

# Position Paper

## Expected Competencies of New Graduates in Audiology

The university programs in conjunction with Audiology Australia have developed the following Position Statement to describe the abilities of a new graduate at the beginning of their professional practice of audiology. This document describes the areas in which a graduate may be expected to carry out work with some autonomy, and the role of the supervisor is to develop and mentor these skills through review and feedback. These guidelines are provided as information to employers to ensure that they provide an appropriate environment for the employment of new graduate audiologists.

Audiological education in Australia has the following aims:

1. To produce a graduate with the knowledge, skills and attitudes to be a competent beginning practitioner of clinical audiology.
2. To produce a health professional who is familiar with general issues relating to health care and education for special groups.
3. To produce a graduate who can function effectively in a range of health care settings, both metropolitan and rural, including practising audiology with minority and disadvantaged groups .
4. To produce a graduate with skills in acquiring and appraising scientific and clinical information and foster an attitude towards the maintenance of professional currency which will assist their further professional development.

### Abilities of New Graduates

The following abilities apply to a new graduate

- a. from a Master's program in audiology at an Australian university.
- b. taking up a first position in clinical audiology (working under supervision).

### Core abilities of New Graduates

The core abilities should be seen as applying to non-complex cases in generalist clinics.

### Theoretical Knowledge Abilities

1. **Auditory pathology**  
Graduates should be able to identify and describe conditions that cause hearing loss, tinnitus, vertigo, ear pain or discharge, and other auditory symptoms. They should be able to relate this knowledge to a client's audiological history and findings and identify situations where urgent medical follow-up is required.

2. **Acoustics and instrumentation**

Graduates should have a working knowledge of the physics of sound transmission and measurement and instrument calibration and should know where to find appropriate acoustical standards.

3. **Auditory physiology**

Graduates should be able to describe and explain the anatomy and physiology of the auditory system and auditory neural pathways.

4. **Psychoacoustics and psychology**

Graduates should be able to describe and explain the processing skills of the normal auditory system and relate these to known physiological mechanisms.

5. **Tests and measurement**

Graduates should also be able to select and evaluate audiometric test procedures according to the basic principles of test development and selection (e.g. reliability, sensitivity, etc.).

6. **Speech, language and communication**

Graduates should have a working knowledge of acoustic phonetics, language development, audio-visual speech reception, and speech production. They should be able to apply this information to assess or estimate the impact of hearing loss upon the perception and production of speech, and upon language development.

7. **Medical background for audiology**

Graduates should be able to identify and describe the basic principles underlying otological conditions, such as the effects of ototoxic agents, the pathology and natural history of infectious disease, basic genetics, and embryological development of the auditory system. They should also be able to describe some common treatable conditions affecting the auditory system and the usual medical or surgical interventions for these.

8. **Critical literature review skills**

Graduates should be able to evaluate research studies in audiology and related fields and assess their scientific merit and applicability to clinical practice.

9. **Professional practice**

Graduates should demonstrate knowledge of the ethical practice of audiology and be familiar with the codes of ethics of the relevant professional associations. Graduates should also be familiar with the broad areas of expertise and practice of other health and related professionals - e.g. speech pathologists, general and specialist medical practitioners, clinical psychologists, occupational therapists, special education teachers - sufficient to refer their clients appropriately to these professionals.

**Theoretical knowledge and demonstrated clinical competence sufficient for independent application to a non-complex case load:**

1. **Hearing aids**

Graduates should be able to recommend, fit and evaluate appropriate amplification and monitor and document outcomes. It is expected that they should be able to take into account factors including the type and degree of hearing loss, use appropriate prescriptive techniques and modify their approach according to client variables such as age and communication needs.

2. **Diagnostic audiology and otoscopy**

Graduates should be able to recognise the presence of conditions of the external ear preventing accurate threshold audiometry and refer appropriately for management. Graduates should be able to obtain accurate pure tone air and bone conduction thresholds, using appropriate masking techniques,

for most hearing loss configurations. They should be able to take account of subject variables, such as age, motivation, tinnitus, and intellectual ability, and modify or simplify procedures in an appropriate way. They should also be aware of tester variables, which could affect results, such as rate of presentation and additional cues, and be able to modify their technique when necessary. They should be aware of the effects of calibration errors and be able to take account of such errors with unfamiliar equipment. They should be able to practise identification audiometry according to the principles of screening.

3. **Paediatric audiometry**

Graduates should be able to select and/or modify procedures for the assessment of hearing thresholds in children of all ages; carry out these procedures in children over three years, developmentally, in a manner likely to obtain accurate results; interpret results appropriately, and recommend follow-up assessment that is likely to provide accurate diagnosis of hearing loss as early as possible.

4. **Impedance (immittance) audiometry**

Graduates should be able to recognise conditions of the external ear and canal preventing tympanometry and refer appropriately for management. Graduates should be able to obtain accurate tympanometry and acoustic reflex results under most clinical conditions with all age groups. They should be able to assess impedance results against audiometric findings and evaluate their consistency.

