Assessment of Communication Disorders in Adults

Resources and Protocols

SECOND EDITION

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Preface

The second edition of this book, *Assessment of Communication Disorders in Adults*, is a companion volume to the third edition of the *Assessment of Communication Disorders in Children* (Hegde & Pomaville, 2017). Together, these two texts provide a comprehensive set of resources and protocols for assessing both adults and children with communication disorders. The two books share the same clinical philosophy: Clinicians need both scholarly information on disorders of communication and practical protocols for assessing them. Clinicians do not often find both background research information and ready-to-use assessment protocols in the same source. Our aim in writing these two books is to address this limitation and provide the clinicians both a knowledge base of disorders and a set of practical protocols that they can readily individualize and use in assessing clients of all ages who exhibit communication disorders.

This book is devoted to assessment of communication disorders in adults. Clinicians generally tend to specialize in assessing and treating either children or adults with communication disorders. It was thought, therefore, that two comprehensive books, each addressing communication disorders either in children or in adults, would be preferable to most clinicians. Furthermore, a single book on assessing all disorders of communication in all age groups would not be practical or manageable, unless it is designed to offer only somewhat superficial background information and brief descriptions of assessment procedures. To make both the background information and practical procedures adequate for assessment, we have designed separate books for children and adults.

This book and its companion volume, *Assessment of Communication Disorders in Children* (Hegde & Pomaville, 2017, share a common organizational structure. In both the books, two chapters are devoted to each disorder—one for background information and the other for assessment protocols. The first chapter on each disorder gives the definitions and descriptions of a disorder and offers a review of the basic and clinical research on that disorder. The second chapter provides practical assessment protocols that are ready to be individualized and used in assessment sessions.

The current volume is organized into eight parts. Part I, *Foundations of Assessment,* has two chapters that address common assessment procedures. Chapter 1 gives an overview of the basic assessment procedures essential for evaluating and diagnosing all disorders of communication in adults. It describes such essential procedures as the written case history, the initial clinical interview, hearing screening, orofacial examination, diadochokinetic evaluation, speech and language samples, standardized tests, postassessment counseling, and assessment reports. The second chapter provides a set of common protocols used in assessing all disorders. The chapter includes a case history protocol, protocol and instructions for conducting an orofacial examination, diadochokinetic assessment, hearing screening, and an outline for assessment reports.

The rest of the book, divided into seven parts, is devoted to assessing specific disorders of communication. Description of motor speech disorders (apraxia of speech and dysarthria) and their assessment protocols are offered in Part II. Aphasia and its assessment protocols may be found in Part III. Subsequent parts describe the right-hemisphere

syndrome (Part IV), dementia (Part V), traumatic brain injury (VI), fluency disorders (Part VII), and voice disorders (Part VIII).

Within each part, a specific disorder is described in an initial *resources* chapter. Each descriptive chapter includes a review of the epidemiology, causation and classification, associated clinical conditions, assessment issues and procedures, differential diagnostic information, and analysis and integration of assessment results relative to a specific disorder. Each resource chapter concludes with a section on postassessment counseling in which the clinician discusses the assessment results with the clients, their caregivers, or both. The section also includes questions clients and their family members typically ask. The answers are written in a dialogue format that the student and the beginning clinician can model after.

The second chapter that follows in each section provides disorder-specific assessment protocols. The protocols written for each disorder offer more than the typical resources clinicians can find in the literature. These protocols are *practical, detailed, and precisely written procedures* that clinicians can follow in making a complete and valid assessment. An additional feature useful to clinicians is that the protocols may be individualized on the companion website and printed out for clinical use. In addition, the common and the standard assessment protocols given in Chapter 2 may be combined with specialized protocols given in the respective chapters on motor speech disorders, aphasia, right-hemisphere syndrome, traumatic brain injury, dementia, fluency disorders, and voice disorders. Please see the next section on how to create client-specific and personalized assessment packages.

For this second edition, we have reviewed available new assessment information or assessment techniques related to all communication disorders covered in this book. For instance, in the chapter on traumatic brain injury, classification of brain injury has been streamlined and information on blast injury has been included. The chapter on voice includes a new section on transgender and transsexual voice. All protocols in the book have been revised as found appropriate.

