

# Contents

<i>Preface</i>	<i>ix</i>
<i>Contributors</i>	<i>xi</i>
<b>PART I: The Nature of Aural Rehabilitation</b>	<b>1</b>
<b>1</b> The Nature of Aural Rehabilitation <i>Raymond H. Hull</i>	3
<b>2</b> Introduction to the Handicap of Hearing Impairment: Auditory Impairment versus Hearing Handicap <i>Jack Katz and Thomas P. White</i>	23
<b>3</b> The Psychosocial, Educational, and Occupational Impact of Impaired Hearing and the Vocational Rehabilitation Counseling Process <i>R. Steven Ackley and Karen Dilka</i>	45
<b>4</b> Introduction to Hearing Aids and Amplification Systems <i>Joseph J. Smaldino</i>	69
<b>PART II: Introduction to Aural Rehabilitation: Children With Impaired Hearing</b>	<b>87</b>
<b>5</b> Family Involvement and Counseling in Serving Children Who Possess Impaired Hearing <i>Dale V. Atkins</i>	89
<b>6</b> Considerations and Strategies for Amplification for Children Who Are Hearing Impaired <i>William R. Hodgson</i>	111
<b>7</b> Development of Listening and Language Skills in Children Who Are Deaf or Hard of Hearing <i>Arlene Stredler-Brown</i>	137
<b>8</b> Speech Development for Children Who Are Hearing Impaired <i>Daniel Ling</i>	163
<b>9</b> Cochlear Implantation in Children <i>Thomas C. Kryzer</i>	189
<b>10</b> Educational Management of Children with Impaired Hearing <i>Molly Pottorf-Lyon</i>	207

<b>PART III: Introduction to Aural Rehabilitation: Adults Who Are Hearing Impaired</b>	223
<b>11</b> Aural Rehabilitation for Adults: Theory and Application <i>Raymond H. Hull</i>	225
<b>12</b> Counseling Adults Who Possess Impaired Hearing <i>R. Steven Ackley</i>	247
<b>13</b> Hearing Aid Orientation for Adults Who Possess Impaired Hearing <i>Raymond H. Hull</i>	269
<b>14</b> Non-Hearing Aid Assistive Hearing Technology for Adults with Impaired Hearing <i>Joseph J. Smaldino</i>	289
<b>PART IV: Considerations for Older Adults with Impaired Hearing</b>	309
<b>15</b> Influences of Aging on Older Adults <i>Judah L. Ronch and Michael Novotny</i>	311
<b>16</b> Auditory and Nonauditory Barriers to Communication in Older Adults <i>Dawn Konrad-Martin and Gabrielle Saunders</i>	329
<b>17</b> The Impact of Hearing Loss on Older Adults <i>Raymond H. Hull</i>	347
<b>18</b> Special Considerations for the Use of and Orientation to Hearing Aids for Older Adults <i>Raymond H. Hull</i>	363
<b>19</b> Techniques of Aural Rehabilitation for Older Adults with Impaired Hearing <i>Raymond H. Hull</i>	377
<b>20</b> Special Considerations in Aural Rehabilitation for Older Adults in Health Care Facilities <i>Raymond H. Hull</i>	411
<b>APPENDICES: Materials and Scales for Assessment of Communication for the Hearing Impaired</b>	435
Appendix A: CID Everyday Sentences	437
Appendix B: The Denver Scale Quick Test	441
Appendix C: The WSU Sentence Test of Speechreading Ability	443
Appendix D: Hearing-Handicap Scale	445
Appendix E: The Denver Scale of Communication Function	449
Appendix F: Test of Actual Performance	455
Appendix G: The Hearing Measurement Scale	457

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Appendix H: Profile Questionnaire for Rating Communicative Performance in a Home and Social Environment	461
Appendix I: The Denver Scale of Communication Function for Senior Citizens Living in Retirement Centers	467
Appendix J: Wichita State University (WSU) Communication Appraisal and Priorities Profile (CAPP)	471
Appendix K: The Hearing Handicap Inventory for the Elderly	475
Appendix L: The Communication Profile for the Hearing Impaired	479
Appendix M: Communication Skill Scale	487
Appendix N: The Shortened Hearing Aid Performance Inventory	503
Appendix O: Communication Scale for Older Adults (3-Point Response Format)	505
<i>Index</i>	<i>515</i>

# Preface

The book that you have just purchased is an introductory book on the nature and process of aural rehabilitation. As an introductory look at the processes involved in this exciting aspect of our field, it covers a broad range of topics considered to be the most important in preparing future professionals to serve children and adults with impaired hearing. It is a natural outgrowth of what previously became a popular text entitled *Aural Rehabilitation*, written and edited by this author, that resulted in four successful editions over a span of over 20 years. One of the reasons that those previous books were so popular among professors and students was not only the logical sequence in which the information was presented, but also the ease with which the book could be read. In other words, the book that you have purchased entitled, *Introduction To Aural Rehabilitation*, retains the readability and ease of understanding that the previous books by this author have maintained over the years, but also provides comprehensive information on the nature and process of aural habilitation and rehabilitation on behalf of children and younger and older adults who possess impaired hearing. Therefore, the information is presented in a readable fashion that has immediate theoretical and practical application.

The first page of each chapter provides a brief outline of the chapter for a quick content overview. Further, the examinations and answer sheets found at the conclusion of each chapter provide a ready-made opportunity for professors to quiz their students on a periodic basis, or to simply allow stu-

dents to determine on their own whether they understood important points within each chapter.

This book is divided into four parts:

**Part I:** The Nature of Aural Rehabilitation presents information that is fundamental to the provision of services on behalf of all persons who possess impaired hearing, including an introduction to aural rehabilitation; an introduction to the nature and potential impact of hearing impairment and related terminology; an introduction to hearing aids and their components; and a psychosocial, educational, and vocational profile of persons with impaired hearing.

**Part II:** Introduction to Aural Rehabilitation: Children with Impaired Hearing concentrates on habilitative/rehabilitative services on behalf of children who possess impaired hearing. The information centers on the importance of family and its involvement in serving children who are hearing impaired; considerations regarding amplification for children; the development of auditory skills in children who are hearing impaired; language and speech development for children with impaired hearing; their educational management; and the issue of cochlear implantation on behalf of children.

**Part III:** Introduction to Aural Rehabilitation: Adults Who Are Hearing Impaired concentrates on matters that affect services on behalf of adults with impaired hearing. Chapters in this section address the impact of hearing impairment on adults, and procedures

for counseling; hearing aid orientation; assistive listening devices for adults who are hearing impaired; and the history, theory, and application of aural rehabilitation for adults.

**Part IV:** Considerations for Older Adults with Impaired Hearing addresses special considerations for services on behalf of older adults who possess impaired hearing. The chapters in this section present information on psychosocial and physical factors of aging; the special nature of hearing loss in older adulthood; the impact of hearing loss on older adults; counseling the older adult who is hearing impaired; considerations for hearing aid use for older adults; techniques of aural rehabilitation for all adults who are hearing impaired; and programs for the hearing impaired elderly in health care facility environments.

**Appendices:** The Appendices of this book contain the most comprehensive compilation of assessments of communicative function in adults who possess impaired hearing found in any text on the topic of aural rehabilitation.

The topics for this book were by no means arbitrary. University professors and practitioners of audiology, speech-language pathologists, deaf educators, rehabilitation counselors, psychologists, otologists and otolaryngologists, along with upper-level undergraduate and graduate students across the United States, Canada, Europe, and other

countries were consulted about the topics they felt were important in preparing audiologists and speech-language pathologists to work with children and adults who possess impaired hearing, and further, if they would prefer a term other than aural rehabilitation in this book. When a general consensus was reached, this book was designed, written, and prepared for you.

As an introductory look at the processes involved in aural rehabilitation, it covers a broad range of topics considered to be the most important in preparing future professionals to serve children and adults with impaired hearing. Therefore, a basic but diverse range of vocabulary and sophistication is acknowledged in regard to both the content of the chapters and the book's intended readership as an introductory book in this area of study. The book has been designed for use by a broad range of readers, primarily upper-level undergraduate students and early graduate students in audiology and speech-language pathology, and as a reference for professionals in audiology, speech-language pathology, deaf education, and other fields that serve children and adults with impaired hearing. Other interested readers include physicians, nurses, gerontologists, vocational rehabilitation counselors, teachers, psychologists, and sociologists.

Preparing this text has been an enjoyable and rewarding experience. It will prove to be a valuable source of information for serving children and adults who possess impaired hearing. Enjoy!

