AAA Proposed Academic and Performance Standards for the AuD Degree

The academic standards presented in this article are the work of the AuD National Standards Council (TANSC) organized by James Jerger in 1994 to develop a document presenting minimal standards for academic programs proposing to offer the AuD degree. The areas included in the performance standards for entry level practitioners in audiology were drawn from ASHA's Skills Validation study conducted during 1994-1996. Both the academic and performance standards were also reviewed by AAA's Council on Professional Education and are presented here for review and comment by members of the American Academy of Audiology.

In the ASHA skills evaluation study, a group of audiology "experts" from a variety of practice settings were chosen to compile a comprehensive list of knowledge and clinical activity areas which comprise the practice of audiology. Subsequently, three larger groups of participants (practitioners, educators and supervisors) were asked to judge the importance of these knowledge and clinical activity areas for entry level practitioners.

For the most part, practitioners and supervisors included in the survey indicated that virtually all of the knowledge and clinical activity areas designated as important for entry level practitioners should be attained in academic class work or in university directed practicum. In the judgement of practitioners and supervisors, a few areas were felt to be appropriately attained during a clinical fellowship year. Educators tended to include fewer areas as the responsibility of the academic program, placing them instead into the CFY experience, outside of the aegis of the academic program.

Since the AuD degree format in essence eliminates the CFY as it is now conceived, instead incorporating these supervised hours into the final year of the academic program, it follows then that virtually all of the knowledge and clinical activity areas identified in the ASHA Skills Validation study should be attained as part of the responsibility of the academic program. This is a critical change in identifying where the major responsibility belongs for insuring that performance standards and knowledge standards for entry level practitioners have been satisfactorily met.

For both academic standards developed by TANSC and the performance standards developed in the ASHA study, the most critical unresolved issue continues to be the development of methods by which acceptable acquisition of knowledge and clinical competence can be demonstrated by existing practitioners who wish to earn the AuD degree, and methods by which appropriate academic credit can be issued by degree programs. Theoretically, practitioners should not be required to pay for coursework or practicum in areas where previous study and/or clinical experience result in competency or knowledge equivalent to that expected of new AuD students. It is important to emphasize that any methods developed to accommodate existing practitioners who wish to obtain the AuD degree would be time limited programs. Among the possible methods discussed in various forums have been: written or oral tests, portfolio reviews, supervisory reviews, continuing education credits and standardized specialty examinations in various areas of audiology practice.

Submitted by *Angela Loavenbruck*, Chair, AAA Committee on Professional Education

KNOWLEDGE AND COMPETENCY STATEMENTS FOR THE DOCTOR OF AUDIOLOGY DEGREE (AuD)

Knowledge Statements

Individuals will demonstrate knowledge of the following areas:

A. Basic Knowledge Necessary for Audiologic Evaluation and Treatment
   1. Anatomy and physiology of the auditory/vestibular, central nervous and related systems
   2. Pathophysiology of the auditory/vestibular, central nervous and related systems
   3. Embryology and development of the auditory/vestibular, central nervous and related systems
   4. Etiologic factors affecting the function of the auditory/vestibular, central nervous and related systems
   5. Normal development of speech and language
   6. Normal development of auditory behavior/function
   7. Normal processes of speech and language over the life span
   8. Normal processes of auditory behavior over the life span
   9. Basic and applied neuroanatomy and neurophysiology
   10. Principles, methods and applications of psychoacoustics
   11. Basic pharmacology
   12. Basic electronics
   13. Patient characteristics (e.g., demographics, medical status, cognitive status, physical and sensory abilities) and relationship to clinical services
   14. Phonologic, morphologic, syntactic, and pragmatic aspects of human communication in normal and disordered systems
   15. Educational, vocational, social, and psychological effects of hearing impairment and their impact on the development of a treatment program
   16. Ethics in health care delivery
   17. Professional codes of ethics
   18. Cerumen management

B. Stimulus Factors for Audiologic Evaluation and Treatment
   1. Temporal, spectral and amplitude characteristics of sounds used to elicit auditory responses (e.g., pure tone, speech, transients, tone bursts, noise)
   2. How acoustic characteristics are affected by propagation and transmission (e.g., reverberation, sound field, cavity size, transducer and coupler effects)

3. Sound analysis and quantification, including calibration, decibel scaling, measurement of stimuli, and safe limits of stimulation
4. Physical characteristics of non-acoustic stimuli (e.g., electrical, thermal and mechanical) used to elicit non-auditory responses (motor-facial muscle and vestibular); e.g., amplitude and temporal characteristics, temperature and angular and linear acceleration
5. How characteristics of non-acoustic stimuli are affected by properties of the delivery medium or system; e.g., stimulus, electrode impedance)
6. Non-auditory stimulus analysis, including calibration of safe limits of stimulation

