Chapter 1

The Speech-Language Pathologist in Audiology Services: An Interprofessional Collaboration

Carol A. Ukstins, MS, CCC-A, FAAA
Auditory Impairments Program Coordinator
Educational Audiologist
Office of Special Services
Newark Public Schools

Deborah R. Welling, AuD, CCC-A, FAAA
Associate Professor and Director of Clinical Education
Department of Speech-Language Pathology
School of Health and Medical Sciences
Seton Hall University

Key Terms

Acquired hearing loss
Best practice
Deaf
Evidence-based practice (EBP)
Hard of hearing
Interprofessional collaboration
Response to intervention (RTI)

Objectives

- Understand the requirements of the speech-language pathologist as they relate to audiologic services.
- Review the speech-language pathology scope of practice as it pertains to audiological services and service provision to those with hearing loss.
- Discuss the concept of collaboration and understand its importance.
- Become familiar with terminology related to persons with hearing loss.

Introduction

Speech-language pathology is an exciting profession. Listed as number 28 on *U.S. News & World Report*'s list of "Best 100 Jobs" for 2016 (Snider, 2016), the field encompasses science, technology, and the humanities. It involves patient care from diagnosis to rehabilitation, working with all ages from infants to geriatrics. The speech-language pathologist (SLP) may find him- or herself working in a wide range of settings, including medical, educational, rehabilitative, and industry. Perhaps one of the most exciting aspects of a career in speech-language pathology is the flexibility to work in such a wide range of settings and with an even wider range of individuals and disabilities without ever having to change your field of practice. Throughout this rewarding career, it is quite likely that the speech-language pathologist will eventually have the opportunity to work with an individual who is hard of hearing or deaf. It is perhaps even more likely that the SLP will work with multiply impaired individuals with a wide variety of comorbidities, one of which may be hearing loss.

Working with such individuals requires that speech-language pathologists have a secure understanding of their own scope of practice as well as what it means to practice in an interprofessionally collaborative manner. Other elements critical to successful practice and interventions include best practice guidelines, evidence-based practice principles, and response to intervention. These topics will be addressed in this chapter.

Interprofessional Collaboration

The literature contains a variety of definitions related to **interprofessional collaboration**; some of them are unnecessarily extensive and complicated. At the heart of interprofessional collaboration, whether in the educational area or in clinical practice, is the concept of collaboration, which "…conveys the idea of sharing and implies collective action oriented toward a common goal, in a spirit of harmony and trust, particularly in the context of health professionals" (D'Amour, Ferrada-Videla, Rodriguez, & Beaulieu, 2005). Some of the potential benefits of interprofessional collaboration include comprehensive service provision, better outcomes for the patient, higher satisfaction on the part of the professionals, and time and cost efficiency.

Successful interaction among communication disorders service providers demonstrates the importance of having this collaborative relationship in the care of a client/patient, and devastating effects may result from its absence. If a child is referred for a speech-language evaluation because she or he is not speaking clearly and there is no communication between the speech-language pathologist and the audiologist, a hearing loss may go undiagnosed; unfortunately, this can and does happen. It is likely that many professionals who have worked in the field of communication disorders have encountered this scenario. The lack of interprofessional collaboration for this child can result in impaired speech-language development, academic progress, social interactions, vocational choices, and more.

The broader view of interprofessional collaboration sheds light on the fact that it is not only speech-language pathologists and audiologists whose professional areas are interrelated, but also those of occupational therapists, physical therapists, and recreational therapists (De Vries, 2012). As described by De Vries (2012), the skills required for effective interprofessional teamwork include understanding one's own and others' professions, mutual respect, cooperation, communication, coordination, assertiveness, shared responsibility, and autonomy (Banfield & Lackie, 2009; Lidskog, 2007). Although successful collaboration is clearly a complex process, fully understanding one's own scope of practice is an integral part of this professional partnership.

