

***Introduction to Audiologic Rehabilitation 7th edition
Schow Test Bank***

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Instructor's Manual and Test Bank

For

Introduction to Audiologic Rehabilitation

Seventh Edition

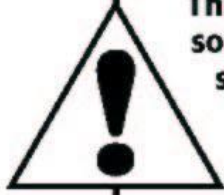
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Table of Contents

Chapter No.	Title	Page No
	Preface	ii
Chapter 1	Overview of Audiologic Rehabilitation	1
Chapter 2	Hearing Aids and Hearing Assistive Technologies	8
Chapter 3	Cochlear Implants	17
Chapter 4	Auditory Stimuli in Communication	20
Chapter 5	Visual Stimuli in Communication	26
Chapter 6	Language and Speech of the Deaf and Hard of Hearing	30
Chapter 7	Psychosocial Aspects of Hearing Loss and Counseling Basics	34
Chapter 8	Audiologic Rehabilitation Services in the School Setting	39
Chapter 9	Audiologic Rehabilitation for Children	44
Chapter 10	Audiologic Rehabilitation across the Adult Life Span: Assessment and Management	50
	Answer key	56

Preface

Much of the time involved in developing and teaching a course involves tasks other than the delivery (lecture) of the material. Creating a syllabus, establishing learning outcomes, outlining chapters, addressing accreditation standards, and formulating test questions collectively consumes a great deal of time. The intent of this resource is to provide these materials to instructors ready to cut-and-paste so that the instructor can save preparation time and focus on the classroom activities with the student.

This Instructor Manual document contains the following:

- learning objectives for the chapter;
- relevant Knowledge and Skills Acquisition (KASA) Standards;
- a concise, two-level outline of the chapter;
- chapter summary points in bulleted form;
- a test question bank in multiple choice, true/false, and short answer formats.

Chapters 11 and 12 are excluded. These chapters contain case-study examples and as such can provide a template for questions of a similar nature (see the companion website).

Companion Website

The companion website for this text is located at <http://www2.isu.edu/csed/audiology/rehab> and contains a variety of resources for both the student and the instructor. The website contains web links to other Internet-based resources; printed resources in pdf format; and interactive activities that highlight a few of the key principles described in the chapters. Below is a summary of some of the activities available on the companion website and the chapters in which they are assigned are shown but may be adjusted by the instructor.

Hearing Loss Simulations - Three digital audio samples are filtered to simulate 1) normal hearing, 2) a high frequency hearing loss, and 3) a low frequency hearing loss. Audiograms representing each hearing pattern are also displayed. (Chapter 1)

Hearing Loss Classification – To help understand the process of categorizing hearing loss in terms of type, degree, and configuration, this activity provides the learner with sample audiograms and asks you to categorize the loss in all three ways. The activity also helps the learner check the agreement between SRT and PTA (+ or - 5 or less= Excellent; + or - 6 to 10= Good, + or - 11 or more = Poor). Finally, students can decide if word recognition scores are appropriate as related to the bone conduction results on the audiogram. (Chapter 1)

More Hearing Loss Classification - This activity is similar to the one above but in a different form. You will need to make sure you have the FLASH plug-in for your browser (you probably already have it installed). (Chapter 1)

Hearing Loss Configuration Profile – This activity allows the learner to input a hearing loss and see what type of communication difficulties that type of hearing loss would exhibit. (Chapter 1)

dB Reference Levels – In fitting hearing aids and measuring outcomes from amplification, it is important to understand the difference between dB SPL, dB HL, and dB SL. This activity on the website will help you learn how these dB levels relate to each other. (Chapter 1)

Hearing Aid Experience - Hearing Aid Experience: This activity provides the student with an experience with a hearing aid under two options. Option One involves wearing a hearing aid under controlled conditions. Using the information related to this chapter found on the book's website, the student is directed on the correct way to place an instructor-supplied BTE hearing aid (programmed for minimal gain/output) in his or her ear. After using the hearing aid in three or four different listening situations (watching TV, taking a walk, socializing, attending class), the student might write a one- to two--page paper describing his or her experiences. For Option Two, the student wears a non-functioning behind-the-ear hearing aid in three or four

situations, noting the reactions he or she observes (from others as well as his or her own reactions as a hearing aid user). Again, students may be asked by the instructor to write a brief summary of the experience. (Chapter 2)