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# Techniques of Aural Rehabilitation for Older Adults with Impaired Hearing

RAYMOND H. HULL

## Chapter Outline

Introduction

Individual versus Group Treatment

    Individual Treatment

    Group Treatment

Components of Aural Rehabilitation Services for Older Patients

    Counseling

    Hearing Aid Orientation

    Adjusting or Manipulating the Listening Environment

    Creating Positive Assertiveness

    Involvement of Family and Significant Others

The Process of Aural Rehabilitation

    The Ongoing Aural Rehabilitation Program: Reasons for Successful and Unsuccessful Treatment Programs

    Use of Residual Hearing with Supplemental Visual Clues

    Linguistic, Content, and Environmental Redundancies

    Reducing Auditory or Visual Confusions

    Communicating under Adverse Conditions

    Other Approaches to Aural Rehabilitation Treatment

Summary

## Introduction

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The process of aural rehabilitation on behalf of older patients is as exciting as it is rewarding. To be involved in the recovery of communication skills that may have previously caused an adult to withdraw from his communicating world is, indeed, gratifying. Both the patient and the audiologist can rejoice in the recovery of those skills. Some older patients recover skills that allow them to participate on a social basis once again, at least with a greater degree of efficiency. Others may simply regain the ability to communicate with their family with greater ease. In light of those gains and, perhaps, a step toward a reinstatement of communicative independence, a patient and his audiologist have reason to rejoice.

Clinicians cannot, under any circumstances, hope to benefit every older hearing impaired person. But, in attempting to do so, if some are helped who had previously submitted to a self-imposed withdrawal from family and friends because of the embarrassment from responding inappropriately to misunderstood messages, then professionals can be satisfied that our work is worthwhile.

Because most older adults who have hearing impairment have experienced normal to near-normal auditory function during their younger years, and because they are generally fully aware of the communicative difficulties they face, it is important that our services address their specific communicative needs. In light of the fact that it is being confirmed that auditory disorders found in older adults are quite complex (see Chapter 16 and Chapter 17), approaches to aural rehabilitation must accommodate the communication difficulties experienced as a result of compounding problems; many of these are

found in a probable combination of both peripheral and central involvement. The audiologist is, indeed, serving complex people who possess complex auditory disorders.

## Individual versus Group Treatment

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### *Individual Treatment*

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Some individuals will require individual aural rehabilitation treatment. In instances in which patients are experiencing communicative difficulties that are not conducive to a group therapy environment because of their individual or personal nature, individual sessions are warranted.

For example, a semiretired physician came to this author with a desire for more efficient communication within his office and examination room. The sessions centered on the specific difficulties he was experiencing in that environment, and he did not desire to open them up to group aural rehabilitation sessions.

Another patient's concern was that her granddaughter's wedding was forthcoming, and she felt that she was not going to be able to hear and understand what people were saying while she stood in the reception line. Her request was to receive some hints on how to "not embarrass herself and her family" by responding inappropriately to what people were saying to her in the reverberant environment of their church fellowship hall. Her aural rehabilitation program was based on two sessions of problem solving and supportive and informational counseling. After successfully working through the potential pitfalls of the communicative demands of her granddaughter's wedding, the woman returned to enter group therapy.

The sessions held for this woman were rather personal in regard to the difficulties she was anticipating and, in that instance and at that time, she felt that they were not conducive to a group therapy environment. So her desire for individual sessions was fulfilled.

Other circumstances in which individual treatment sessions would be appropriate include:

1. The patient's hearing impairment and concomitant communicative difficulties are so severe that the patient requires concentrated effort to resolve them to the greatest degree possible before entering a group environment.
2. The patient's emotional response to the auditory impairment and the resulting communicative difficulties are such that group involvement, at that particular time, is contraindicated.

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### *Group Treatment*

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Group aural rehabilitative treatment, as discussed later in this chapter, can be extremely motivating for many older adults who are experiencing impaired hearing. Once the problems and difficulties that are specific to individual patients have been resolved to the degree possible through work on an individual basis, patients can move into group treatment, if group services are warranted (Figure 19-1).

Individuals in group treatment find strength in hearing of others' successes and failures in their own communicative environments. They gain insights through group discussions and problem solving into how to best cope in spite of their hearing impairment. The camaraderie that develops can be rewarding to group members as their



**Figure 19-1.** Group aural rehabilitation treatment works to allow patients to share frustrations and triumphs.

confidence grows in their ability to take charge of the difficulties that they have been having in their own communicative worlds.

## **Components of Aural Rehabilitation Services for Older Patients**

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The following are important elements in aural rehabilitation service programs for older adults that are applicable for either the well adult in the community or those who are confined to a health care facility. They include:

1. Counseling
2. Hearing aid orientation
3. Adjusting the listening environment
4. Development of positive assertiveness
5. Developing compensatory skills in the use of residual hearing and supplemental visual cues
6. Involvement of family and significant others

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### *Counseling*

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As this author teaches his students about aural rehabilitation services for older adults, it is emphasized that counseling, for lack of a better term, is one of the most important aspects and is intertwined throughout the process of aural rehabilitation. It is not something that occurs alone or out of context. It is an integral part of everything an audiologist does when working with his patients. It is talking. It is instilling confidence in a patient who has become discouraged when he did not do as well as expected in a given communicative environment. It is listening to the feelings a patient reveals about himself, or that person's relationship with an

intolerant family member or roommate. And it is trust that must develop between audiologist and patient. Counseling is the discussion that develops when a patient desires to talk about an incident in which he had particular difficulty understanding what another person was saying, and also includes the problem solving that can unravel the possible reasons for the difficulty.

This aspect of the process of aural rehabilitation is, again for lack of a better term, called counseling. But, whatever it is called, it involves listening, talking, problem solving, facilitating adjustment to a frustrating disability, and the development of trust between patient and audiologist.

When an audiologist encounters an older adult who has impaired hearing who says, "I do not desire to be helped. I am old and I do not know how much longer I will live," the attitude of the person certainly will influence how much potential progress that he will make. This is particularly true if the person has isolated himself from the outside world and is resigned to not seek help because of advanced age.

### *The Audiologist as Counselor*

If there are no other significant contraindicating factors that would hinder responsiveness to aural rehabilitation services, the audiologist is in a position to serve in a counseling role. It is possible that this patient has said what was said because he has been told by others that "you are too old." A well-meaning physician may have said, "You know you're no spring chicken any more." Or a child may have said unthinkingly, "Mom, you know you can't care for yourself as well as you used to, so we should start thinking about moving you to a care facility," not realizing that the older adult is convinced that placement in a "care facility" will be terminal. Such statements, even said

in a well-meaning way, are understandably unsettling to an older adult.

One of this author's patients, a woman of 89 years, told me that her 50-year-old daughter told her they should sell her house and she should then move into an efficiency apartment. She was so hurt and angry that she could not think of anything to say. She felt convinced that if her mature daughter felt that she could not care for her house, then she must be doing a worse job than she thought. I asked her what she would have said if her daughter had suggested that to her when she was 45 years old and her daughter was 15. She said she would have asked her why she would say such a thing, but she said, "But when you are 89 years old, perhaps it is not worth it."

If the medical records of an individual indicate satisfactory health, and there appears to be nothing that would contraindicate the provision of aural rehabilitative services, then the self-defeating attitude of the potential patient may be the only thing that stands between the provision of services and reasonable progress in aural rehabilitation treatment. Although the person's realistic view of becoming older may be a healthy one, long-term mourning because of age and the possibility of death is not. The audiologist can be a positive catalyst in moving beyond aging, particularly for those who are barred from social interaction as a result of their auditory deficit.

### *Feelings to Which the Audiologist Must Respond*

Phrases exemplifying attitudes typical of many older adults who have hearing impairment have been recorded by this author during initial aural rehabilitation interviews with hundreds of older patients. The feelings that prompted these revealing statements are those that can and do stifle the desire for

aural rehabilitative services or the progress they may be capable of. They are, further, those to which the audiologist must respond. The following are a few of those statements, out of context, recorded by this author:

- "I feel that I'm on trial, becoming incompetent."
- "My son is right behind me. He comes down to see me as often as he can, but he has a lot of business to handle there. I don't see him very often anymore."
- "I can't hear and my eyes bother me. Surgery won't help my ears or my eyes. I'm told that I'm too old."
- "My arthritis bothers me all over, especially with the weather. I used to walk a lot. I can't hear now. I'm too old."
- "I fear being alone—being melancholy—with no future to look forward to. I need to find some way to be useful. But I can stand a lot. I'm still sturdy."
- "I would like, more than anything, to be able to get out, to socialize, but I can't hear very well. I would like to go to church, but the children don't come on Sundays and there is no one to take me."

One statement stands out from all of the rest. It is a statement by a physically strong and mentally alert 82-year-old man who possesses impaired hearing and who is torn between giving up and submitting to the opportunity to improve his ability to function communicatively through an audiologist's services. The statement is, "I'd like to put a younger person on my shoulders to function intellectually on my behalf and hear for me, and to go on from there. I suppose I need to learn to rely on myself . . . relationships with people are important, but do I have the potential?"

The above statements are representative of those heard by audiologists who accept

the opportunity to provide a significant rehabilitative service on behalf of adults who have impaired hearing. These people, in many ways, wish to be recognized not simply as older persons, but as adults who have grown older, who have something to offer, and who do not want to be left alone. Their resolution to “not be a bother” and their resignation to “being old” is, in some cases, the most logical choice in their minds for lack of alternatives. The audiologist can be a catalyst in developing a desire for self-enhancement.