We emphasize again to the reader the importance of collaborating and working as a team, striving always to improve the quality of patient care. We also strongly encourage clinicians to be cognizant of their professional roles and responsibilities, not

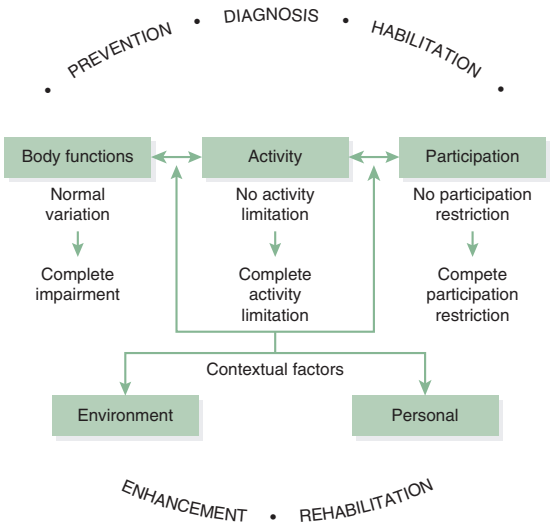
only in terms of their own scope of practice and the knowledge and skills acquisition (KASA) standards, but also in terms of their ethical obligations.

Scope of Practice for the Speech-Language Pathologist

A sound understanding of how to perform a thorough hearing screening, as well as interpret audiometric data, will become an integral part of patient care for the speech-language pathologist. When the speech-language pathologist's job responsibilities include either interpreting or performing audiological procedures, the professional is cautioned to fully understand what is and what is not within their scope of practice. This is of paramount importance when the SLP must manage the needs of a hard of hearing/deaf individual in their care.

In this section we will review the speech-language pathologist's scope of practice as it applies to audiology and hearing loss–related disorders. Your responsibilities lie beyond performing a mere air conduction screening. The American Speech-Language-Hearing Association (ASHA)'s SLP service delivery domains prove this. This is defined through the World Health Organization's International Classification of Functioning, Disability and Health (ICF).

ASHA has embraced the ICF as a whole-person framework for evaluation and intervention when providing treatment. The main elements of the ICF framework are body functions and structures, activity and participation (i.e., engagement in personally relevant settings and circumstances), environmental factors (i.e., physical as well as attitudinal environment), and personal factors (i.e., gender, ethnicity, age). In summation, ASHA encourages practitioners to no longer just assess and treat the impairment, but rather to also examine the many other factors that will play a major role in effective treatment plans. The ICF has shifted the paradigm from just treating the impairment to improving quality of life. As an example, for a school-age child with a hearing impairment, are the parents on board with consistent usage of assistive hearing devices? Does the classroom environment have optimal acoustics and amplification devices? How is the attitude of the other children in the classroom? Do the child's classmates need education on hearing impairment in order to improve the attitudinal environment? Is the child able to actively participate in sports and clubs, despite the hearing impairment? The most recent release of ASHA's *Scope of Practice in Speech-Language Pathology* (2016) embraces these ICF impairment factors as well as contextual factors in quality care of people with hearing impairment.



Courtesy of ASHA. SLP Scope of Practice 2016.

The following list is a synopsis of the eight SLP service delivery domains from ASHA's *Scope of Practice in Speech-Language Pathology* (ASHA, 2016, pp. 5–18). These service domains complement the ICF (ASHA, 2016, p. 5).

1. **Collaboration**

   The SLP shares responsibility with other professionals for creating a collaborative culture. This includes joint communication and decision making using a team approach to patient care. Members of the team include both the patient

(*continues*)

and his or her family members. The speech-language pathologist must determine whether his or her knowledge and skill is adequate regarding the breath of needs for their patient or if collaboration is necessary with other professionals to provide comprehensive patient care. Clearly, the speech-language pathologist should be collaborating with an audiologist on a patient care plan when working with an individual with hearing loss.

2. **Counseling**

   Speech-language pathologists counsel by providing education, guidance, and support. Individuals, their families, and their caregivers are counseled regarding acceptance, adaptation, and decision making. This section further defines counseling as the following:

   - Empowering the individual to make informed decisions
   - Educating the individual and their families
   - Providing support
   - Promoting self-advocacy
   - Discussing and evaluating emotions
   - Referring to other professionals for counseling needs outside of the SLP's scope of practice

   Clearly, in cases involving individuals with hearing loss, the need for emotional support plays an important role in addressing the psycho-emotional and psychosocial impact a hearing loss may have on an individual and his or her family. Counseling in such cases may also involve discussions regarding hearing loss remediation, hearing assistance technology, and educational/programmatic decision making. These overarching issues only scratch the surface of services a patient and his or her family may need when navigating a newly identified hearing impairment.

3. **Prevention and Wellness**

   The speech-language pathologist is involved in prevention and wellness activities that are geared toward reducing the incidence of a new disorder or disease, identifying disorders at an early stage, and decreasing the severity or impact disabilities associated with an existing disorder or disease.