Cloze Procedure - To demonstrate a listener's ability to "fill in" missing information, two different activities are presented. One activity is a visual-only task displaying a paragraph of information with some words removed. Learners are to figure out the missing information and then check to see if they have the correct words. The second activity is similar except it brings in the auditory component. The learner will hear a paragraph with some words removed. They can then fill in the missing words and check to see if they have the correct information. (Chapter 4)

Tracking Activity - Tracking is a way of measuring how many words are recognized over a given time frame. This activity requires two people, one to read the material and one to repeat the material back. (Chapter 4)

Articulation vs Filtered Speech - This activity allows you to hear what speech might sound like when different speech acoustic information has been filtered out. It will demonstrate the relationship of power vs clarity. (Chapter 4)

Hearing Loss Experience - This activity directs the learner on how to properly insert an instructor-supplied earplug through a brief slide show. It then instructs them to use it for at least four hours of their day and provides an outline for writing a summary of their experience. (Chapter 7)

Ideas for Using This Material

- If a printed resource is desired, each chapter document can be printed and placed in a binder for quick access.
- Test bank questions can be copy-and-pasted into a word processor to make hard copy examinations; or pasted into online examination software.
 - An answer key has been placed at the end of the document.
 - If topic-specific questions are desired for a comprehensive examination, for example, you may use the "find" tool in your software to find all the questions that relate to the topic.
- Create simple study guides by using chapter summary points as a guide. For example, consider the summary point "*Audiologic rehabilitation (AR) is defined as those professional processes performed in collaboration with a client who has hearing loss to achieve better communication and minimize the resulting difficulties.*" This could easily be changed to "*Be able to define audiologic rehabilitation as described in Chapter One.*"

Chapter 1: Overview of Audiologic Rehabilitation

Learning Outcomes

Upon completion of this chapter, readers should be able to:

- Define audiologic rehabilitation and the primary goals associated with the process
- State estimates of hearing loss prevalence for children and adults in the United States and worldwide, and understand the difference between deaf and hard of hearing
- Describe environmental factors and personal factors in the way they influence hearing loss, based on the World Health Organization (WHO) model of functioning and disability
- Compare the key elements in the World Health Organization (WHO) model of functioning and disability
- Explain how the suggested use of the terms activity limitation and participation restriction by WHO helps individuals properly understand the consequences of hearing loss
- Describe the main professional associations and the importance of evidence-based practice and multicultural issues
- Describe the key components of the CORE and the CARE models and explain how these components influence audiologic rehabilitation
- Identify the variety of different health care providers who contribute to the coordination and implementation of audiologic rehabilitation
- List some of the recent technological advances that have led to improvements in audiologic rehabilitation

Relevant Knowledge and Skills Acquisition (KASA) Standards

A7, A9, C1, C2, D1

Outline

Introduction

Definitions and Synonyms
Providers of Audiologic Rehabilitation
Education Needs of Providers

Hearing Loss Characteristics

Degree of Hearing Loss and Configuration
Time of Onset
Type of Loss
Auditory Speech Recognition Ability

Consequences of Hearing Loss: Primary and Secondary

Communication Difficulties
Variable Hearing Disorder/Disability

Rehabilitative Alternatives

Historical Background
Contemporary Issues

Procedures in Audiologic Rehabilitation: An AR Model-CORE and CARE

Rehabilitation Assessment Procedures
Management Procedures

Settings for Audiologic Rehabilitation

Children
Adults
Elderly Adults

Summary Points

- Audiologic rehabilitation (AR) is defined as those professional processes performed in collaboration with a client who has hearing loss to achieve better communication and minimize the resulting difficulties. It does not include closely related medical intervention or the teaching of academics to the deaf.