The audiologist must not be afraid to work with these patients in a close professional manner. He must not be hesitant to intervene in a counseling role, but must be cognizant of those instances when a patient’s emotional problems are beyond the scope of the audiologist’s service. For those persons, it is the responsibility of the audiologist to refer the individual to other appropriate counseling professionals. Above all, the patient must be confident in the audiologist who is providing the aural rehabilitation service. The patient must be aware that the audiologist understands the communicative impact of presbycusis through his experience in working with other patients. The patient must know that the audiologist feels that he can, indeed, be helped to communicate more efficiently through aural rehabilitative services, and that feeling has justification on the basis of evaluation, not sympathy. A feeling of justified trust is the true key to motivational counseling. The patient pictured in Figure 19-2 trusts that the audiologist understands the frustrations that he has experienced, and that what the audiologist is saying will assist him in learning to cope in his otherwise difficult communicative environments.

Listen-talk-empathize-listen—encourage where appropriate—remember the status and age of the patient—provide support



**Figure 19-2.** Assertiveness training brings out strengths patients may not realize they possess.

—counsel—listen—ask questions—expect answers—listen—provide guidance. Then, add an appropriate amount of inspiration for what may be the key to successful motivational counseling. Counseling as a part of the aural rehabilitation process is presented later in this chapter under The Process of Aural Rehabilitation.

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### *Hearing Aid Orientation*

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Information in Chapter 18 deals with considerations for hearing aid orientation on behalf of older adults. As stated in that chapter, the process of adjustment to the use of hearing aids and orientation to their efficient use can be facilitated with greater ease for some older patients than others; this depends on prior exposure to and knowledge of the use of hearing aids and factors of memory, manual dexterity, and others. The process of

adjustment to hearing aids and orientation to their use can be logically carried into daily or weekly aural rehabilitation treatment sessions, as can the trial use of various assisting listening devices.

Through carryover of hearing aid orientation into the aural rehabilitation treatment program, slight adjustments to the hearing aids can, for example, be made to alleviate communicative problems encountered during the previous week. Questions can be answered regarding their use, and discussions regarding certain difficult listening environments can be entertained that may benefit not only that individual patient, but others in a group session. More experienced hearing aid users can be an important catalyst in a new user's successful adjustment to amplification. Further, experimental adjustments in hearing aid gain and frequency response can be made in accordance with the activities in various treatment sessions.

Carryover of the hearing aid orientation process into aural rehabilitation treatment sessions can be as important as the orientation process itself, and is a logical extension. The consistency of patient contact is a valuable asset in facilitating adjustment to amplification. In group treatment sessions, the catharsis and camaraderie that arise as various patients describe their own difficulties experienced during the initial adjustment period is a healthy environment for efficient adjustment to hearing aid use. Procedures for hearing aid orientation applicable for older adults are outlined in Chapters 13 and 18 in this text.

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### *Adjusting or Manipulating the Listening Environment*

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As is noted in The Process of Aural Rehabilitation section of this chapter, elderly patients are initially asked to establish priorities for

situations in which they desire to function more efficiently. After this is completed, they are asked to choose one or two in which they most desire to learn to communicate more efficiently. They are, of course, requested to be reasonable in their selections. In this way, the aural rehabilitation treatment program can be designed to meet their specific communication needs. In instances in which a patient's auditory difficulties are so severe that group sessions are not practical or cannot be tolerated by the patient, individual treatment is scheduled.

The goal, however, is to integrate the patient into a group situation as soon as possible, if at all possible. Another situation in which it is desirable that individual treatment be instituted is in the case of a patient whose priority communication environment is so different as to warrant individual work. A situation in point is a patient who was provided services individually by this author. His most difficult communication environment as a teacher in a middle school was his classroom. His treatment sessions, therefore, centered on physical/environmental adjustments in that specific room. The author worked with him individually on redesigning his classroom, which was specific to his difficulties and strategies for communication in that environment. He had little difficulty in other more social environments.

### *Patient Discussions of Problem Environments*

Problem solving of difficult listening environments can be extremely productive. Those sessions center on discussions of the patients' chosen prioritized communication environments. Priority environments most frequently center on church (understanding the minister or Sunday school teacher, or participating in church committee meetings), other social environments in which

groups of people meet, understanding what women or children are saying, or understanding what people are saying in environmentally distracting environments such as on the street corner, in a restaurant, or at the theater. The inevitable commonality of their choices allows for group sessions that are beneficial for everyone, as the majority of patients can enter into the discussions as they relate to them.

A problem specific to a certain environment, for example, is brought before the group by one of the therapy group members. The patient who presented the communication problem is asked to describe it in detail by giving examples of instances when it has occurred and the physical environment of each. As the physical environment is described, the audiologist or the patient diagrams it on the chalkboard as accurately as possible. The room or other physical environment is drawn on the chalkboard or flip chart (including windows, doors, partitions, furniture, and so on). The remainder of the group is then asked to give suggestions, as they see it, about how the patient may have adjusted to that communication environment by changing it, making physical adjustments, or their opinion of making requests of the speaker to resolve the patient's difficulty understanding what was being said.

As those suggestions are made, the audiologist lists suggestions and makes the suggested adjustments on the diagram, for example, (a) moving the patient's chair into a better situation for listening, (b) changing position away from a window, (c) moving closer to a public address system speaker, (d) asking the person being conversed with to move closer, (e) walking out into a hallway where it is quieter, (f) asking the speaker to move closer to the microphone, and so on.

Participation in this type of treatment activity can be extremely motivating. As the

patient joins the group discussion by expanding on the explanation of the difficult environment and as questions or possible solutions are made, ways in which he may have been able to change the listening environment or those within it to his benefit become clearer. Others in the group also benefit because they may have found themselves in a similar environment or may in the future.

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### *Creating Positive Assertiveness*

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A trait that appears to become more typical as some people grow older is to become less assertive. This is particularly true of older adults who have been placed in a health care facility, or who have moved from their home to a retirement complex not of their own will, or who are trying to maintain their independence by remaining at home. Some may seem "stubborn," but those responses may be out of self-defense, perhaps because they may not have heard or understood what was expected of them, or they may suspect that they are being imposed upon rather than being allowed to make independent decisions about their life.

Then, in all too many instances, older persons in health care facilities are not told what is going to be done to them, and they find that things are being done *to* them rather than *for* them. Rather than continuing to react against the health care facility personnel and, thus, being listed as "uncooperative," such patients may become more passive.

Whether an older person is residing in a health care facility or in the community, it regrettably becomes more common for dramatic and sometimes unpleasant things to occur in that person's life. In light of the unexpected occurrences that may occur, it becomes easier to remain passive and wait rather than to become assertive and say

“No,” as one may feel forced to do something anyway. “Dad is getting stubborn in his old age,” may be the label placed on the older person. Many older persons feel powerless because of a lack of independence. It is difficult to respond to a rapidly changing world when one does not possess the finances, transportation, physical mobility, quickness of analytical thought, or strength to manipulate one’s environment.

### *Examples of Passive Behavior*

One of this author’s patients, a 78-year-old man, was asked to chair a committee in his church because of his knowledge of religion. He was flattered to be asked to accept that position, but then shortly resigned because he could not understand what his committee members were saying. When I asked him why he did not ask the members to speak up, he said that he did once. He further stated that it worked for a short time, but then they returned to their previous manner of speaking. When I asked him why he did not change the room arrangements so he could place himself in a more advantageous position for communication, he said that the room had been in that same arrangement for years, and he did not want to disrupt it. Those attitudes can defeat an otherwise potentially productive person.

Another example that illustrates the feelings of older adults who have hearing impairment is one that involved a 72-year-old female patient who had just returned from a lecture on Southeast Asia that she had been looking forward to attending for some time. She explained that the lecturer, a woman who had a rather soft voice, began talking to the audience, and then walked away from the public address system microphone and sat down in front of the podium with the statement, “I’m sure that you can all hear me without the microphone.”

The patient said that she hardly understood a word the speaker said throughout the next hour, but she was too embarrassed to leave the auditorium. When I asked her why she did not say, “Please use the microphone; we are having difficulties hearing you,” when the speaker moved away from it, her reply was that she just could not bring herself to do it. She wanted to, but was too embarrassed. “Besides,” she said, “maybe I was the only person there who couldn’t hear her.” When I asked her if she was important enough to warrant that speaker’s consideration, this patient’s response was simply, “I hope so.” I said, “Don’t you think that the microphone was placed there for a purpose? A public address system generally helps everyone to hear more comfortably. If you would have said something, I am sure that others in the audience would have been pleased that the presenter had returned to the podium and used the microphone.” Her reply was that she had not thought of that. “But still,” she said, “I didn’t want to make a nuisance of myself. I’m just an old woman who can’t hear very well.” One of the audiologist’s challenges is to change that attitude of self-depreciation.

