, or consumer interests).

CLINICAL PROCESS

Consulting services may include one or more of the following:

- community environmental assessment and acoustic modifications and relevant noise ordinances
- occupational and recreational hearing loss prevention and conservation of hearing function through hearing conservation program development, and/or supervision
- accessibility regulation development
- recommendations for large area listening systems, acoustical/architectural modifications, and assistive/sensory listening devices/systems
- audiology program evaluation and management, quality assessment and improvement
- education about and advocacy for policy development affecting persons with hearing, balance, and related disorders
- expert witness testimony or second opinion and/or independent evaluation for educational, health, workers' compensation, or other legal purposes
- consumer education

The consultant

- gathers information through observations, interviews, assessments, and/or reviews of records and materials
- assesses the type and extent of assistance required
- provides information and makes recommendations
- provides monitoring and follow-up services

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

None

SETTING/EQUIPMENT SPECIFICATIONS

Consulting services are offered in home, health care, education, legal, business, and industrial settings, for individuals, families, groups, employers, agencies, and organizations.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the client/patient, audiologist, and others who participate in the clinical process and adhere to the standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

The consultant provides written or verbal plans, reports, or testimony to document services rendered as indicated in the agreement made between the parties involved. The consultant summarizes findings and recommendations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

Consulting services may be provided within the framework of any preferred practice pattern.

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1988). *Prevention of communication disorders* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991). *Prevention of communication disorders tutorial* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1993). *Guidelines for audiology services in the schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994a). *Education in audiology practice management* [Guidelines]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994b). *Professional liability and risk management for the audiology and speech-language pathology professions* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1996). *Issues: Occupational and environmental hearing conservation* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998). *Role of audiologists in vestibular and balance rehabilitation: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002). *Guidelines for audiology service provision in and for schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *The audiologist's role in occupational hearing conservation and hearing loss prevention programs* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *The audiologist's role in occupational hearing conservation and hearing loss prevention programs* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005a). *Acoustics in educational settings: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005b). *Audiologists providing clinical services via telepractice: Technical report*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005c). *(Central) auditory processing disorders* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005d). *(Central) auditory processing disorders—The role of the audiologist* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005e). *Guidelines for addressing acoustics in educational settings*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005f). *Knowledge and skills needed by audiologists providing clinical services via telepractice*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005g). *Position statement and guidelines on acoustics in educational settings*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2006). *Healthy people 2010—Health objectives for the nation* [Fact sheet]. Available from http://www.asha.org/members/research/reports/healthy_people_2010.htm.

Joint Audiology Committee on Clinical Practice. (1999). *Joint Audiology Committee clinical practice statements and algorithms* [Guidelines]. Available from www.asha.org/policy/.

World Health Organization. (2006). *Strategies for prevention of deafness and hearing impairment*. Retrieved May 9, 2006, from <http://www.who.int/pbd/deafness/activities/strategies/en/index.html>.

26.0 OCCUPATIONAL HEARING LOSS PREVENTION AND CONSERVATION

Programs to reduce the effects of noise in the workplace on the hearing of employees.

Occupational hearing conservation is conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Hearing conservation programs (HCPs) are designed to reduce or prevent occupational noise-induced hearing loss.

HCPs educate employees and management about health hazards associated with noise exposure.

CLINICAL INDICATIONS

HCPs are indicated when employees are considered at risk for occupational noise-induced hearing loss.

Individuals who are not included in hearing conservation programs but are exposed to noise in their occupation or place of work (e.g., farmers or contractors) may require an individualized program.

Individuals who are at increased risk due to exposure to potentially toxic agents, illness, or other comorbid factors may require an individualized program.

Implementation of HCPs may be mandated by federal and state regulations.

CLINICAL PROCESS

Prevention of hearing loss and conservation of hearing function are accomplished through planning and implementing HCPs.

As HCP program managers or consultants, audiologists may provide services in the following areas:

- noise exposure assessment and monitoring
- hazardous noise identification
- engineering and administrative controls of noise exposure
- audiometric testing, audiogram review, determination of standard threshold shift, and referral
- fitting, dispensing, and verification of attenuation of personal hearing protection devices appropriate for a worker's noise exposure as well as training in their use
- employee and manager hearing health education and motivation
- record keeping and documentation of noise exposure measurement and hearing evaluations
- training and supervision of occupational hearing conservation technicians
- development of criteria for disposition and referral of employees for whom follow-up is required
- expert witness testimony and forensic consultation, analysis of program effectiveness

Audiologists may provide occupational and environmental hearing conservation services in collaboration with other professionals (e.g., industrial hygienists, occupational nurses, physicians, and environmental, safety, and acoustical engineers).

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Equipment specifications and test setting must meet federal and state regulations.