- Audiologists are the chief providers of AR, but speech pathologists and teachers of the deaf also do a great deal of this work. In addition, other professionals such as social workers and rehabilitation counselors may provide key rehabilitative assistance to those with hearing loss.
- AR providers need some background in diagnostic audiology, and they need an understanding of hearing loss and its effect on both children and adults.
- Hearing loss can be defined in terms of degree of loss, time of onset, type of loss, and word recognition ability. Those with milder forms of hearing loss are called hard of hearing; those with extensive hearing loss who cannot use hearing for the ordinary purposes of life are considered deaf.
- The deaf may be divided into four groups: the prelingually deaf, who are born deaf or acquire it in the first five years of life; the perilingually deaf who acquire deafness while acquiring a first language, the postlingually deaf, who acquire hearing loss after age 5 through the school years; and the deafened, who acquire hearing loss after their education is completed.
- The most serious and primary consequence of hearing loss is the effect on verbal (oral) communication, referred to as disability. The secondary consequences of hearing loss may be referred to as a handicap and includes social, emotional, educational, and vocational issues. The World Health Organization (WHO) now suggests that communication activity limitation be used instead of disability and that we speak of participation restriction instead of handicap. In connection with these new terms, WHO also suggests that personal factors and environmental factors are key issues in the provision of AR hearing services. These terms and factors help us properly understand the consequences of hearing loss and provide the basis for a model of AR.
- Both children and adults are underserved, and many more should receive AR help. Only 25 percent of those who could be using hearing aids obtain them. Even those who have hearing aids can often be shown how to get more effective help from amplification and can benefit from other services to assist them in their communication breakdowns.
- The early history of AR is essentially the history of efforts to help the deaf, beginning in the 1500s. Audiology came into being as a profession in the mid-1940s in connection with World War II, and both audiologic diagnosis and audiologic rehabilitation (AR) are considered key elements within this profession.
- Beginning in the 1970s, audiologists became more involved in hearing aid fitting, and in the following decades until 2000 new developments such as cochlear implants and assistive listening devices emerged to revolutionize audiologic rehabilitation. More recently, the use of open fit hearing aids, software and Internet technology, along with improved outcome measures have led to even more exciting advances in AR.
- The model for AR includes assessment and management; rehabilitation assessment includes four elements defined by the acronym CORE. These elements include an assessment of Communication activity limitations and hearing loss through audiometry and self-report; Overall participation variables, including psychological, social, educational, and vocational factors; Related personal factors; and Environmental factors.
- Management includes four elements also, and these are summarized by the acronym CARE. These elements include Counseling, which includes an effort to help clients accept the hearing loss and set reasonable goals; Audibility improvement by using hearing aids and other devices; Remediation of communication; and Environmental coordination and participation goals.
- Children receive AR services in a variety of settings, including early intervention and school programs. Adults and elderly adults are usually served in settings that dispense hearing aids; these include private practice, medical or ENT offices, hearing aid specialists, military or VA service centers, and community hearing clinics.

Supplementary learning activities

See <http://www.isu.edu/csed/audiology/rehab> to carry out these activities. We encourage you to use these to supplement your learning. Your instructor may give specific assignments that involve a particular activity.

- Hearing Loss Simulations: Three digital audio samples are filtered to simulate normal hearing, a high-frequency hearing loss, and a low-frequency hearing loss and presented in this activity. Audiograms representing each hearing pattern are also displayed.
- Hearing Loss Classification: To help understand the process of categorizing hearing loss in terms of type, degree, and configuration, this activity provides the learner with sample audiograms and asks you to categorize the loss in all three ways.
- More Hearing Loss Classification: This activity is similar to the one above but in a different form.
- Hearing Loss Configuration Profile: In this activity you can enter dB levels at 1000, 2000, and 4000 Hz in the better ear and the software will convert these into one of eight audiometric patterns considered hard of

hearing. Deaf levels would be 80 or 90 dB or higher at these same frequencies. This activity allows the learner to see what type of communication difficulties would be experienced by hard of hearing persons with these different configurations.

- In fitting hearing aids and measuring outcomes from amplification, it is important to understand the difference between dB SPL, dB HL, and dB SL. This activity on the website will help you learn how these dB levels relate to each other.
- Review of studies to understand why children and adults need audiologic rehabilitation.