   The role early intervention plays in the overall clinical outcomes for a child with hearing loss is well documented (Ching, 2015). Considerations regarding the quality of life for an individual with hearing loss and his or her general well-being are addressed in this section of the SLP scope of practice. Prevention of hearing loss and the promotion of services available for the individual with hearing impairment, as well as the community at large, are also the responsibility of the SLP under this section. This includes educating the public at large in schools, workplaces, and communities. Always remember, "May is Better Hearing and Speech Month" and can be an important conduit to raise public awareness.

4. **Screening**

   The speech-language pathologist is the expert at screening individuals for possible communication, hearing, and/or feeding and swallowing disorders in a cost-effective manner. This includes planning and conducting hearing screening programs, selecting the appropriate screening instruments, developing the screening procedures, analyzing results, and making referrals.

   Specifically mentioned in this section is the role that the speech-language pathologist plays in the management of disorders, including hearing loss, in the educational realm.

5. **Assessment**

   The speech-language pathologist has expertise in the differential diagnosis of disorders of communication and swallowing. Competent SLPs can diagnose communication and swallowing disorders, but do not differentially diagnose medical conditions. The speech-language pathologist may find that he or she is evaluating disorders that may include hearing loss as a primary etiology or a comorbid condition. However, this does not authorize a speech-language pathologist to evaluate or diagnose a hearing impairment. While that evaluation and diagnosis is the role of the audiologist, do not think that you have no role identifying risk factors or interpreting said audiometric results.

6. **Treatment**

   Speech-language services are designed to optimize individuals' ability to communicate and swallow, thereby improving quality of life. SLPs design their treatment according to evidence-based research and best available practice standards. Treatment plans that are designed for individuals with hearing loss are either habilitative or rehabilitative, depending of the nature of the individual case. Service provision must be both culturally and linguistically appropriate and also sensitive to the communication needs of the individual and his or her family. Again, the collaboration aspect of this portion of the SLP scope of practice holds in high regard the skill set held by an audiologist.

7. **Modalities, Technology, and Instrumentation**

   SLPs use advanced instrumentation and technologies in the evaluation, management, and care of individuals. Specifically expanding on the range of technology and instrumentation listed in this section of the scope of practice, "Some examples… not limited to…" most certainly should include technology for both evaluation of and remediation for hearing impairment. State-of-the-art hearing screening instruments, hearing aids, hearing assistance technology, and the like are all covered in this section as well. While the selection and fitting of hearing aids is most certainly outside the scope of practice for the SLP, maintenance of hearing aid devices, assistive listening devices, and auditory training systems, as well as a vast array of other hearing assistance technology, does fall within the SLP's scope of practice.

8. **Population and Systems**

   SLPs have a role in managing populations to improve the overall health, education, and experience of the individuals they serve. SLPs also have a role in cost containment, including efficient and effective intervention. When working with an individual with hearing loss and his or her family, the SLP must assure that the intervention strategies and therapeutic goals are in alignment with the whole patient, taking into consideration his or her lifestyle and financial circumstances. The SLP must also consider the types of support provided in the classroom for teachers to ensure that the child with hearing loss has full access to the curriculum. Supporting families receiving early intervention services in making educated communication choices for their children with hearing loss is also covered in this section of the scope of practice.

SLP Scope of Practice 2016 from ASHA and AUD Scope of Practice 2016 from ASHA.

Speech-Language Pathology Service Delivery Areas

A comprehensive list of areas of practice for the speech-language pathologist is covered in this section. Fluency, speech production, language, cognition, voice, and resonance may all apply when servicing the individual with hearing loss. In as much as these areas are addressed, the scope of practice specifically addresses auditory habilitation and rehabilitation; speech, language, communication, and listening skills impacted by hearing loss and deafness; as well as therapeutic practices for auditory processing.

Domains of Professional Practice

In reviewing the scope of practice for the SLP as it relates to audiology practices it should now be evident that the knowledge and skills set necessary for the speech-language pathologist working with individuals with hearing loss is far greater than just knowing how to conduct a hearing screening. Moreover, the responsibility does not end there. This manuscript also elaborates on the responsibilities as they relate to advocacy and outreach, education, administration, and research; each of these areas requires a solid understanding of the normal and abnormal auditory system, and the role each plays in communication development and abilities.

The complete document can be found by going to www.asha.org/policy/SP2016-00343/.