We would also like to thank Valerie Johns for her excellent editorial support, and Kalie Koscielak for the fine production of this book. As always, Plural Publishing's President Angie Singh's behind-the-scene support is greatly appreciated.

Creating Client-Specific Assessment Packages with Protocols on the Companion Website

A unique feature of this book is a combination of scholarly resources and ready-to-use assessment protocols. The protocols are modular pieces that can be combined to create comprehensive and client-specific procedural packages for assessing all adult clients with any disorder of communication.

What are Assessment Protocols?

Assessment protocols are detailed forms that include the methods of assessing clients with communication disorders. Each form describes a specific diagnostic task (e.g., clinical interview, orofacial examination, assessment of naming difficulties, measurement of dysfluencies, or assessment of vocally abusive behaviors). A protocol is not just a description of the task to be completed; it is a set of procedures the clinician can follow to complete the diagnostic task. The advantages of the protocols include the following:

- ***Protocols save clinicians their assessment preparation time.*** With minor modifications, the clinician can use them in collecting assessment data. It provides items or skills to be assessed as well as a structure to record the observations.
- ***Protocols are similar to criterion-referenced measures.*** Although not standardized, protocols provide typically adopted methods of assessing communication and related skills. In some ways, they are better than standardized test measures because the procedures are skill-specific and can be appropriately modified to suit individual clients. Such modifications are unacceptable in the administration of standardized tests.
- ***Results of protocols logically lead to treatment targets.*** Compared to the scores on a standardized test, the results of each protocol suggest more valid treatment targets for the assessed client. Instead of deriving a score for each skill, the protocols show all the items assessed; the clinician can readily identify the items the client fails or performs relatively poorly on. Unlike on a standardized test, most skills are assessed with multiple items on a protocol. In most cases, the clinician can estimate the performance level or even a percent correct response rate and select treatment targets based on this estimate. For example, if a client with aphasia fails 80% of the naming items presented, then the clinician may conclude that naming is a valid treatment target for that client. The clinician would be free to use other acceptable levels of performance (e.g., 70% or 90% accuracy). Therefore, the emphasis in protocols is the existing skill level, not a score to be compared with norms. Treatment targets are readily generated from the existing skills levels in given clients.

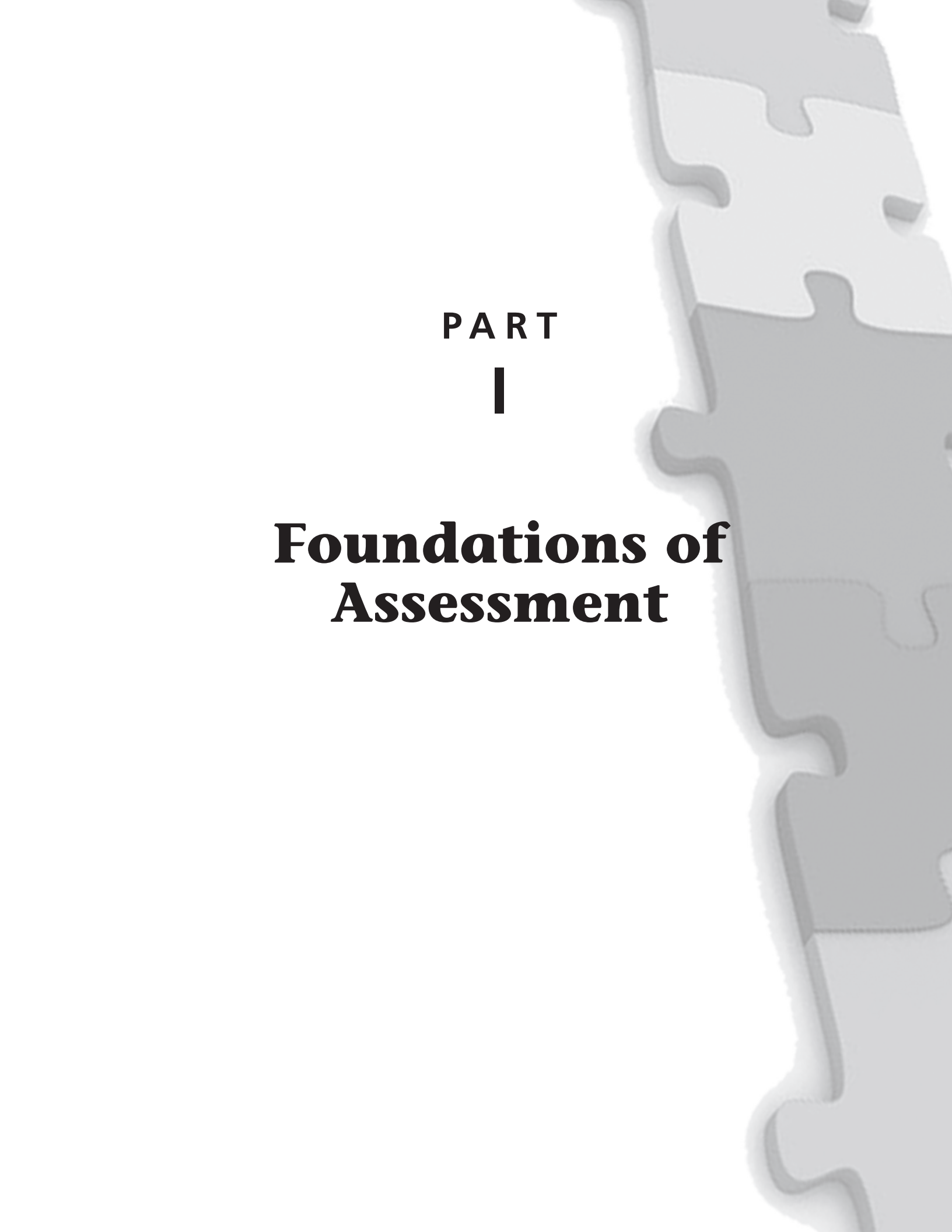
These assessment protocols are neither prescriptive nor rigid. They are flexible forms that may be modified, as described in the next section.