5. **Speech audiometry**

Graduates should be able to select appropriate speech audiometry measures for clients and carry out such testing in a manner likely to give reliable results. They should be able to assess speech results against audiometric findings and evaluate their consistency.

6. **Evoked potential testing**

Graduates should be able to recommend the use of suitable evoked potential testing in the diagnosis of hearing loss (e.g. ABR, ERA, ECochG). In particular, the applications of Auditory Brainstem Response (ABR) audiometry to identifying retrocochlear pathology and to the assessment of hearing in infants and other difficult-to-test clients should be thoroughly understood. Graduates should be able to carry out ABR assessment, interpret results appropriately and integrate these with other audiological findings.

7. **Integration of audiological results**

Graduates should be able to form reasonable conclusions about the likely type and site of pathology in patients with auditory symptoms based on case history and interview, behavioural audiometric information and electrophysiological measures. In particular, graduates should be able to analyse the results for consistency and recommend further action that is likely to resolve inconsistencies. They should also be able to evaluate results to recommend medical and/or other follow up. Graduates should be able to produce clear and concise reports on audiological findings and their interpretation for clients, parents, and other health and education professionals, and to write clear and concise referrals to other professionals.

8. **Communication assessment and intervention**

Graduates should be able to assess a client's communication needs and formulate an appropriate management plan. Graduates should be able to provide basic advice on hearing re/habilitation options and services to the client and relevant others.

9. **Informational counselling**

Graduates should demonstrate the basic communication skills required to impart useful information about audiological results and management to clients.

10. **Standards and procedures**

Graduates should be able to perform simple electro-acoustic measures of audiometer output and of sound-field acoustics. Graduates should be able to describe and apply local standards of workplace safety, including infection control.

## Theoretical knowledge and awareness of practical applications

### 1. **Otoacoustic emissions**

Graduates should be able to explain the principles of otoacoustic emissions and their application to the description of auditory function. They should be able to recommend OAE testing and interpret the results appropriately and integrate them with other audiological findings.

### 2. **Vestibular assessments**

Graduates should be able to explain the principles of electro-nystagmography and caloric testing and be able to recommend vestibular tests appropriately for clients with balance disorders. They should be able to interpret results from these assessments appropriately and integrate them with other audiological findings.

### 3. **Central auditory function assessments**

Graduates should be able to explain the principles of central auditory function and assessment and be able to recommend tests of central auditory function for clients with auditory disorders. They should be able to interpret results from these assessments appropriately and integrate them with other audiological findings.

### 4. **Sensory devices**

Graduates should be able to describe the principles of cochlear implant and other sensory device technology (e.g. vibrotactile aids, implantable hearing aids) and their application to assist people with severe and profound hearing loss. They should be able to interpret audiological results and histories in relation to candidacy for sensory devices for adults and children and advise clients on their suitability.

### 5. **Assistive listening devices**

Graduates should be able to describe the principles of assistive listening device technology (e.g. alarms, telephone devices, FM devices) and their applications to assist people with hearing loss. They should be able to interpret audiological and communication assessment results and recommend appropriate devices for adults and children, which are compatible with their personal device use.

### 6. **Tinnitus assessment and intervention**

Graduates should be able to recommend assessment and management strategies for clients with tinnitus and to advise of their effectiveness. They should be able to make appropriate referrals to specialist tinnitus services and interpret the information thus acquired.

### 7. **Educational audiology**

Graduates should be aware of the range of educational options available to hearing-impaired children and be able to provide descriptions and information about these to parents and to other professionals.

### 8. **Occupational hearing loss**

Graduates should be able to explain the principles of hearing conservation and describe the legislation, which applies in their state. They should have the skills to advise employers and employees of their rights and obligations under the relevant sections of their state Occupational Health and Safety Act.

### 9. **Deafness studies**

Graduates should understand the needs and aspirations of the Deaf community. They should have an understanding of the variety of non-verbal communication systems used by members of Deaf communities and be able to recognise and describe these.

### 10. **Intra-operative monitoring**

Graduates should demonstrate an understanding of common situations in which audiologists may use electro-physiological tests to monitor cranial nerve function during surgery.

### 11. **Practice management**

Graduates should demonstrate an understanding of a range of issues relevant to the conduct of an independent audiological practice; e.g. business, legislative, management, ethical, promotional and marketing issues.

## Additional skills, knowledge and attitudes

1. Research design skills  
Graduates should demonstrate research design and statistical analysis skills, which would be sufficient to carry out simple studies in audiology or related fields.
2. Research report-writing skills  
Graduates should demonstrate adequate scientific writing skills to assemble a coherent report on an area of audiological research.
3. Professional development  
Graduates should demonstrate a positive attitude towards continuing professional development.