Assessments are conducted in a clinical environment with calibrated acoustic stimuli (e.g., pure tones, broadband noise, speech stimuli) conducive to obtaining reliable and valid results.

Testing environment should meet the standards for permissible ambient noise levels.

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard health precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation includes written plans, reports of services rendered, findings, and recommendations. Records are maintained in accordance with the clinical process and federal and state regulations.

ASSOCIATED PREFERRED PRACTICE PATTERNS

- 1.0 Prevention
- 2.0 Audiologic Screening
- 4.0 External Auditory Canal Examination and Cerumen Management
- 5.0 Basic Audiologic Evaluation
- 23.0 Counseling
- 27.0 Outcome Evaluation and Follow-Up Measures

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American National Standards Institute. (1994). *Method for the measurement of real-ear protection of hearing protector and physical attenuation of earmuffs* (ANSI S3.19-1994). New York: Author.

American National Standards Institute. (1995). *Microphone in-real-ear and acoustic test fixture methods for the measurement of insertion loss of circumaural hearing protection devices* (ANSI S12.42-1995). New York: Author.

American National Standards Institute. (1997). *Method for the measurement of real-ear attenuation of hearing protectors* (ANSI S12.6-1997). New York: Author.

American National Standards Institute. (2002a). *Mechanical coupler measurement of bone vibration* (ANSI S3.13 R2002). New York: Author.

American National Standards Institute. (2002b). *Specifications for instruments to measure aural acoustic impedance and admittance (aural acoustic immittance)* (ANSI S3.39- R2002). New York: Author.

American National Standards Institute. (2003). *Maximum permissible ambient noise levels for audiometric test rooms* (ANSI S3.1-R2003). New York: Author.

American National Standards Institute. (2004). *Specifications for audiometers* (ANSI S3.6-R2004). New York: Author.

American Speech-Language-Hearing Association. (1980). *On the definition of hearing handicap* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1986). *Calibration of speech signals delivered via earphones* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1988). *Prevention of communication disorders* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1989a). *Audiometric symbols* [Guidelines]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1989b). *Business, marketing, ethics, and professionalism in audiology: An annotated bibliography (1986-1989)* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1990a). *Acoustic-immittance measures: A bibliography* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1990b). *Considerations for establishing a private practice in audiology and/or speech-language pathology* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1990c). *Guidelines for audiometric symbols*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991a). *External auditory canal examination and cerumen management* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991b). *Prevention of communication disorders tutorial* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991c). *Private practice* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1991d). *Sound field measurement tutorial* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1993). *Definitions of communication disorders and variations*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994a). *Clinical record keeping in audiology and speech-language pathology* [Relevant paper]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1994b). *Education in audiology practice management* [Guidelines]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1996). *Guidelines for audiologic screening*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1998). *Support personnel in audiology: Position statement and guidelines*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *The audiologist's role in occupational hearing conservation and hearing loss prevention programs* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *The audiologist's role in occupational hearing conservation and hearing loss prevention programs* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004c). *Evidence-based practice in communication disorders: An introduction* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004d). *Knowledge and skills needed by speech-language pathologists and audiologists to provide culturally and linguistically appropriate services*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005). *Guidelines for manual pure-tone threshold audiometry*. Available from www.asha.org/policy/.

Joint Audiology Committee on Clinical Practice. (1999). *Joint Audiology Committee clinical practice statements and algorithms* [Guidelines]. Available from www.asha.org/policy/.

Joint Committee of the American Speech-Language-Hearing Association and the Council on Education of the Deaf. (1997a). *Hearing loss: Terminology and classification* [Position statement]. Available from www.asha.org/policy/.

Joint Committee of the American Speech-Language-Hearing Association and the Council on Education of the Deaf. (1997b). *Hearing loss: Terminology and classification* [Technical report]. Available from www.asha.org/policy/.

National Hearing Conservation Association. (1996). Guidelines for audiometric baseline revision. *Spectrum*, 13(2), 5.

Occupational Noise Exposure Standard. 36 Fed. Reg. 10,518 (1971).

Occupational Noise Exposure: Hearing Conservation Amendment, Final Rule. 48 Fed. Reg. 9738 (1983).

Occupational Noise Exposure: Hearing Conservation Amendment, Rule and Proposed Rule. 46 Fed. Reg. 4078 (January 1981).

Occupational Noise Exposure: Hearing Conservation Amendment, Rule and Proposed Rule. 46 Fed. Reg. 42622 (August 1981).

Occupational Safety and Health Administration. (1984). *Hearing conservation program manual for federal agencies* (OSHA 3089). Washington, DC: Author.

World Health Organization. (2006). *Strategies for prevention of deafness and hearing impairment*. Retrieved May 9, 2006, from <http://www.who.int/pbd/deafness/activities/strategies/en/index.html>.