Creating Client-Specific Assessment Packages

Clinicians know that each client needs a slightly different package of assessment procedures. Even the common assessment procedures (e.g., the case history and the orofacial examination) need to be modified to suit individual clients. Therefore, these protocols were designed such that they can both be modified and then combined to create comprehensive, as well as client-specific, assessment packages. The clinician may put together such packages by:

- ***Modifying all protocols provided on the companion website.*** Because they are formatted in the simple MS Word format, the clinician can modify all common and disorder-specific protocols given on the website. After entering the name and other personal information on each protocol, the clinician can change, add, or delete questions or items on any protocol. Because assessment is an individualized and dynamic process, we do not expect the clinician to photocopy the protocols given in the book. We expect that they would use the protocols on the companion website to modify them so that they are relevant to their individual clients.
- ***Selecting the protocols that are essential for assessing a particular client.*** In addition to all common protocols, the clinician can select any of the other protocols. For example, in assessing a client with Broca's aphasia, the clinician may select all the (modified) common protocols, aphasia protocols, and perhaps specific motor speech disorder protocols to put together a comprehensive package for that client. In assessing a client with cluttering, protocols for cluttering as well as stuttering may be selected and combined with the common protocols. In essence, needed protocols may be efficiently assembled for clients with multiple disorders of communication.
- ***Printing the modified and combined package of protocols.*** All protocols are printable from the companion website. The clinician can print the selected and modified set of protocols to take to the assessment session as a complete package of assessment materials.
- ***Making further modifications during assessment.*** Because the protocols are assessment of skill levels, the clinician can further modify assessment items during the session. For example, in assessing a client with aphasia, the clinician may substitute names of the client's family members on the naming assessment protocol. Such additional modifications in the assessment session may be essential in evaluating clients with varied ethnocultural backgrounds.

We would like to see clinicians freely individualize these protocols for their use in assessing their adult clients. We believe that these practical and time-saving protocols help select the most appropriate means of assessing adults with communication disorders. Furthermore, the clinician can efficiently write an assessment report using the outline given on the companion website.



PART

I

Foundations of Assessment

CHAPTER 1

Assessment of Adults: An Overview

- Written Case History
- The Initial Clinical Interview
- Hearing Screening
- Orofacial Examination
- Diadochokinetic Tasks
- Speech-Language Sample
- Standardized Assessment Instruments
- Assessment of Functional Communication
- Assessment of Quality of Life
- Postassessment Counseling
- Analysis and Integration of Assessment Results
- Assessment Report
- References

Assessment of communication disorders in clients of any age precedes diagnosis and treatment. The terms *assessment* and *evaluation* generally suggest the same meaning. In clinical practice, assessment is an activity designed to find out if a clinical problem exists, and if it does, what that diagnosis is. The activity helps determine what characteristics define that diagnosis, helps the clinician make a prognostic statement, and recommend a treatment. In exceptional cases, an assessment may reveal no clinically significant problem or a potential problem that needs to be reevaluated later.