Scope of Practice for the Audiologist

As with the speech-language pathologist, ASHA maintains the scope of practice for the audiologist as well. It is wholly important for the SLP to understand the commonalities of these practices as well as their differences. While the audiologist may be viewed as a professional dedicated to the diagnosis of hearing loss, the scope of practice describes a vocation that encompasses many similar practices to those of the speech-language pathologist.

In comparison to the "Clinical Services" portion of the SLP scope of practice, the "Professional Roles and Activities" section of the scope of practice in audiology delineates those practices for which the audiologist is responsible (ASHA, 2004). Audiologists serve a diverse population and may function in one or more of a variety of activities. The practice of audiology includes the following:

A. Prevention
   1. Promotion of hearing wellness, as well as the prevention of hearing loss and protection of hearing function by designing, implementing, and coordinating occupational, school, and community hearing conservation and identification programs
   2. Participation in noise measurements of the acoustic environment to improve accessibility and to promote hearing wellness

B. Identification
   1. Activities that identify dysfunction in hearing, balance, and other auditory related systems
   2. Supervision, implementation, and follow-up of newborn and school hearing screening programs
   3. Screening for speech, orofacial myofunctional disorders, language, cognitive communication disorders, and/or preferred communication modalities that may affect education, health, development, or communication, and may result in recommendations for rescreening or comprehensive speech-language pathology assessment or in referral for other examinations or services
   4. Identification of populations and individuals with or at risk for hearing loss and other auditory dysfunction, balance impairments, tinnitus, and associated communication impairments, as well as of those with normal hearing
   5. In collaboration with speech-language pathologists, identification of populations and individuals at risk for developing speech-language impairments

C. Assessment
   1. The conduct and interpretation of behavioral, electroacoustic, and/or electrophysiologic methods to assess hearing, auditory function, balance, and related systems
   2. Measurement and interpretation of sensory and motor evoked potentials, electromyography, and other electrodiagnostic tests for purposes of neurophysiologic intraoperative monitoring and cranial nerve assessment
   3. Evaluation and management of children and adults with auditory-related processing disorders
   4. Performance of otoscopy for appropriate audiological management or to provide a basis for medical referral
   5. Cerumen management to prevent obstruction of the external ear canal and of amplification devices
   6. Preparation of a report including interpreting data, summarizing findings, generating recommendations, and developing an audiologic treatment/management plan
   7. Referrals to other professions, agencies, and/or consumer organizations

D. Rehabilitation
   1. As part of the comprehensive audiologic (re)habilitation program, evaluates, selects, fits, and dispenses hearing assistive technology devices to include hearing aids
   2. Assessment of candidacy of persons with hearing loss for cochlear implants and provision of fitting, mapping, and audiologic rehabilitation to optimize device use
   3. Development of a culturally appropriate, audiologic rehabilitative management plan including, when appropriate
      a. Recommendations for fitting and dispensing, and educating the consumer and family/caregivers in the use of and adjustment to sensory aids, hearing assistive devices, alerting systems, and captioning devices
      b. Availability of counseling relating to psychosocial aspects of hearing loss, and other auditory dysfunction, and processes to enhance communication competence
      c. Skills, training, and consultation concerning environmental modifications to facilitate development of receptive and expressive communication
      d. Evaluation and modification of the audiologic management plan
   4. Provision of comprehensive audiologic rehabilitation services, including management procedures for speech and language habilitation and/or rehabilitation for persons with hearing loss or other auditory dysfunction, including but not exclusive to speechreading, auditory training, and psychosocial adjustment for persons with hearing loss or other auditory dysfunction and their families/caregivers
   5. Consultation and provision of vestibular and balance rehabilitation therapy to persons with vestibular and balance impairments
   6. Assessment and non medical management of tinnitus using biofeedback, behavioral management, masking, hearing aids, education, and counseling
   7. Provision of training for professionals of related and/or allied services when needed
   8. Participation in the development of an Individual Education Program (IEP) for school-age children or an Individual Family Service Plan (IFSP) for children from birth to 36 months old

9. Provision of inservice programs for school personnel, and advising school districts in planning educational programs and accessibility for students with hearing loss and other auditory dysfunction
10. Measurement of noise levels and provision of recommendations for environmental modifications in order to reduce the noise level
11. Management of the selection, purchase, installation, and evaluation of large-area amplification systems (ASHA, 2004)

SLP Scope of Practice 2016 from ASHA and AUD Scope of Practice 2016 from ASHA.