27.0 OUTCOME EVALUATION AND FOLLOW-UP MEASURES

Procedures to complete or supplement an assessment, monitor progress throughout the course of intervention, and determine patient satisfaction and benefit after treatment or discharge.

Outcome evaluation and follow-up procedures are conducted according to the Guiding Principles section of this document.

EXPECTED OUTCOME(S)

Outcome evaluation and follow-up measures determine reassessment needs, efficacy of intervention, long- and shortterm functional outcomes, appropriateness of clinical decisions, and recommendations.

Outcome evaluation and follow-up procedures may result in recommendations for ongoing or periodic assessment and/or treatment or referral for additional assessments and/or services.

Outcome evaluation and follow-up procedures verify adherence to recommendations, treatment benefit, and patient satisfaction with services provided.

CLINICAL INDICATIONS

Outcome evaluation and follow-up procedures are provided for patients/clients of all ages and/or families/caregivers at a predetermined time following screening, assessment, or treatment.

CLINICAL PROCESS

Outcome evaluation and follow-up procedures may include one or more of the following:

- face-to-face and/or telephone contacts with the patient and/or family/ caregivers
- verbal or written consultation with other professionals to monitor a patient's functional status, progress, or need for further follow-up
- procedures to determine the patient's status and level of compliance with ongoing recommendations, including interviews, questionnaires, formal tests, or mail surveys
- supplemental evaluations and/or reevaluations

OTHERS WHO MAY PERFORM THE PROCEDURE(S)

Support personnel may conduct selected assessment procedures under the supervision of a certified audiologist but may not interpret the clinical results or provide referrals or recommendations.

SETTING/EQUIPMENT SPECIFICATIONS

Follow-up procedures are conducted in an environment that is appropriate (e.g., home, school, clinic).

SAFETY AND HEALTH PRECAUTIONS

All procedures ensure the safety of the patient and clinician and adhere to standard precautions (e.g., prevention of bodily injury and transmission of infectious disease).

Decontamination, cleaning, disinfection, and sterilization of multiple-use equipment before reuse are carried out according to facility-specific infection control policies and procedures and according to manufacturer's instructions.

DOCUMENTATION

Documentation contains identifying information; case history; results of outcome assessment and treatment efficacy; interpretation; progress devices checked, adjusted, and/or dispensed; and recommendations for reassessment, continued treatment, referral, or discharge.

The privacy and security of documentation are maintained in compliance with the regulations of the Health Insurance Portability and Accountability Act (1996), Family Educational Rights and Privacy Act (1997), and other state and federal laws.

Results of the follow-up are reported to the individual and family/caregivers, as appropriate. Reports are distributed to referral source and other professionals when appropriate and with written consent.

ASSOCIATED PREFERRED PRACTICE PATTERNS

Outcome evaluation and follow-up are part of all preferred practice patterns.

ASHA POLICY DOCUMENTS AND RELATED REFERENCES

In addition to those in the Preamble, the following references apply specifically to these procedures:

American Speech-Language-Hearing Association. (1988). *Prevention of communication disorders* [Position statement]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1993a). *Audiologic management of individuals receiving cochleotoxic drug therapy* [Guidelines]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1993b). *Audiologic screening* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1993c). *Definitions of communication disorders and variations*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1996). *Guidelines for audiology service delivery in nursing homes*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (1997). *Guidelines for hearing aid fitting for adults*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2002). *Guidelines for audiology service provision in and for schools*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004a). *The audiologist's role in occupational hearing conservation and hearing loss prevention programs* [Technical report]. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004b). *Guidelines for the audiologic assessment of children from birth to 5 years of age*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2004c). *Preferred practice patterns for the profession of speech-language pathology*. Available from www.asha.org/policy/.

American Speech-Language-Hearing Association. (2005). *Knowledge and skills needed by audiologists providing clinical services via telepractice*. Available from www.asha.org/policy/.

Family Educational Rights and Privacy Act (FERPA), 20 U.S.C. § 1232g (1997).

Health Insurance Portability and Accountability Act of 1996 (HIPAA), Pub L. No. 104-191.

Joint Committee on Infant Hearing. (2000). *JCIH Year 2000 position statement: Principles and guidelines for early detection and intervention programs*. Available from www.asha.org/policy/.

Paul-Brown, D. (1994). *Clinical record keeping in audiology and speech-language pathology* [Relevant paper]. Available from www.asha.org/policy/.

World Health Organization. (2001). *International classification of functioning, disability, and health*. Geneva, Switzerland: Author.

GLOSSARY OF TERMS

Assessment: (1) Procedures to identify and/or monitor a patient's/client's communication and related abilities and to diagnose communication and related disorders; (2) procedures to identify and determine the appropriateness and/or design of communication and related devices and systems.