C. Methods for Audiologic Evaluation and Treatment
1. Hearing Screening Techniques
   a behavioral (VRA, etc.)
   b objective (ABR, OAE, etc.)
   c written (high risk, etc.)
2 Speech-Language Screening (formal and informal)
3. Prevention (procedures to avoid or minimize onset and development of hearing and/or communication disorders)
4. Counseling (procedures to facilitate the patient's recovery from or adjustment to a communication disorder)
5. Basic Audiologic Assessment
   a behavioral (pure tone, speech, etc.)
   b objective (immittance, etc.)
   c self-assessment inventories
6. Pediatric Audiologic Assessment
   a behavioral (developmentally appropriate procedures)
   b objective (immittance, otoacoustic emissions, etc.)
7. Comprehensive Audiologic Assessment
   a differentiation of sensory vs. neural dysfunction
   b central auditory nervous system disorders
   c identification of pseudohypocusis
   d evaluation of tinnitus
8. Electrodiagnostic Test Procedures (non-auditory)
   a sensory evoked potentials
   b motor evoked potentials
9. Auditory Evoked Potential Assessment
   a Electrocochleography (ECochG)
   b Auditory Brainstem Response (ABR)
   c Middle Latency responses
   d Late responses
   e Event-related and auditory-cognitive potentials
10. Neurophysiologic Intraoperative Monitoring
   a auditory
   b non-auditory techniques
   c effects of anesthesia and pharmacological agents on electrophysiologic events
11. Balance System Assessment
   a ENG
   b rotational-chair
   c posturography
12. Hearing Conservation and Industrial Audiology
   a occupational
   b non-occupational
   c ototoxic agents
13. Educational Audiology
14. Cerumen Management
15. Aural Rehabilitation Assessment
   a pediatric
   b adult
   c geriatric
16. Aural Rehabilitation
   a pediatric, adult, geriatric
   b alternative communication modes and systems
   c balance function rehabilitation
17. Hearing Aid Assessment
   a developmentally appropriate behavioral testing
   b real-ear measurement
   c electroacoustic evaluation
   d determination of earmold characteristics and device configuration
   e administration of communication inventories or questionnaires
18. Assistive Listening System/Device Selection
19. Sensory Aids Assessment (e.g., tactile aids)
20. Hearing Aid Fitting/Orientation
   a behavioral
   b real-ear measurements
   c earmold modification
   d self-assessment inventories
   e counseling
21. Sensory Aids Fitting/Orientation
22. Electrical Stimulation for Cochlear Implant
23. Implant Selection and Rehabilitation
24. Product Dispensing
25. Product Repair/Modification

D. Audiologic Test Analysis
1. Statistical Principles
   a parametric
   b non-parametric
2. Clinical Decision Analysis

E. Related Professional Knowledge
1. Ethical, legal and regulatory aspects of the profession
2. Report writing and patient record keeping
3. Legislation/regulation relevant to the profession
4. Patient/consumer rights
5. Workers' compensation

6. Noise exposure and hearing conservation
7. Third party reimbursement
8. Quality assurance techniques
9. Safety and health precautions
10. Calibration standards, documentation and procedures
11. Professional standards/accreditation
12. Human resources management and supervision

Clinical Activities

Individuals will demonstrate the ability to perform:

A. Audiologic Evaluation

1. Identify individuals at risk for hearing deficits to facilitate referrals
2. Screen individuals for hearing deficits to facilitate referrals
3. Screen speech-language and other factors affecting communication function to facilitate referrals
4. Gather, review, and evaluate information from referral sources, educational, social, psychological, and/or medical records, and prior testing results, to facilitate assessment planning, to establish the patient past and present status, and to identify potential etiologic factors
5. Obtain an in-depth individual and family-relevant case history to assessment and treatment
6. Perform otoscopic examination of the external auditory canal and tympanic membrane
7. Remove cerumen by a variety of techniques and equipment
8. Maintain equipment according to manufacturer's specifications
9. Calibrate equipment to accepted standards
10. Administer standardized and/or nonstandardized clinically appropriate screening and assessment measures, to collect reliable and valid data on the patient's auditory, vestibular and communicative and related functions
11. Evaluate and document changes in the functional status of neural tissue or structures during operative procedures
12. Document the procedures and results of the evaluation process
13. Interpret results of the evaluation to establish type and severity of disorder
14. Generate recommendations resulting from the evaluation process
15. Communicate results and recommendations to patient, other relevant individuals, and agencies to coordinate a plan of action
16. Write formal reports describing results and recommendations in language appropriate for the recipient
17. Monitor patient status, as indicated, to determine future needs
18. Maintain patient records in a manner consistent with legal and professional standards

B. Audiologic Treatment

1. Review evaluation data to develop treatment plan
2. Develop rapport with patient, other relevant individuals, and other service providers in patient management and treatment
3. Communicate results and discuss prognosis and options with patient consumer, other relevant individuals and agencies to develop and coordinate a plan of action
4. Provide ongoing counseling to patient, other relevant individuals and other service providers in patient management and treatment
5. Develop management strategies as indicated by the patient's needs, desires and cultural background
6. Participate collaboratively in case coordination
7. Communicate treatment plans for approval by funding agencies
8. Maintain equipment according to manufacturers' specifications
9. Calibrate equipment to accepted standards
10. Select, objectively evaluate, and utilize treatment methods, instrumentation and materials
11. Dispense prosthetic or assistive devices
12. Establish methods for monitoring and summarizing treatment
13. Monitor and summarize treatment outcomes at appropriate intervals
14. Provide information about treatment outcomes to appropriate agencies and individuals
15. Establish discharge criteria based on patient's prognosis, progress and preference
16. Advocate for and make referrals for additional evaluative and treatment services based on results of ongoing monitoring
17. Follow-up on referrals and recommendations to be made on the basis of treatment monitoring
18. Document the procedures and results of the treatment process
19. Maintain patient records in a manner consistent with legal and professional standards

C. Related Professional Activities

1. Follow laws and regulations to provide appropriate services
2. Promote legislation that will ensure an acceptable quality and availability of services and oppose harmful legislation
3. Promote legislation beneficial to the profession
4. Advocate to increase third-party reimbursement
5. Identify unmet programmatic needs, create new programs, or develop links with existing programs
6. Plan and implement in-service and public information programs concerning the prevention, identification, evaluation and treatment of communicative disorders
7. Conduct and/or participate in clinical research
8. Update clinical and professional knowledge and skills