Aural (Re)habilitation

After reviewing the scope of practice in both fields, the largest overlap with our sister professions lies in providing services to those individuals with hearing loss. The term *aural rehabilitation* should be used with caution because it actually refers to the service provision to two distinctly different people groups. Correctly defined, aural habilitation refers to the delivery of services to newborns, infants, and children born with hearing loss. Congenital hearing loss—that with which a child is born—requires intensive therapeutic services by the speech-language pathologist and a close relationship with the audiologist providing listening technology. Establishing speech and language skills becomes the primary focal point of collaborative service provision.

Conversely, aural rehabilitation refers to the delivery of services to those individuals with **acquired hearing loss**. Acquired hearing loss occurs in individuals who are born with normal hearing sensitivity and through illness, injury, or genetics develop a hearing impairment after speech and language skills are established. In this scenario, the collaboration between the speech-language pathologist and the audiologist likewise should not be ignored as a primary relationship for the success of therapeutic outcomes (Montano, 2014).

Accessing Your Friendly Neighborhood Audiologist

With a better understanding of the scope of practice of the audiologist, one should never underestimate the power of collaboration. As sister fields, speech-language pathology and audiology both fall under the umbrella of ASHA; no matter where you find yourself practicing, you have a network of colleagues you can use as resources on a routine, daily basis. These individuals should never be hard to find in acute care medical facilities because those settings often have speech and hearing departments or otolaryngology departments where the audiologists are located. Subacute and nursing home facility employees may have a more difficult time locating the audiologist employed by the facility, possibly the result of limited hours of consultation. Within school systems there are fewer professionals employed as educational audiologists, but they can usually be accessed through local, county, regional, or state departments of education. The Educational Audiology Association (EAA) is a network of professionals working within the educational system; EAA is an invaluable repository of materials for working within the educational realm. National and state speech-language-hearing association conventions are an excellent venue for networking opportunities, as are continuing education workshops and national/international symposiums. Regardless, it is professionally beneficial that you always be able to network with an audiologist when working with an individual with hearing loss.

Getting Started

With a greater understanding of the daily scope of practice of the audiologist, there are several other guidelines that the SLP must follow when using equipment for audiological testing. Regardless of how this equipment will be used (diagnostically versus screening), one must adhere to the following

Occupational Safety and Health Administration (OSHA) regulations as well as the ASHA guidelines.

As a speech-language pathologist, the maintenance of audiometric equipment may or may not be your responsibility. However, as a professional routinely using audiometric tools, you must be aware of the maintenance requirements of the equipment in your possession. Maintaining up-to-date calibration (electroacoustic as well as daily functional) of the equipment to be used for the screening is mandatory.

Electroacoustic Calibration

ASHA requires that the routine electroacoustic calibration of the test equipment be completed annually by an agency or a business specifically contracted by the individual facility to do so. This agency or business typically both sells and provides services of calibration and maintenance of audiological equipment. Calibration is necessary to ensure the validity and accuracy of the results obtained and includes measurement of the background noise levels in the sound booth or other environment used for audiometric testing and calibration of the audiometric equipment itself. To ensure that proper electroacoustic calibration has been completed on the equipment in use, search for a sticker with a calibration date and agency name on each piece of equipment; the SLP merely needs to verify that the date of the last calibration is within one calendar year of the date of the screening.

Daily Biological Calibration/ Listening Checks

In addition to annual electroacoustic calibration, daily functional (visual) inspections, performance checks, and bio-acoustic (listening) measurements must be conducted to verify the equipment performance before use (ASHA, 2005). The functional inspection, performed each day prior to use, is quickly and easily accomplished by plugging in the machine, making sure it turns on, putting on the standard earphones (or inserting the insert earphones), and performing a listening check on oneself to make certain that the equipment is subjectively functioning appropriately. A daily biometric calibration sheet should be available to record the date and initials of the staff member completing this daily responsibility.

Accurate results require equipment that is functioning appropriately. If the equipment's electroacoustic calibration sticker is out of date or if any mechanical or functional problem is suspected as a result of the daily biological/listening check, misdiagnosis of hearing loss can occur. Equipment problems should be identified to the supervisor in charge so that repair or replacement of equipment is done in a timely manner. Any equipment suspected of malfunction should be removed from clinical use immediately.