### *Learning to Help Themselves*

The attitude just described is one that must be altered, if possible, if persons who possess impaired hearing are to learn to cope and function more efficiently in their communicative worlds. In light of the fact that some people are simply not willing to accommodate older adults who have hearing impairment or, perhaps, are not aware of what accommodations can be made to facilitate communication, older persons must be taught ways to become assertive enough to manipulate their communication environments and those with whom they desire to communicate.

### *Altering Passive Behaviors*

As stated earlier, one way to alter passivity is by asking individual patients to describe difficult communication situations in which they have found themselves during the past week or month. The situation in which the 72-year-old woman found herself, as described above, is a prime example of the problems that are brought to the treatment sessions. Suggestions by group members are brought forth after individual questions by the group members and the audiologist have been satisfied. When other group members courageously state what they would have done in that situation (e.g., told the woman speaker, "I would appreciate it if you would use the microphone.") in front of the audience, they are asked if they really would have done it. If they hold fast to their commitment, they are challenged to do it at the next lecture they attend when the speaker hesitates to use the microphone. Occasionally, a group member returns after such an experience and triumphantly proclaims, "I did it!" On occasion, another member of the aural rehabilitation treatment group who may have been in attendance at that meeting will confirm that the individual did a very nice job in changing a poor listening situation to a more pleasant one. Also, others at the meeting may have thanked our patient for asking the speaker to use the microphone by saying, "We just did not have the courage to speak up like that!" The triumph is great and does much toward encouraging the other group members to also become more assertive.

Other difficult situations brought before the groups may include family dinners, going to a noisy restaurant, talking to timid grandchildren, talking to one's attorney with other members of the family in attendance, following more than one request in a sequence, and many others. The bywords in

these treatment sessions are, "If those with whom we desire to or must communicate do not seem to be accommodating, then we must assert ourselves by showing them *how* they can best communicate with us!" Suggestions or adjustments must be made without hesitation. To do otherwise is to "place ourselves back where we started." These are powerful treatment sessions that instill confidence in patients who may not have had confidence for some time.

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### *Involvement of Family and Significant Others*

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The patient's family and significant others in the patient's life are critical elements for a successful aural rehabilitation treatment program. This is particularly true if a patient's significant other is willing to become involved in the aural rehabilitation process. This includes attending individual or group treatment sessions and participating in follow-up assignments.

A significant other's involvement in the aural rehabilitation treatment process provides that person with a better understanding of the difficulties and frustrations with which the friend, spouse, or family member undergoing treatment is faced, particularly if he can attend the first sessions when discussions of hearing loss and difficult communication situations are emphasized. It further aids the patient's significant other to understand the commonality of communication difficulties when other patients discuss similar problems. The involvement prompts a realization that the communication difficulties that have arisen because of the auditory deficit are not limited only to his spouse, family member, or friend, but are found in others as well. That enhanced understanding hopefully can be passed on to others who are close to the patient.

This author frequently requests that those who attend the treatment sessions with individual patients be fit with earplugs to at least experience to some degree what depressed hearing “sounds like.” Some of the communicative frustrations revealed by the patients are often felt by the significant others at least during that brief period of time. It is explained to them, however, that earplugs do not replicate the speech recognition problems being encountered by the person with whom they are attending the sessions, but simply demonstrate a moderate loss of hearing acuity. Still, their use may enhance a feeling of empathy for the frustrations the hearing impaired person must feel. One important byproduct of encouraging the involvement of a significant other in the aural rehabilitation treatment program is that carryover of the treatment process into the everyday life of a patient can be greatly enhanced. If, for example, an older patient asserts himself before the remainder of the family by suggesting certain adjustments regarding seating arrangements for Thanksgiving dinner so that he can become involved in the conversation with greater efficiency, the significant other can reinforce and strengthen that positive step.

It is, further, not as much fun to go to a restaurant or the movie by oneself. The significant other will not only strengthen and encourage carryover, but also make some potentially apprehensive situations more enjoyable. It helps to have someone there to back you up when the going gets rough!

One of the most discouraging aspects of the provision of any rehabilitative service to elderly patients is the lack of family involvement. In many instances, if a spouse has passed away, the remainder of the family may live quite a distance from the patient. Children may visit only once a year if the distance is great, and that may be for only a few days around a principal holiday, which

can be stressful even with normal hearing. Even if grown children live in the same community, their desire for involvement with their parent on a social basis may be lacking, let alone a desire to become an important part of their mother’s or father’s rehabilitation program. The excuse is generally, “We just don’t have time.” In this remarkably advanced society, it is sad that we lose sight of the needs of our family. But it seems to be the case, and alternative means for carryover support for older patients must, in many cases, be sought.

As stated earlier, a patient’s spouse can be the most effective significant other, if the spouse is emotionally supportive of his or her husband or wife. If the spouse is not willing or capable of aiding in the support or carryover process, then a friend is appropriate and can be a most effective partner in the aural rehabilitation process. In fact, at times it is common for people to discuss feelings with supportive friends prior to bringing them before a spouse or other family members. In any event, a close friend can be a very significant other.

A case to illustrate this point is that of a 70-year-old male patient who was provided aural rehabilitation services by this author. He had been a widower for 4 years. On the first day of his group aural rehabilitation program, he brought a female companion. Both loved to fish and were almost inseparable. They both enjoyed attending social gatherings together, but the patient was experiencing great difficulty hearing and, in particular, understanding what was being said in those environments. His female companion was willing to explain what was being said, but was becoming frustrated at the consistency with which she had to function in the capacity of interpreter. In this instance, she attended all treatment sessions with the patient, she wearing her earplugs and he his hearing aids. A great

deal of warmth and understanding developed between them. And his ability to function communicatively increased, as did her willingness to aid in the treatment process through carryover. The assignments, which included experimentation at social gatherings, were carried out in an excellent manner. Problem situations that were to be discussed during treatment sessions lessened and, likewise, his dependence on his female companion for communicative support became less frequent.

The support and carryover by this significant other was instrumental in the patient's achievements in learning to use his residual hearing with greater efficiency, to use supplemental visual clues, and to change his most difficult listening environments in constructive ways. Without such support and assistance, an audiologist will have great difficulty facilitating such improvements. In the end, he may never be able to assist the patient in making such significant and positive strides as will the significant other.

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## The Process of Aural Rehabilitation

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The aural rehabilitation program for an older adult patient can include:

1. Knowledge of the patient's desires and needs for communication through setting priorities that are those of the patient, not the audiologist;
2. Ongoing motivational counseling as an integral part of the process;
3. Carryover of hearing aid orientation, at least for those who seem to benefit from amplification;
4. Learning how to manipulate one's environment and the speakers in those environments to enhance communication;
5. Learning to become positively assertive;
6. Throughout everything listed, learning to use one's residual hearing and supplemental visual cues to enhance comprehension of verbal messages.

To put all of this together into a meaningful aural rehabilitation treatment program for an older adult is not really difficult. As a matter of fact, the process becomes quite logical once a number of older patients have critiqued your approach in relation to its meaningfulness and benefit to them.

The following is an example of an approach to aural rehabilitation treatment for elderly adult patients, employing and intermingling the six listed areas. This process has been found effective for use with both confined and community-based older adults.

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### *The Ongoing Aural Rehabilitation Program: Reasons for Successful and Unsuccessful Treatment Programs*

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Some structure in the treatment process is desired by the majority of older patients. But, on the other hand, overly structured sessions can be counterproductive. For example, it is sadly not uncommon for audiologists who utilize traditional speechreading (lipreading) approaches that emphasize a progression from phoneme analysis to syllables, words, phrases, sentences, and stories (which, for example, stress several like phonemes) to begin to realize in a fairly short time that the patients who seemed motivated initially are attending speechreading sessions with less regularity. Soon they may cease attending altogether. Excuses generally range from "My family is coming to visit and I will be spending time with them," to "We have sev-

eral church suppers coming up, and I have to help with them.” It is embarrassing to see such persons downtown later with apparently nothing to do. They may further call to tell your secretary that they really do not feel the need to come to “class” anymore, even though the audiologist knows that they have made little or no progress in treatment.

Those patients are telling us something that we should receive loudly and clearly. That is, if they felt that aural rehabilitation services were benefitting them, they probably would still be attending, as they evidently were motivated when they began.

If the aural rehabilitation treatment program had been geared to the specific needs of those patients, they would probably be taking advantage of the audiologist’s services. But, for those reasons, and because the audiologist may have begun the first session from a predetermined approach to speechreading, the patients were not interested in receiving those services any more. A few faithful patients might continue to attend, but they probably will leave the final session as able or unable to communicate with others they were in the beginning. The audiologist may wonder why these otherwise apparently alert older adults have not improved, even though they may say, “I enjoyed your class,” and pat the audiologist on the shoulder. Further, why does this audiologist have to coerce patients in health care facilities to attend aural rehabilitation treatment sessions or have to depend on a gracious activity director to bring them from their rooms to attend sessions that should be helping them cope in the everyday world more efficiently? Again, it may be because the audiologist has lost sight of the fact that the treatment must be designed with the needs of the patients in mind. Other treatment procedures used by speech-language pathologists, occupational therapists, physical therapists, physicians, and others are

based on a treatment plan designed around the assessed needs of each patient. Why, then, are some audiologists still opening their lipreading lesson book and beginning at page 1 to provide services to patients who have varied and individual communication deficits and needs? Those speechreading books too often are used as “hymnals,” and the session begins with the audiologist saying, “And for the next session we will turn to page 15.” That is not treatment.