Chapter 1 Test Question Bank

Multiple Choice (Select the best, most complete answer.)

1. Which of the following statements is not accurate?
 - a. About 1 in 10 individuals in the U.S. has a hearing loss.
 - b. Persons with mixed hearing loss will have bone conduction pure tone thresholds which are better than the corresponding air conduction thresholds.
 - c. Gallaudet's successful school for the deaf helped to promote the oral approach to educating the deaf here in the U.S.
 - d. Most hard of hearing youngsters are thought to have hearing loss beginning at birth.
2. The principle consequence imposed by a hearing loss is the effect on:
 - a. educational progress
 - b. verbal communication
 - c. psychological adjustment
 - d. social adjustment
3. The degree of loss corresponding to a 91 to 110 dB loss is:
 - a. Moderate
 - b. Mild
 - c. Profound
 - d. Severe

True / False

4. A.G.Bell was a key figure in the early efforts to educate the deaf here in the U.S.
5. Most pure sensorineural hearing losses have a number of air-bone gaps (15 dB or more).
6. The profound hearing loss a child obtains at three years of age could accurately be described by the terms prelingual and congenital.
7. Most hard of hearing children receive rehabilitation in the schools.
8. Those with hearing loss tend to have comparable intelligence to normal hearing persons.
9. The first ever known teacher of the deaf was de l'Epee in France.
10. The amount of loss is referred to as the disability (or activity limitation) that a person may have while impairment is the consequence of that loss.
11. The vast majority of children with hearing problems in school are deaf.
12. G. Bell is associated with the oral approach for teaching the deaf.
13. Thomas Gallaudet went to England to learn the oral approach at the Braidwood School.
14. Speech and language are nearly always affected in a deafened individual.
15. Decisions about placement in a deaf or hard of hearing program are based only on the child's degree of hearing loss.
16. CARE and CORE provide a framework for doing AR. This model is based on the USA Health Organization recommendation.

17. Most settings for doing AR with adults are not the same ones as found for elderly adults.
18. Individuals with hearing sensitivity which is poorer than 90 dB should always be classified automatically as deaf.

Short Answer / Essay

19. Distinguish between the audiometric and functional definitions of the term “deaf”.
20. Briefly describe the term “phonemic regression”.
21. Briefly discuss the historical significance for each of the following as they pertain to AR
 - a. Ponce de Leon
 - b. Clarke School for the Deaf
 - c. ASHA
 - d. World War II
22. Distinguish between the terms hearing loss and hearing disability.
23. Distinguish between prelingual and postlingual hearing loss.
24. List and explain two of the main factors that can alter the disability resulting from a hearing loss.
25. Describe two studies discussed in class that justify the need for doing AR with children

Bonus: Review Test Bank

Often a prerequisite to a course that would use this text is a basic audiometry course. Below are questions that would be used as part of a review of audiometric testing and diagnosis review. These questions don't necessarily relate to specific information presented in this text.

26. Assume 0 dB HL is equal to 20 dB SPL; If a person's threshold is 35 dB HL what is this threshold in SPL?
 - a. 10 dB SPL
 - b. 15 dB SPL
 - c. 35 dB SPL
 - d. 55 dB SPL
27. This symbol O is used on an audiogram for recording: (ignore color)
 - a. Left ear air conduction
 - b. Right ear air conduction
 - c. Left ear bone conduction
 - d. Right ear bone conduction
28. This symbol > is used on an audiogram for recording: (ignore color)
 - a. Left ear air conduction
 - b. Right ear air conduction
 - c. Left ear bone conduction
 - d. Right ear bone conduction
29. Excellent word recognition (discrimination) is expected in the following type (s) of loss:
 - a. Conductive
 - b. Mixed with large sensorineural component
 - c. Sensorineural
 - d. Conductive and mixed with small sensorineural component
 - e. All of the above