Universal Precautions

Universal precautions are a set of procedures and practices designed to help protect healthcare workers and patients alike from a wide range of pathogens. Instrumentation coming into physical contact with the patient must be cleaned and disinfected after each use. According to OSHA 29 CRF standard 1910.1030, all human blood and certain human body fluids are to be treated as if they are already known to be infectious for human immunodeficiency virus (HIV), hepatitis B virus (HBV), and other bloodborne pathogens. Therefore, in agreement with the recommendations of the Centers for Disease Control and Prevention (CDC), standard precautions should be taken as the foundation for preventing transmission of infectious agents during the care of all patients, regardless of their diagnosis or presumed infection status.

The recommendations of ASHA are in agreement with these statements; the 2005 guidelines for manual pure-tone audiometry state that adherence to universal precautions and appropriate infection control procedures should be in place. The use of disposable, acoustically transparent earphone covers or disposable insert earphone tips is recommended.

Handwashing should be routine for the audiologist (or SLP) between patients (ASHA, 2005).

For specific information, recommendations, and guidelines, the readers are referred to the guideline by Siegel and colleagues (2007).

Disclosure of Cleaning Materials

In many facilities, staff members are required to complete a Disclosure of Cleaning Materials document, sometimes known as GreenClean. The purpose of such disclosure is for the facility to manage and monitor the use of toxic chemical compounds within the confines of the agency. The speech-language pathologist is advised to become familiar with the policies of his or her place of employment regarding the completion of such forms. Liquid cleaning solutions for ultrasonic cleaners, as well as wipes and sprays used on therapy tables and equipment, may all fall under the guidelines of disclosure.

A Word on Terminology

As a service provider to the patient diagnosed with hearing loss, it is important not only to understand the "technical" implications of certain terms, but also to be sensitive to the fact that some of these terms might carry unpleasant connotations and may also be considered offensive to some individuals.

"Deaf and Dumb"

The archaic term *deaf and dumb* is considered offensive. In fact, in many European languages the term meant, as it did in English, not only "deaf and mute" but "deaf and stupid"—incapable of speech and, hence, incapable of being educated (Cooper, 2012; Power, 2006). **Deaf** individuals who choose not to use spoken language are technically considered mute. Unfortunately, a common definition of mute implies decreased mental aptitude, which is not the case for most deaf individuals. Today, deaf people find it insulting to be called "deaf and dumb" (Power, 2006).

deaf

The term *deaf* typically is the audiological term that refers to individuals whose hearing loss is so severe that they cannot use their sense of audition as a primary means of daily communication. This does not mean to infer that these deaf (lowercase "d") individuals cannot use their residual hearing sensitivity as a secondary or tertiary communication modality. These individuals will frequently use some type of amplification, whether hearing aids or cochlear implants, to enhance their hearing to its maximum ability. Those who are deaf (lowercase "d") may or may not choose to participate in the Deaf (capital "D") culture and community.

Deaf

Deaf with a capital "D" refers to adults and children who share the use of American Sign Language and Deaf culture: common values, rules for behavior, traditions, and views of themselves and others (Padden & Humphries, 1988). Manual communication and speechreading are the primary means of communication for these individuals. Many prefer not to use amplification of any type or to only use amplification on a limited basis depending on circumstance. These individuals are rooted in a community of other Deaf individuals maintaining their own social activities and network. Deaf communities can be found throughout the country and are frequently located in areas where there are large schools for the deaf, where these individuals were educated and chose to maintain residency as adults. People who identify with Deaf culture/community are in many instances Deaf individuals, their spouses, and their families. People in the Deaf community can have a wide range in their physical degree of hearing loss (Cooper, 2012).

Hard of Hearing

Hard of hearing is the preferred terminology for a person presenting with a hearing loss who can derive benefit from hearing aids and uses aural/oral speech for communication—for example, someone

who can use a standard telephone (Zak, 1996). The term *hearing impaired* is felt to draw attention away from the person as an individual and focus directly on the disability itself.

Putting the Person First

Current terminology supports the view of "person first" when referring to an impairment or disability. According to *The Language Used to Describe Individuals with Disabilities*, disabilities are not persons and they do not define the person, so do not replace person-nouns with disability-nouns (Folkins, 1992). Emphasis should be on the individual; this means that referring to someone as "hearing impaired," and similarly, "aphasic" or "autistic," should be avoided.