### *Individualizing the Approach*

How does one develop a meaningful approach to aural rehabilitation treatment for the older patient? More than 30 years ago Hardick (1977) described the basic characteristics of a successful aural rehabilitation program for older adults. They are well defined and provide comprehensive guidance for those who intend to provide services for older patients and in many ways are still current. Those characteristics are:

1. The program must be patient centered.
2. The program must revolve around amplification and/or modifying a patient’s communication environment.
3. All programs consist of individual therapy, with some group sessions when necessary.
4. The session must contain normally hearing friends or relatives of the person who has hearing impairment.
5. Aural rehabilitation programs are short-term.
6. The program is consumer oriented.
7. Aural rehabilitation programs and their potential benefits need to be promoted to colleagues and other professionals.
8. “Successful graduates” should be used as resource people in therapy activities whenever possible (Hardick, 1977, pp. 60–62).

These characteristics are extremely important for consideration prior to the initiation of aural rehabilitation programs for older adults. They go far beyond the more traditional lipreading procedures that continue to be employed by some. Even though Hardick (1977) and others recommended group treatment for older patients, some will require individual services. However, as has been noted by this author, there is a tendency among some to hesitate or refuse to participate in individual treatment unless they themselves have requested it.

Other early patient-centered approaches to aural rehabilitation are discussed by Alpiner (1963), Alpiner and McCarthy (1987), Colton (1977), Colton and O'Neill (1976), Giolas (1994), Hull (1982, 1992, 1997, 2001, 2007), McCarthy and Alpiner (1978), M. Miller and Ort (1965), O'Neill and Oyer (1981), Sanders (1982, 1993), and others. The aspect stressed by these authors is that older adult patients possess needs that are specific to them and each patient's aural rehabilitation program must be centered on his needs and priorities.

If the ingredients presented on the previous pages are combined properly, a possible sequence of services emerges. An example of such a sequence is provided below.

### *Awareness of Reasons for Auditory Dysfunction*

**Understanding Hearing Loss.** Facilitating an awareness of the reason for auditory communication difficulties through an understanding of the process of aging and its effect on the auditory mechanism is an important part of the aural rehabilitation process. Included is a discussion of the central processing of auditory-linguistic information and the effect of aging on the speed and precision of that important component in communication, particularly in noisy or

otherwise distracting environments. The level of terminology is determined by the individual or group in question. The audiologist is cautioned never to speak down to patients. It is important to use the correct technical terminology, but immediately explain it at the level of the persons involved. Clinicians must always remember that the audience is adult, no matter what their educational level or age. They deserve to be treated as such.

Charts need to be used in such discussions, perhaps along with a 35-mm slide or PowerPoint presentation on the ear. If individuals in the group are severely hard of hearing, projected slides should be used only if enough light can remain in the room to facilitate the use of visual clues. Charts, diagrams, slides, and chalkboard drawings are used for these discussions, including presentations on (a) the aging ear, (b) uses, benefits, and limitations of hearing aids, (c) environmental factors that affect communication, (d) poor speakers versus good speakers and their makeup, and (e) a general discussion of the aging process.

The basis for the first session (or sessions) is to facilitate a basis of understanding for the remainder of the treatment program, to develop a better understanding among the patients of what has occurred to them, and to assure them that in all probability they can improve, at least to some degree. Most persons leave such session or sessions with a better understanding and greater acceptance of what is occurring to them and a desire to participate in the aural rehabilitation treatment program.

It cannot be emphasized enough that a significant other in each patient's life should be encouraged to attend these sessions (Figure 19-3). Whether it is a spouse or a family member such as a child or a friend, he will gain much greater insight into the auditory or communication prob-



**Figure 19–3.** A spouse, family member, or significant other can reinforce the aural rehabilitation process.

lems with which the person is attempting to cope.

**Prioritized Communicative Needs.** The second step in the aural rehabilitation treatment programs is, as stated earlier, to ask each patient to list those difficulties in communication that most affect him. The Wichita State University Communication Appraisal and Priorities Profile (CAPP), as presented in Figure 19–4, can be used in this process. They may include specific communication environments, such as a meeting room, church, certain restaurant, table arrangement at their child’s home, and so on. They also may list certain individuals who they have difficulty understanding.

The next step is for patients to set priorities for these situations or persons, from most important to least important and, if they had their choice, in which of those would they most like to improve. They are

asked, of course, to be realistic in their final choices. For some, the choice is a simple one. For others, it is more difficult. It is important to note, however, that if gains are made in one category, there is the probability that patients will observe improvement in others.

They are asked to discuss their choices, present a situation in which they had difficulty, and explain what prompted them to make those choices. Particularly in a group situation, it is interesting to note the general consistency of priority areas that emerge. The patients generally appreciate the camaraderie that develops out of this discussion. For the first time, many of them realize that they are not the only ones who have difficulty in certain environments.

In many instances, patients put part of the blame for their auditory/communicative difficulties on others who display poor speech habits. That is acknowledged and

## The WSU Communication Appraisal and Priorities Profile

Date \_\_\_\_\_

Name \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_

Address \_\_\_\_\_ Phone \_\_\_\_\_

Please indicate below those situations in which you are able to communicate best, those that are difficult for you in some instances, and those that are a definite problem. Under "explain," please tell us more if you desire, such as certain instances when you experience more difficulty than others, certain types of speakers, certain places, and so on.

	No problems	Only in specific instances	Definite problem	Priority
1. At parties or other social events	_____	_____	_____	_____
	Explain _____			
	_____			
2. At the dinner table	_____	_____	_____	_____
	Explain _____			
	_____			
3. On the telephone	_____	_____	_____	_____
	Explain _____			
	_____			
4. At home	_____	_____	_____	_____
	Explain _____			
	_____			
5. With males	_____	_____	_____	_____
	Explain _____			
	_____			
6. With females	_____	_____	_____	_____
	Explain _____			
	_____			

**Figure 19-4.** The WSU Communication Appraisal and Priorities Profile (CAPP).

discussed. The discussion centers on the fact that there are, indeed, many poor speakers in this world. A demonstration of some of

the habits that interfere with efficient communication is appropriate. Patients generally immediately recognize poor speaking habits.

Even though there are many poor speakers, persons with impaired hearing must develop ways to cope in those communication environments. The encouraging acknowledgment that they can, in many instances, manipulate such difficult situations to function more efficiently in them, and that they will be working on those situations, ends the discussion on a positive note.

These items generally do not consume more than 1 or 2 full-hour sessions. The discussions of priority difficulties and circumstances that interfere with efficient communication should not be curtailed, however, because the airing of frustrations and concerns will greatly facilitate future progress. For many, this may be the first time those concerns have been discussed. To prematurely conclude such a discussion simply on the basis of a rigid schedule can stifle the airing of emotions and adjustment that may otherwise not be made.

**On Becoming Assertive.** Weekly assignments for each patient are made and include noting a communication situation in which they had particular difficulty that, in the end, interfered with communication. As discussed earlier, they write about situations and diagram the physical environment if necessary (or simply recall it as accurately as possible). In any event, patients are to bring the specifics of the situation to the next treatment session for presentation and discussion. Each patient (or in the case of individual treatment, the patient) presents his difficult situation, if one has been noted. It is imperative that the patient who was involved in the situation be the one who presents it and not the significant other who may accompany the patient.

After a thorough presentation, with diagrams if desired, the situation is discussed by the group (or in the event of individual treatment, by the patient, the audiologist,

and the accompanying significant other, if he was involved). Suggestions regarding possible ways the patient might have manipulated the communication environment to his best advantage, including the physical environment or the speaker, are made by the group under the guidance of the audiologist and are accepted as viable or discarded.

As stated by this author previously (Hull, 2007), insights into ways of manipulating the communication environment to the best advantage, along with methods of coping with and adjusting to frustrating situations, are in turn developed among patients under the guidance of the audiologist. This form of self- and group analysis is an extremely important part of the aural rehabilitation program. Patients, then, are helped to develop their own insights into methods of adjusting to situations where communication is difficult. If, for some reason, they find that it is impossible for them to make the necessary adjustments, perhaps they can, in a positive, supportive, and assertive manner, ease their difficulty by requesting that others make certain adjustments. Perhaps they could request that the physical environment be adjusted so that they can function more efficiently in it or they can make adjustments on their own.