If assessment is a series of activities, then *diagnosis* and treatment recommendation may be two important end products. Ideally, *diagnosis* is the specification of a cause of a disorder or disease. In practice, and especially when causes are unclear or unknown, diagnosis helps describe the features and severity of a communication problem that does exist. In some cases, a diagnosis may be tentative, and subject to later revision based on additional assessment. Pointing out specific or potential causes could be helpful in treatment planning.

Assessment of communication disorders in adults is multifaceted. It is no longer sufficient to consider assessment purely in terms of *linguistic deficiencies* or *deviations* a client might experience. Communication impairments go beyond purely linguistic or verbal behavior deficits. These deficits arise in the context of a genetic, environmental, social, and ethnocultural history of individuals. Furthermore, an individual client's unique physiological, behavioral, familial, and specific learning history also affect communication, its disorder, and the client's treatment and rehabilitation. To the extent practical, such variables need to be considered in assessment and treatment planning.

An important aspect of assessment is the consequences of the disorder. Clinicians need to understand the negative consequences that follow a disorder of communication so they can modify or eliminate such consequences. In planning effective treatment, the clinician needs to find out ways the disorder has affected a client's social participation, educational and occupational choices, everyday living, personal and family interaction, and the overall quality of life.

Assessment of communication disorders in adults is complicated by causal or coexisting neurological and neurodegenerative diseases that are relatively less common in children who exhibit speech-language difficulties. Although a *failure to learn* verbal behavior skills defines certain disorders of communication in children, it is the *loss* or *impairment* of learned verbal behaviors that defines most disorders in adults. There are, of course, exceptions. A disorder that originated during the early childhood years, such as stuttering and cluttering, may persist into adulthood in some individuals and be a lifelong problem. Children, too, can lose verbal skills they have learned up to the point of brain injuries they may sustain. Nonetheless, assessment of several forms of communication disorders in adults must be made in the context of neurological and neurodegenerative diseases. The effects of such diseases on the current communication skills, potential improvement in skills (prognosis), and the intensity of treatment to be offered, need to be considered in assessment.

In assessing each type of communication disorder, the clinician uses certain common procedures as well as some that are unique to the disorder being evaluated. Pairs of subsequent chapters in the book address a particular disorder and the unique aspects of its assessment. In this chapter, we describe procedures that are common to assessing all adult disorders of communication. These common procedures include:

- Obtaining a written case history
- Interviewing the client and the caregivers
- Conducting a hearing screening
- Completing an orofacial and diadochokinetic examination
- Recording a speech-language sampling
- Administering standardized tests
- Assessing functional communication
- Assessing the client's quality of life
- Writing an assessment report

Written Case History

Most clinics keep a printed case history form that they mail to clients seeking clinical services. It is a questionnaire the client or a caregiver fills out and sends back to the clinic. A sample *Adult Case History Protocol* is given in Chapter 2. The case history form asks questions and provides space for the client to respond. The questions usually are about the reasons for seeking services, the onset and the nature of the communication disorder, the general health status of the client, the family background, the client's education and occupational information, and so forth. After studying the information on the case history, the clinician can frame questions for the interview. The typical case history includes different sections that seek information necessary to understand the client.

The Client Identifying Information

The top section of a case history provides space for the client to write his or her name, date of birth, age, address, and phone number. Space may allow for a caregiver's name and telephone number. The name and telephone number of the client's physician and the source of referral also may be written in this section of the case history.

It is essential that either the client or the caregiver provide accurate identifying information, referral sources, and the physician's phone number. Speech-language pathologists (SLPs) need to send their assessment report to the referring professionals and the client's physician, when these are different individuals. Keeping in touch with the client's physician and the referring professional is important for needed follow-up examinations of the client. It is also important to maintain a professional relationship that helps build a referral source.