Resources for Best Practice, Evidence-Based Practice, and Response to Intervention

The practicing speech-language pathologist is held to high ethical standards by ASHA to provide the best quality service possible to his or her patients. Although a job description or a policies and procedures manual will provide guidance for the speech-language pathologist in specific practice settings and situations, there are several overlying concepts that will provide guidance in the quality of your services. Whether it is in the form of a hearing screening using state-of-the-art technology or evaluating the articulation of a child with developmental disabilities, holding yourself accountable for quality service should be at the forefront of your clinical practice.

Best Practice

Considered by many to be a buzzword, the term **best practice** describes the development of a standard of practice or process that can be used as a benchmark across a profession; best practices provide a clear expression of professional roles and responsibilities (English, 1991). Best practice refers to a clinical process or testing technique that is judged to be scientifically sound and that consistently yields results of better quality than those achieved with other procedures. Best practices are never static, but are ever-changing as improvements in therapeutic intervention and technology are discovered. Best practices are not mandated legislative regulations, but rather guidelines used as effective measures for a standard of practice.

To this end, ASHA's practice policy documents, along with other cardinal documents of the Association, are written for and by ASHA members and approved by its governance to promulgate best practices and standards in the professions of audiology and speech-language pathology (ASHA, n.d.). As current or future members of ASHA, the vast Association resources that are available and at your disposal through the ASHA website (see www.asha.org/policy/about/) include documents in the following categories:

- Preferred Practice Patterns—the informational base for providing quality patient/client care and a focus for professional preparation, continuing education, and research
- Scope of Practice—an outline of the parameters of each of the professions
- Guidelines—current best practice procedures based on available evidence
- Position Statements—public statements of ASHA's official stand on various issues
- Knowledge and Skills—the knowledge and set of skills required for a particular area of practice
- Technical Reports—supporting documentation and research for an ASHA position statement
- Relevant Papers—supporting and related professional documents
- Standards/Quality Indicators—documents related to certification accreditation, and professional standards
- Ethics—includes the Code of Ethics (by which all members and certificate holders are bound) and supporting documents

- Bylaws—the bylaws of ASHA, the ASHFoundation, and the ASHA PAC

Evidence-Based Practice

Entire textbooks and courses are devoted to the study of **evidence-based practice (EBP)**. As such, this section is not intended—in any way—to provide thorough coverage of the topic or what it entails. It is important, however, to highlight the importance of employing EBP principles to the clinician's practice. Therefore, the purpose of this section is merely to define and describe EBP, and to provide resources for you to further investigate this topic on your own.

EBP is the foundational component of research from Dr. David Sackett, considered a pioneer in the area of evidence-based practice. Evidence-based practice can be defined as the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research (Sackett & Rosenberg, 1996).

For the speech-language pathologist, EBP is the integration of clinical knowledge, the value a patient places on his or her therapy session, and research evidence into the decision-making process for patient care. You might think of this similarly to that of a three-legged stool; this process will collapse if any of its legs are missing. Knowledge of clinical practice is based on the clinician's collective experiences, education, and clinical skills. However, an integral part of EBP is also the patient. The nature of the disability, concern regarding therapeutic outcome, expectations, and values of the therapy session all play a large role in EBP. Best practices, as discussed in the previous section, are included as well because data regarding patient outcomes is usually found in clinically relevant research that has been conducted using sound methodology (Sackett, 2000).

The evidence of therapeutic progress by itself does not determine the level of therapeutic effectiveness, but it can help support the patient care process. The full integration of all three areas into clinical decisions increases the opportunity for effective clinical outcomes and quality of life. Evidence-based practice requires the clinician to constantly develop new skills, to keep abreast of and critically evaluate clinical literature, a process which will serve to hone clinical practices.

A plethora of resources for EBP are available through the ASHA website at http://www.asha.org/members/ebp/. A guide to the steps in the EBP process, EBP tutorials, and a list of evidence-based systematic reviews on a broad range of topics are only a few of the many educational tools available through the website. Students and practicing clinicians alike are encouraged to explore the information available.