It becomes difficult for some older patients to develop even mildly assertive behaviors. They do not want to be noticed as a demanding older person. Many do feel rather vulnerable, perhaps feeling that the people who invited them to a party did so more out of obligation than desire. They may feel that if they request those seeking conversation change positions by moving to a quieter place to talk, or request that someone change the position of his chair to be in a better position to talk then, perhaps, the hosts will feel that it is more trouble than it is worth to invite them again. In light of such fears, it becomes quite logical to

avoid that possibility by simply remaining quiet and being fearful that if asked a question, he might be embarrassed by answering inappropriately. Those fears are occasionally brought forth by patients and should be discussed as they arise.

Examples of those discussions include one that was initiated by one of this author's patients who was being seen on a group basis. The woman in question was discussing a situation involving another woman with whom she had morning coffee on almost a daily basis for a number of years. The patient's complaint was that her friend was an incessant gum chewer, and as she chewed as she talked, it interfered with precise articulation and two-way conversation. Her friend interpreted the patient's inability to understand what she was saying to be the result of the hearing impairment, not her imprecise manner of speaking from her enthusiastic gum chewing, compounded by the patient's hearing loss. This apparent interpretation of the situation infuriated my patient. But she continued the morning coffee time, because there were few other women her age in that geographic area and, besides, they had been friends since childhood.

This woman's major concern was how to tell her friend that her manner of speaking and gum chewing had, for several years, interfered with her ability to understand what she was saying and, in the end, made what might have been a pleasant conversation a difficult one. She was particularly afraid to say anything because of the embarrassment her friend might feel because the situation had been going on for so long and nothing had previously been said. "Almost like," as the patient said, "being associated with a person for a long time and never knowing her name. As time passes, you become increasingly embarrassed about asking her name, particularly when she knows yours." The suggestions that came from the group varied from an enthusiastic, "Tell her

that if she wants to talk to you, to take her gum out of her mouth!" to a timid, "If you value your friendship, maybe it is best to say nothing and simply tolerate the situation." The latter suggestion was discarded. The ultimate conclusion was to simply tell the truth.

It was the consensus of the group that they would respect their own friend more if he would say something like, "You know, we've been friends for a long time. You realize, as I do, that I have some difficulty hearing what people say to me. I have particular difficulty with men who wear mustaches or beards, people who do not move their lips enough, or people who talk with their hand near their mouth, as I depend upon seeing the face of persons with whom I am talking. You know, I have difficulty understanding what you say sometimes and I think that I may have discovered why. I know that you like to chew gum a great deal and, like me, it helps my mouth not to become so dry. I do think, however, that because you—probably not realizing it—chew your gum while we are talking, it doesn't allow me to see your lips move properly and, besides, you aren't able to talk as plainly when you chew it so hard. I just bet that if you don't chew gum while we are having our coffee, I will be able to understand you better and we'll have a nicer time talking. Do you want to give it a try?" Positive assertiveness are the two key words in this instance. For that patient, the strategy she and the remainder of the group determined as most effective did prove to be successful. She maintained the friendship.

**Other Topics to Facilitate Communication.** Other topics for discussion and for the development of communicative strategies may include (a) weekly socials at private homes where the furniture arrangements interfere with efficient communication. Some, as experienced through this author's work with older patients, involve (b) the table

arrangement at one patient's son's home where they usually had Thanksgiving dinner, (c) the television set at a male patient's friend's home, (d) the seating arrangement and acoustics at a church meeting room, and others. Even though the discussions and thought-provoking suggestions generally aid the individual whose situation is being discussed, they also provide insights for the remainder of the group on how they, too, may be able to manipulate similar communicative environments.

These assertiveness sessions can be extremely stimulating for the patients involved and for their significant others in attendance. Patients have told this author that those sessions are probably the most valuable for them, particularly because we are working and sharing about their problems in communication. As patients identify with other patients' difficult communication situations and relate to solutions as they see them, insights into solutions for their own difficult situations emerge and are strengthened.

Self-confidence reawakens when patients return to state that the solution contrived during the last session did not work as planned, but with a few adjustments developed by him, it did. Most older patients, no matter the level of hearing impairment or how distraught they may be as a result of their inability to communicate, can benefit from these assertiveness sessions. The topics of self-worth and "I'm important too" that become a part of the discussions are an extremely important part of the total aural rehabilitation program.

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### *Use of Residual Hearing with Supplemental Visual Clues*

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Even though the use of visual clues and every possible bit of residual hearing individual patients can muster is discussed and practiced throughout all aspects of the

aural rehabilitation program, sessions should also emphasize those aspects of communication. Again, it is suggested that strict approaches to speechreading and auditory training not be emphasized. Rather, the fact that the majority of older patients possess normal to near-normal language function should be capitalized on to encourage the use of innovative and useful approaches toward increased efficiency in the use of a very natural complement to communication, that is, the complement of vision to audition.

The premise on which these sessions are based is that speech (including the phonemic patterns of words in the English language, the use of gestures, inflectional clues, and the English language itself) is generally quite predictable, although, understandably, there are differences among individual's speech patterns, use of gestures, words, and so on. A further premise is that the average listener has been taking advantage of the redundancies inherent in American English speech and language patterns to aid in verbal comprehension for the majority of his life. When hearing declines with age, along with the precision and speed of the processing of phonemic verbal and linguistic elements of speech, it becomes more difficult to comprehend what others are saying. This is particularly true in environmentally distracting or otherwise difficult listening situations.

The purpose of these sessions, therefore, is to remind patients of what they have been doing for years at an almost subliminal level—that is, using important parts of auditory/verbal messages, when heard, and supplementing what was not heard with visual clues. By visual clues, this author means the face of the speaker, including lip, tongue, and mandibular movements, gestures, facial expression, shoulder movements, and so on used to "fill in the gaps" between what was heard, what was not heard, and what was observed visually.

A further purpose of these sessions is to discuss the redundancies of the phonemic and linguistic aspects of spoken American English and to encourage patients to take advantage of them when they are communicating with others. This aspect of the aural rehabilitation treatment program is called, for lack of a better descriptive title, "A Linguistic Approach to the Teaching of Speechreading" described by this author over 30 years ago (Hull, 1976). It essentially depends on patients possessing normal language function. Further, a great deal of time is spent using the chalkboard. If, however, a patient has visual impairment, these sessions help to enhance auditory closure. The term *closure* is the byword during these sessions, as the reader soon will realize.

### *Linguistic Closure*

As the reader will observe in this section, patients are asked to determine the correct information within sentences from the least number of words provided. Patients are asked to imagine that the word or words written on the chalkboard are those that were heard. Blanks are placed between words, representing those not heard or not heard well. Patients are, first of all, asked to tell the audiologist what the sentence is about (out of context), when perhaps only one word is provided out of a total of seven, with six blanks indicating those words that were not heard.

Patients are encouraged to venture guesses as to what the sentence might be. Let us say, for example, that the word presented is *street*, located as the last word in the sentence. The patients are asked to let their minds wander: "Take a guess." As patients accept that encouragement and begin to guess, the fear of being wrong appears to decrease. Many are genuinely

surprised, in fact, to find that their "educated" guesses are often extremely close, if not correct. Guesses in this instance may, for example, range from "The man was walking down the street," to "The stoplight fell into the street." They are, however, encouraged to be rational in their decisions. The question may appropriately be asked, "How many times have you heard someone say, 'The stoplight fell into the street?' Probably not frequently. The word 'street' as the last word in a sentence tells you what? It tells you, generally, that something is happening. If the word came as the second word in a sentence, maybe after the word 'the,' I may have been describing the street, such as, 'The street was very bumpy.' But, because it is located at the end of the sentence, we know that something is probably happening either on or to the street.

"Now, let's set the stage for an example of this activity. Let us say that your neighbor's child, Billy, has run away. You and other people from around the neighborhood are searching for him. Suddenly, someone runs to you and says something about, "\_\_\_\_\_ street!" You observed that the speaker had obviously been running, and was pointing up the street as he was talking. Now, what do you imagine the speaker was telling you?" Because the audiologist has now set the stage for the patients, their guesses will probably be quite close to what he had intended.

The audiologist's next step is to say, "Now I am going to allow you to fill in the gaps by observing my face and gestures as I take the place of the excited neighbor who is talking to you. I will be using the chalkboard (or flip chart) as you fill in the gaps." The audiologist then presents the sentence in a slightly audible manner and with full visible face and gestures. If patients are not able to "make closure," then another word is added to the blanks on the chalkboard,

and the patients are allowed to try again. An example of the sequence of presentation, if additional words are required, is presented below.

1. \_\_\_\_\_ street!
2. I \_\_\_\_\_ street!
3. I \_\_\_\_\_ our street!
4. I saw \_\_\_\_\_ our street!
5. I saw \_\_\_\_\_ down our street!
6. I saw \_\_\_\_\_ running down our street!
7. I saw Billy running down our street!

As patients become aware of what the message contains, the audiologist continues by discussing (a) the importance of the position of each word within the sentence that was required before they were able to determine its content, (b) their linguistic value in terms of the probability of situations in the meaning of the sentence, (c) the importance of the environmental clues that were available to them, and (d) the supplemental use of visual clues.