30. Medical treatment or surgery to restore all or part of the hearing is usually possible in the following type (s) of loss:
- Conductive
 - Conductive and mixed
 - Conductive and sensorineural
 - Sensorineural
 - Conductive, mixed, and sensorineural
31. There is usually a problem with clarity of hearing in the following type(s) of loss (es):
- Conductive
 - Mixed with large sensorineural component
 - Sensorineural and mixed with large sensorineural component
 - Conductive and mixed with small sensorineural component
32. There may be a problem in the cochlea in the following type (s) of loss:
- Conductive
 - Mixed
 - Sensorineural
 - Sensorineural and mixed
 - All of the above
33. There is a problem in the outer or middle ear in the following type (s) of loss (es):
- Conductive and mixed
 - Mixed
 - Mixed and sensorineural
 - Sensorineural and conductive
 - Conductive, mixed, and sensorineural
34. Word recognition (discrimination) scores are used to measure the:
- Clarity of hearing
 - Tolerance of hearing
 - Sensitivity of hearing
 - Threshold of hearing
35. The range of human hearing for intensity is: (just detectable to pain)
- 0 dB SPL to 120 dB SPL
 - 0 dB SPL to 100 dB SPL
 - 0 dB HL to 100 dB HL
 - 0 dB SPL to 140 dB SPL
36. The following reference level is used on audiograms and audiometers:
- SPL
 - HL
 - SL
 - dB
37. The configuration of a hearing loss is determined by:
- the type of loss
 - the degree of loss
 - the discrimination ability
 - the shape of the audiogram
38. The traditional speech frequencies are:
- 500, 1000 Hz
 - 500, 2000 Hz

- c. 1000, 2000, 4000 Hz
 - d. 500, 1000, 2000 Hz
39. The degree of loss corresponding to a 91 to 110 dB loss is:
- a. Moderate
 - b. Mild
 - c. Profound
 - d. Severe
40. The prelingually deaf refer to the group:
- a. Who were born without hearing
 - b. Who lost their hearing before the age of 5 years
 - c. Who became profoundly deaf after 5 years but before their late teens
 - d. Both a and b
 - e. Both a and c
41. The deaf were first taught during the
- a. 1500s
 - b. 1600s
 - c. 1700s
 - d. 1800s
 - e. None of the above
42. In the case of hard of hearing children, the hearing aid provisions for these youngsters
- a. are inadequate because they need stronger hearing aids
 - b. are inadequate because when the aids are checked only about $\frac{1}{2}$ are in good condition
 - c. are inadequate because when the aids are checked only about $\frac{1}{4}$ are in good condition
 - d. all of the above.
 - e. are adequate. Most of them wear hearing aids.
 - f. Severe

True / False:

43. Pure tone air conduction and bone conduction thresholds can reveal whether a hearing loss is conductive, mixed, or sensorineural
44. SRT stands for speech repetition threshold.
45. Decibel is the unit used in audiology for measuring the intensity of a sound.
46. Zero dB sound pressure level is the average normal threshold for the human ear.
47. The frequency range of human hearing goes from 125 Hz to 8000 Hz.

Answers to Test Bank Questions

Chapter 1

Multiple Choice

1. c
2. b
3. c

True/False

4. True
5. False
6. False
7. False
8. True
9. False
10. False
11. False
12. True
13. True
14. False
15. False
16. False
17. False
18. False

Bonus Questions for Chapter 1

Multiple Choice

26. d
27. b
28. c
29. d
30. b
31. c
32. d
33. a
34. a
35. d
36. b
37. d
38. d
39. c
40. d
41. a
42. b

True/False

- 43. True
- 44. False
- 45. True
- 46. False
- 47. False

Chapter 2

Multiple Choice

- 1. a
- 2. b
- 3. d
- 4. c
- 5. d
- 6. b
- 7. c
- 8. b
- 9. d
- 10. a
- 11. d
- 12. c
- 13. d
- 14. b
- 15. b
- 16. c
- 17. b
- 18. b
- 19. a
- 20. b
- 21. a
- 22. c
- 23. d
- 24. a
- 25. d
- 26. c
- 27. d
- 28. a
- 29. b
- 30. a
- 31. c
- 32. b
- 33. a
- 34. b
- 35. d
- 36. a
- 37. c