Response to Intervention

The roots of **response to intervention (RTI)** are in the educational realm. Stemming from the release of the No Child Left Behind Act, it is a systematic methodology of providing assistance to children who are experiencing educational difficulty to prevent academic failure. The design of RTI is to provide interventions, frequent measurements of progress, and a spectrum of increasingly intensive research-based instructional interventions for those children who continue to demonstrate difficulty in a specific academic area (O'Meara, 2011). The design of RTI is based on the premise of keeping children out of the arena of special education by intervening when academic difficulties are noted, rather than waiting for the child to fail and then be referred to the Child Study Team for evaluation. RTI is viewed by many to be an alternative to the "discrepancy model," in which cognitive ability, measured by psychological measures of intelligence (i.e., IQ testing) and their academic achievement are compared and a determination of a specific type of learning disability is made. The model of RTI is thought by many to be a better alternative to the Individualized Education Program (IEP) generated through a referral and evaluation process of special education. Its premise is that through the collaboration of all stakeholders

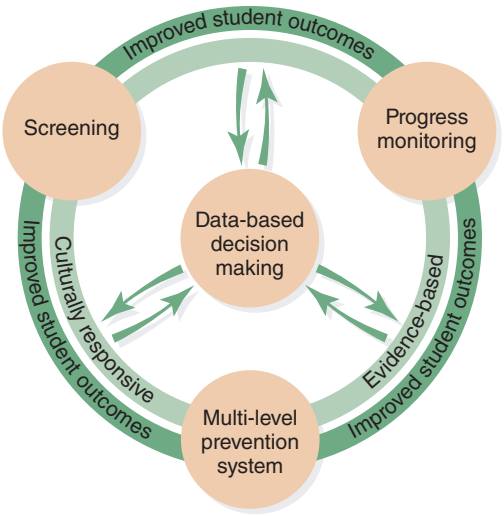


Figure 1.1 Response to intervention (RTI) model.
Reproduced from National Center on Response to Intervention (June 2010). What is Response to Intervention (RTI)? Washington,DC: U.S. Department of Education, Office of Special Education Programs, National Center on Response to Intervention.

in the educational process, a child struggling to succeed can be provided with the appropriate interventions while remaining in the general education population. Figure 1.1 demonstrates the continuum of the RTI service provision model within the general education setting.

Although RTI is clearly and specifically written into No Child Left Behind as a process that now must take place prior to referring a child for special education and related services, much controversy surrounds the RTI model. Proponents of RTI support this multitier model of academic assistance in the general education setting focusing on the early design of interventions for those struggling in the mainstream of education. Merging special education into the general education classroom provides the least restrictive environment (LRE) for these students and allows them the best possible services. By having clear standards, useful measurements, and sound instructional practices within the classroom, academic performance is enhanced. Designing a program that exposes these students to the general education setting with their nondisabled peers will result in improvement in academic achievement and overall educational success (Batsche et al., 2005; Odom, Buysse, & Soukakou, 2011).

Opponents claim that RTI simply identifies low achieving students rather than students with learning disabilities. Poor supports in the process of RTI result in students continuing in a program that is not working to meet their needs. General education teachers cannot always provide the necessary modifications to instruction, or cannot do it systematically. Opponents claim that the main flaw in RTI is that through this intervention model we are asking the student to change when it is the instruction that must change (Batsche, Kavale, & Kovaleski, 2006; Ferri, 2012). The RTI model (Figure 1.1) assumes full cooperation of all stakeholders in the process and that the process itself is clearly defined and implemented. The devil is in the details. The success of RTI will depend on whether highly trained professionals appropriately implement it—and this is likely to be a problem.

Summary

The role of the speech-language pathologist in servicing patients with hearing loss is clearly defined in the ASHA *Scope of Practice in Speech-Language Pathology*. Through the effective measures of hearing screening, application of best practice methods, and being proactive in interprofessional collaboration, this process can and will serve the deaf or hard of hearing individual in the most effective therapeutic ways possible. This can only be done when the speech-language pathologist is

clear about his or her role as a professional, has a strong understanding of the premise behind the screening measure used to identify potential hearing loss, and keeps his or her professional practices current based on research and trends within the field of speech-language pathology.

Discussion Questions

1. List three ways the roles of the SLP and the audiologist would be similar based on the ASHA scopes of practice for both fields.
2. You are asked to interpret audiological test results for a patient on your caseload. How would you access an audiologist to assist you?
3. Why are universal precautions so important?
4. What are the two types of calibration? How are they the same? How are they different?
5. Describe the differences between Deaf and deaf.
6. What are the three components to evidence-based practice (EBP)? How does the patient's investment in their therapy play an important role in EBP?
7. What is response to intervention (RTI)? Describe a scenario in which RTI would work well for a student. Describe a scenario in which RTI would not work well for a student.

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