An important element involved in any of these sessions is the audiologist's enthusiasm for the fact that, perhaps, the patients needed only to "hear" one or two words out of the sentence to make closure and grasp the meaning of the sentence. It is encouraging for older patients to understand that, with their knowledge of the English language and their successful use of visual and auditory clues, they were able to determine what a message was.

On more difficult sentences and more complex contrived situations, patients may require more heard words to be provided via the chalkboard. Nevertheless, they are being reminded that with a relatively small amount of visual, auditory, and environmental information, they are generally able to determine at least the thought of what is being said.

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### *Linguistic, Content, and Environmental Redundancies*

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Formal usage of American English is redundant in the position of various parts of speech. In other words, the positions of principal words, such as nouns, pronouns, and direct objects, are generally constant, as are function words, descriptors such as adjectives and adverbs, and action words such as verbs. Some dialects within the United States do, however, deviate from those standard rules. During these sessions, although the technical names of the parts of speech are not stressed, the importance of those words that fall within various positions in verbal messages are discussed as they relate to deriving the meaning of those messages.

This aspect of treatment capitalizes on the fact that most older patients who have hearing impairment will possess at least near-normal language function. It stresses that as people listen to others, they zero in on words within conversations that permit them to at least derive the thought of what is being said, so that the conversation can be followed. In some distracting environments, less of the message may actually be heard, but most persons can still maintain the content or intent of what is being said. It is normal in those circumstances to ask a speaker to repeat a word, if one was missed, because it appeared to be an important one regarding the content of the statement.

The point that is stressed to the patients is that the reason a listener was able to determine that the word was an important one in following the conversation is that most listeners have an almost innate knowledge of the structure of the American English language that has progressively expanded since early childhood. This provides the listener with a distinct advantage even in light of a loss of hearing.

The treatment sessions that stress this important aspect of efficient listening revolve around bringing that functional language capability to a more conscious level. Occasionally, patients have become so despondent over an inability to communicate with others that such otherwise natural compensatory skills have become repressed.

### *Content and Environmental Redundancies*

These discussions stress that, as we observe human behavior, it is discovered that not only do the same people generally say similar things on similar occasions, but they also say them in similar places. In other words, in a given environment, depending on who the person is with whom one will be speaking, what the listener knows about him, and if the listener is aware of those influences, the general content of some conversations can be predicted with reasonable accuracy.

Patients are asked to describe the environments they frequent. In all probability they will be those that were set as priorities earlier. They are also asked to describe those persons who are generally there, including their speaking habits, their facial characteristics, and their known interests. During these treatment sessions, the patients also are asked to write down the most frequent topics of conversations that are observed among those whom they have described. These not only include frequent topics, but also words and phrases that those people may use habitually. They are asked to keep those lists and add to them as they remember additional items or as they find out more about the person after speaking with him. Patients also are asked to begin new lists as they meet new people. The more one knows and remembers about a person, the more communication is enhanced.

An awareness of the predictability, or redundancy, of people and what they will say within known environments is sometimes surprising to older adults who have hearing impairment. If it is surprising, it is generally because they had not really thought about it prior to that time. If nurtured, however, this awareness can facilitate increased efficiency in communication.

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### *Reducing Auditory or Visual Confusions*

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Other activities that, by necessity, are important for adults may include sharing information on why certain confusions of words occur in conversations. This particularly concerns older adults, because word confusions may occur with some frequency. These discussions not only mention the fact that the nature of the majority of auditory disorders that older adults face enhances the probability of auditory confusions, but also that the nature of certain sound and visual elements within many words enhances the probability of confusions because they either sound like or look like other words. When words are confused with others, the meaning of a sentence or conversation may appear to be different than what was intended. Words used as examples of homophenous (visually similar) and potentially confusing words include, for example:

1. found-vowed
2. purred-bird
3. head-hen
4. vine-fried
5. geese-keys
6. neck-deck

An example of an activity that can bring about an awareness of how these

confusions can occur is based on typed lists of sentences or sentences written on the chalkboard. It is generally best to use those sentences that contain visually or auditorily confusing words within mock conversations to exemplify most accurately the patients' real-world difficulties. In this instance, the first sentence on the patients' list may be presented by the audiologist within a short "conversation." The conversation is presented with voice, but as close to the patients' auditory thresholds as possible. Full-face observations and gestures are used.

When the sentence within the conversation is presented, the patients are asked to determine if the sentence the audiologist said was the same as or different from the one on their list. If they determine that there was, indeed, a word that was different than observed in the sentence on their list, then they are asked to explain why they felt that there were differences. On the other hand, if they felt that the sentence presented by the audiologist was the same as the one on their sheet or on the chalkboard, they also are asked to explain why.

If in the context of the short conversation the patients determine what word or words in that sentence "threw them off course," they are asked not only to analyze those confusing words, but attempt to determine why they were confusing. They also are asked, in light of what they derived from the remainder of the conversation, to determine the words (or the thought) that the sentence should have contained so that it makes sense. When that analysis is completed, the patients again are asked to listen to and observe the conversation and the possibly confusing sentence to determine if it then appears to be what they thought it should have been within the context of the intended message. If the word or words within the sentence still do not appear to be what they should have

been to complete the thought of the conversation, then they again are asked to attempt to determine what the confusion was.

An example of the type of brief conversation and stimulus sentence used in this exercise is:

1. Stimulus sentence: "She bought a new coat."
2. Stimulus conversation: "Alice came over yesterday to see me, and had some news to share. She said that she now has a new friend who is soft, black and white, and weighs about 1 pound. Well, she bought a new coat. She named him Mike."

In this stimulus conversation, the possible visual confusion occurs with the word *coat*, which was given to the patients within the stimulus sentence they were expecting from their list of sentences. Again, if patients in this instance determine that the word in the sentence they were expecting did not make sense within the context of the conversation, they are asked to explain why that word seemed to be misplaced, and what the word should have been. Further, the visual and auditory similarities and differences between the word they were expecting and the one they saw and heard are discussed.

These exercises should progress toward truly homophenous (visually similar) and homophonous (acoustically similar) words within sentences. The "mental gymnastics" required during these sessions allows for practice in making on-the-spot decisions regarding misunderstood messages by determining why a sentence within a conversation was visually or auditorily confusing, or otherwise did not make sense. The process generally involves:

1. Analyzing the information derived from the previous portions of a conversation;

2. Determining that a confusing word has been received that may change the content of what is being said;
3. Sifting mentally through other words that look or sound like one that would make more sense in light of the previous portions of the conversations;
4. Simultaneously projecting what that word should have been from the ongoing conversation.

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### *Communicating under Adverse Conditions*

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One of the most frequent communication problems that older adult patients view as their most difficult is communication in noisy environments, including social events and meetings. Many patients' primary complaint, after finding themselves in an adverse listening environment, is that the noise and the resulting difficulties they experience in attempting to sort out the primary message from the chatter of other voices makes them tense and nervous. They describe the nervousness as perhaps the greatest detriment to their ability to manage a conversation successfully in those environments. They tell this author that as they begin to experience difficulty within a noisy communicative environment, they begin to feel nervous. The nervousness, as they describe it, results in a further deterioration of their ability to cope in that environment and, thus, their ability to sort the primary message from the noise.

For many, the only alternative that appears to be available is to excuse themselves from the situation by ceasing the conversation. By submitting to that less-than-satisfactory option, however, they generally feel some embarrassment. Unless they are quite resilient, many will simply avoid those situations in which they consistently fail.

Because situations include social events, meetings, the theater, church, and other desirable environments, the decision to avoid them can be self-defeating. The torment of those with hearing impairment may continue, as they still want to function communicatively in those environments and are torn between making another attempt at coping and giving up altogether.

In an attempt to ease such communication problems, treatment sessions need not only be designed to aid patients in the development of skills for communicating in those distracting environments, but also to develop coping strategies. The terms *desensitization*, *reciprocal inhibition*, and others may be appropriate to use here, but *coping behaviors* stands as the most meaningful for this discussion.

Within this framework, patients again choose as priorities those environments in which they have most difficulty or those within which they most desire to function with greater efficiency. Those situations are recreated within the treatment room as accurately as possible, based on individual patients' description of their chosen difficult environments. It is stressed that in the treatment environment, no one can fail but can feel free to discuss his concerns or frustrations as they arise. Use of the language-based speechreading instruction previously discussed is further emphasized during these sessions. The areas stressed in the discussions during these noise exercises are outlined in Table 19-1, but not in order of importance.

These sessions are used as the culminating treatment experience. Patients are asked to take everything that they have gained from the previous sessions and put it to use here. Some may never learn to cope in environmentally distracting situations. Others develop such self-confidence that they feel more comfortable in the most adverse environments.