At risk: Susceptible to disease, disorder, or injury because of biological, environmental, or behavioral factors. **Audiologist:** Audiologists hold either a master's or doctoral degree, the Certificate of Clinical Competence from the American Speech-Language-Hearing Association, and, where applicable, state licensure. These professionals identify, assess, and provide treatment for hearing, balance, and related disorders in individuals of all ages. They manage and supervise programs and services related to human communication and its disorders.

Audiologists counsel individuals with hearing, balance, and related disorders, their families, caregivers, and other service providers about the disability and its management. They provide preventive services and consultation, and make referrals. Facilitating hearing, balance, and related functions is the goal of audiologists.

Cerumen: Earwax.

Communication and related disorders: Disorders of speech, (articulation, voice, resonance, fluency), orofacial, myofunctional patterns, language, swallowing, cognitive-communication, hearing, and balance.

Consumer: Direct or indirect recipient of professional services. The term consumer primarily refers to patients/clients (direct recipients) but can also refer to families, referral sources, third-party payers, or anyone who receives the results of the speech-language pathologist's and audiologist's work (indirect recipients).

Dispense: To provide or sell products to consumers.

Duration of treatment: The total length of time treatment is received (e.g., 6 months, 1 year).

Functional communication: Ability to convey or receive a message, regardless of the mode, to communicate effectively and independently in natural environments.

Interdisciplinary approach: An approach to clinical management that requires representatives of various disciplines (e.g., speech-language pathologists, audiologists, physicians, nurses, physical therapists, occupational therapists, teachers) to work with an integrated plan of treatment.

Intradisciplinary approach: An approach to clinical management that requires representatives of various professions within the same discipline (e.g., speech- language pathologists, audiologists) to work within an integrated plan of treatment.

Multidisciplinary approach: An approach to clinical management whereby representatives of multiple disciplines work with a patient/client without necessarily forming an integrated plan of treatment.

Natural environments: Actual daily environments in which patients/clients function (e.g., home, school, work).

Neonates: Newborn infants up to the age of 28 days.

Parent/caregiver: *Parent/caregiver* is defined in the Individuals with Disabilities Education Act (IDEA) as (a) a natural or adoptive parent of a child; (b) a guardian but not the State if the child is a ward of the State; (c) a person acting in the place of a parent (such as a grandparent or stepparent with whom the child lives, or a person who is legally responsible for the child's welfare); or (d) a surrogate parent who has been appointed in accordance with §300.515.

Patient/client: Recipients of clinical care in various settings (e.g., hospitals, schools, clinics, industry).

Planned environment: An environment that is controlled according to screening, assessment, or treatment needs. For example, an environment can be controlled for ambient noise, visual distractors, size, and lighting.

Premorbid health status: Health status before disease, disorder, or injury.

Prevention (primary): Elimination or inhibition of the onset and development of a communication or related disorder by altering susceptibility or reducing exposure for susceptible persons.

Prevention (secondary): Early detection and treatment of communication and related disorders. Secondary prevention may lead to the elimination of the disorder or slowing of the disorder's progress, thus preventing further complications.

Prevention (tertiary): Reduction of a disability by attempting to restore effective functioning. The major approach is rehabilitation of the individual who has realized some residual problem as a result of the disorder.

Products: Prosthetic or assistive systems/devices (e.g., hearing aids, assistive listening systems/devices, sensory aids) and related accessories such as batteries, battery testers, cords, tubing, and hooks.

Referral: The act of sending or recommending for screening, assessment, or treatment. Referral sources may include self, teachers, physicians, and families.

Screening: A pass/fail procedure to identify patients/clients who require assessment.

Speech-language pathologist: Speech-language pathologists hold either a master's or doctoral degree, the Certificate of Clinical Competence from the American Speech-Language-Hearing Association, and, where applicable, state licensure. These professionals identify, assess, and provide treatment for communication and swallowing function and their disorders in individuals of all ages. They manage and supervise programs and services related to human communication and swallowing function and their disorders. Speech-language pathologists counsel individuals with disorders of communication and swallowing function, their families, caregivers, and other service providers about the disability and its management. They provide preventive services and consultation, and make referrals. Facilitating the development and maintenance of human communication and swallowing function is the goal of speech-language pathologists.

Standard health precautions: A set of recommendations, issued by the federal Centers for Disease Control and Prevention, to prevent transmission of blood-borne pathogens (e.g., human immunodeficiency virus, hepatitis B).

Support personnel: Persons who, following academic and/or on-the-job training, provide services as prescribed, directed, and supervised by a certified audiologist.

Third-party payer: A public or private organization that pays or insures health or medical expenses on behalf of recipients of care. Third-party payments are distinguished by the separation between the individual receiving the service (the first party), the individual or institution providing it (the second party), and the organization paying for it (the third party).

Treatment: A professional intervention based on an individualized plan of care.

Type of treatment: Broad categories of treatment, including home programs and computer-assisted, face-to-face, individual, or group treatment.