**TABLE 19–1.** Topics for Discussion Stressed during Treatment Sessions

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- Relaxation under stressful conditions.
  - Confidence that clients can piece together the thought of the verbal message, even though not all of it was heard.
  - Remembering that, because of their normal language function and their knowledge of the predictability of American English, they can determine what is being said if supplemental visual cues are used along with as much auditory information as is possible under the environmental circumstance.
  - Knowledge that other people in the same environment may also be having difficulty understanding what others are saying and that they also may or may not be coping successfully with the stress.
  - Freedom to manipulate the communication environment as much as possible by, for example, asking the person with whom they are speaking to move with them to a slightly quieter corner where they can talk with greater ease or move his chair to a more advantageous position so the speaker can be seen and heard more clearly, or other positive steps to enhance communication.
  - Remembering that if difficulty in a communication environment seems to be increasing, and feelings of concern or nervousness begin to become evident, they should feel free to interrupt the conversation and talk about the noise or the activity around them that seems to be causing the difficulties. The other person will probably agree with that observation and, in talking about it, feelings of stress may be reduced and communication may be enhanced.
  - Remembering that the amount of recorded noise used in treatment sessions is probably greater than will be found in other environmentally stressful situations. If success was noted in their treatment sessions, then similar success may be carried over into other stressful listening environments.
- 

One aspect of coping is stressed. That is that few persons, whether they possess normally functioning auditory mechanisms or have hearing impairment, can tolerate every noise environment. They must learn to recognize their limits in attempting to develop coping behaviors.

#### *Introducing Noise into the Treatment Environment*

As each patient's difficult communication environment is recreated by the audiologist and other members of the treatment group, taped noise that is the same as or similar to

the environment the patient(s) described is introduced into the room. It is best to use a tape or CD with multiple speakers system to recreate the noise environment most accurately. The noise is introduced gradually at the beginning of these sessions and increased as tolerance and coping behavior likewise increase, until the noise is presented at such a level as to become difficult to tolerate. If patients wear hearing aids, they also are asked to experiment with them as they participate in the mock noisy communication environments.

The patients are told that the situation during treatment is going to be made more

difficult in regard to noise levels and/or visual distractions than they will probably experience in the real world. Patients inevitably desire such an approach, as they would rather practice in such difficult situations in the friendly environment of the treatment room than among less tolerant people.

### *Discussions of Adverse Listening Environments*

Discussions of noise itself and its natural effect on speech perception are introduced before the actual recreations begin. An awareness of different types of noise, the general acoustical characteristics, emotional impact, and other factors give patients a better understanding of the situation as they see it. When one begins to gain an understanding of feared elements, the fear generally subsides.

Almost without fail, some persons begin to become nervous and frustrated during the noise sessions. The susceptibility of certain patients to intolerance for noise can be observed by an alert audiologist, even when low levels of noise are introduced.

If the group (or individuals) begins to become obviously frustrated, the audiologist, rather than ceasing the activity immediately, terminates it momentarily at a logical point and begins to discuss general feelings about the noise rather than attempting to pinpoint individual personal feelings about it. The audiologist might appropriately say, "Noise makes me feel nervous. How about you? Sometimes during these sessions I want to turn it off. When I'm in a situation where I can't turn it off, it even makes me upset sometimes. Is that a little like the feelings you have when you find yourself in a situation like that?" Generally, the response will be affirmative and patients will agree that those feelings are real for them, also.

The time-out periods are used to talk about feelings about noise. When feelings

of frustration and even anger are expressed freely among patients, the reality that those feelings are not uncommon among others occasionally brings relief to those who perhaps thought that they were among only a few who had such difficult time. These persons are thus learning to cope with their feelings and realize that they are normal reactions to adverse and frustrating communication environments.

Discussing those feelings freely, without fear of negative responses from others, is an important part of the aural rehabilitation process. As frustrations and anger are expressed regarding their difficulties tolerating and communicating in a noisy world—and occasionally at the whole process of growing older—the way opens for the aural rehabilitation program to move forward toward the development of coping behaviors and techniques for manipulating their own communication environments as positive, assertive attributes. As one of this author's patients so aptly stated, "In a noisy world of generally poor speakers, we usually have to fend for ourselves. But we are looking to you to teach us how, and to give inspiration to use what we learn."

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### *Other Approaches to Aural Rehabilitation Treatment*

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Other components of effective aural rehabilitation sessions as utilized by this author (Hull, 2001) involve the following elements.

#### *The Use of Time-Compressed Speech*

In light of the probability of a slowing of the speed of central nervous system processing of auditory-linguistic information with advancing age (Humes, 2008; Madden, 1985; Marshall, 1981; Schmitt & McCroskey, 1981;

Stach, 1990; Welsh, Welsh, & Healy, 1985; and others), the use of time compression of speech has been found by this author to be a method through which patients can learn to compensate to some degree for that decline. Some older patients can increase their ability to comprehend speech with speed and precision that is greater than they had before the training.

Patients practice by listening to progressively time-compressed sentences and paragraphs, attempting over an 8- to 10-week sequence of sessions to increase the speed with which they are able to synthesize and make auditory-linguistic closure. Some patients have increased their accuracy of speech comprehension for sentences and paragraphs up to 40% at time-compression levels of 35% (65% of the message received over time). These same older patients have been found to correspondingly increase their accuracy of auditory-only speech recognition by as much as 24% (Hull, 1988).

This is a very exciting and tangible method for enhancing the speed and accuracy of speech comprehension among individual patients who can tolerate the demands of the process. Usable aided or unaided hearing is a prerequisite, however, because this is an auditory-only task.

### *Interactive Laser Video Training in Speed and Accuracy of Visual Synthesis and Closure*

Interactive laser video technology recently has evolved for use in training Olympic athletes, Air Force fighter pilots, and air traffic controllers to increase their speed and accuracy in making visual closure, visual tracking, and visual synthesis. This technology also has been found by this author to be an effective and motivational way of training adults who have hearing impairment to increase their visual compensatory skills,

particularly as it relates to speed, accuracy, and visual vigilance (Hull, 1989).

### *Environmental Design*

Hull (1989, 2001) has described avenues for educating older patients who have hearing impairment regarding techniques and strategies of environmental design. This involves modifying the acoustical or environmental design of their homes, offices, and other communicative environments to their listening and communicative advantage. Training also involves how to make modifications in those and other situations in which they find themselves, including social environments, meetings, and business environments that otherwise may have placed them at a communicative disadvantage. These can be very powerful aural rehabilitation sessions that provide patients with tangible methods for modifying their most difficult communication situations.

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## Summary

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It is important for older patients to be given the opportunity to make decisions regarding areas of communication in which they desire to improve. Even though many may feel discouraged because of the embarrassing difficulties they experience in their attempts at understanding what others are saying, they have communicative priorities that must be addressed through their aural rehabilitation programs.

As adults who probably possessed normal hearing during the majority of their life and whose case histories may reveal nothing more than that they have become older, they deserve to participate in the decisions regarding their treatment program. However, guidance must be provided by the audiologist.

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## End of Chapter Examination Questions

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### *Chapter 19*

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1. **The author describes two circumstances in which individual treatment sessions would be appropriate for adult patients. What are they?**
  - a.
  - b.
  
2. **Some older adults begin to exhibit passive behaviors in communication situations in which one would expect them to “take charge” of the environment or person causing the problem. Why may passivity begin to take the place of positive assertiveness among older persons who are hearing impaired?**
  
3. **Describe the role of a significant other in the aural rehabilitation process.**
  
4. **List and describe the six components of aural rehabilitation services for adult patients as described in this chapter.**
  - a.
  - b.
  - c.
  - d.
  - e.
  - f.
  
5. **Briefly explain the process that seeks to help a patient be less passive and more assertive in making positive change in difficult listening environments.**
  
6. **The author describes reasons why some approaches to aural rehabilitation work and why others do not. Briefly describe those reasons.**
  
7. **To improve a patient’s communicative environment, the audiologist might suggest:**
  - a. that the patient move closer to the speaker.
  - b. that the patient move away from a window that may be casting shadows on the speaker’s face.
  - c. that the patient move to a quieter place, where communication can take place.
  - d. all of the above.

**8. Individualizing an aural rehabilitation treatment program for a patient involves:**

- a. focusing on the family's concerns.
- b. group therapy.
- c. a long-term aural rehabilitation program.
- d. focusing first on the patient's communication concerns and priorities.

**9. "Counseling" involves:**

- a. listening.
- b. building the patient's confidence in himself.
- c. all members of the family.
- d. giving the patient current information about hearing loss and hearing aids.
- e. all of the above.

**10. What is the complement of vision to audition?**

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## End of Chapter Answer Sheet

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Name \_\_\_\_\_ Date \_\_\_\_\_

### *Chapter 19*

1. a. \_\_\_\_\_

b. \_\_\_\_\_

2. \_\_\_\_\_

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3. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

d. \_\_\_\_\_

e. \_\_\_\_\_

f. \_\_\_\_\_

5. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. Which one(s)? a b c d

8. Which one(s)? a b c d

9. Which one(s)? a b c d e

10. \_\_\_\_\_