Information on Prior Professional Services

Some clients will have received services from other professionals, including speech-language pathologists. It is important to understand all prior services the client will have received for the disorder of communication, as well as for the associated medical condition. On the case history form, the client may list prior services, but it will be the clinician's

responsibility to contact the professionals to get their service reports on the client. Before contacting other professionals for their reports, the SLP should always get the written permission from the client.

It will be essential to get reports from audiologists who may have assessed and prescribed a hearing aid for the client. If the client has had a stroke, tumor, or traumatic brain injury, a neurologist's or other medical professional's report would be valuable in understanding the kinds of communication disorder the client exhibits. Medical reports will be similarly valuable in cases of neurodegenerative diseases that cause dementia and associated disorders of communication. An otorhinolaryngologist's report will be essential to assess and treat clients with voice disorders.

Reports on prior assessment and treatment of communication disorders are essential to understand the client's past and current speech-language skills and deficits. The SLP who knows what past treatments succeeded or failed can more appropriately tailor the treatment to the client.

The clinician can explore prior services with the client during the interview, regardless of whether reports have been obtained before the assessment session. This may be the time to get the client's permission to contact other professionals for their reports.

Client's Description of the Problem

It is important to know how the client and the caregivers view the difficulty and how they characterize it. Depending on the level of knowledge they have about the disorder, clients and caregivers describe the communication problem in their own words, and this may be more or less specific.

If the written description is vague, the clinician will have to extend the interview to get more specific information. People often say that they have difficulty talking or they cannot talk as well as they did before. Such descriptions may apply to any disorder of communication. It will be the clinician's responsibility to direct the discussion during the interview to the specific kinds of difficulties that help define the problem for the clinician as well as for the client and the family.

Medical History

Relevant medical history of the client is a part of the case history form. This section is especially important in assessing communication disorders in adults because of their common association of neurological and neurodegenerative diseases in this population. Prior illnesses, accidents, hospitalizations, and medical treatments may be reported in this section. (Fluency disorders in most individuals may be an exception to this general statement.) On many case history forms, a printed list of diseases may provide a chance for the clients to place a check mark against the ones they have had.

Some medical conditions, such as vocal nodules, strokes, and traumatic brain injury, will be especially relevant to the disorder of communication being evaluated. During the interview, it is the clinician's responsibility to get more details from the client and the caregivers on all associated medical conditions.

The Client's Family or Other Living Arrangement

It is important to know whether an adult or an elderly client lives alone, is a resident in an extended healthcare facility, or lives with one or more family members. Some clients may be assessed relatively soon after the onset of the problem, and such clients may be in a hospital or a rehabilitation facility. This is generally true of individuals with aphasia, motor speech disorders, traumatic brain injury, and right-hemisphere syndrome. The same individuals may also be assessed after they are discharged from the medical facility in a freestanding speech-language and hearing clinic. Clients with fluency disorder are generally assessed in speech-language and hearing clinics.

Regardless of where the client lives, his or her daily living activities needs to be assessed. How does the client spend time? Is the client able to independently attend to his or her daily activities? How much help does the client need to manage the various activities? If the client lives with a family member, the clinician is more likely to get detailed information on daily living activities as well as the general family background. The degree of impairment compared to premorbid motor and communication skills will be better assessed with the help of a family member, especially the spouse of the client. Gauging family support for treatment and generalization and maintenance of treated skills is also an aspect of assessment.

Verbal and Cultural Background

The case history form should allow space for the clients and their caregivers to describe their verbal (linguistic) as well as their cultural background. While most forms do not include questions about the ethnic background of clients, they do include questions about the bilingual status of clients and their families. Ethnocultural differences may be handled during the interview.

Bilingual clients may specify the language they usually speak, read, and write. They might suggest which language is the primary (stronger) language. Whether the second language is spoken by all in the family, and which of the two languages is routinely spoken at home will be of interest to the clinician. This information will have an effect on the assessment procedures. The clinician who does not know the client's stronger primary language will have to find an interpreter, select appropriate assessment tools, and make other changes. The relative strengths and weaknesses of the two languages, their effects on assessment and treatment may then be discussed more fully during the interview.

Educational and Occupational Background

The level of education the client has achieved is an important piece of information entered on a case history form. Education levels of spouses or other primary caregivers are also relevant. The client's level of education may suggest appropriate reading and writing materials to be used during assessment. Assessment procedures tailored to the client's education also may produce data that can be more readily used in treatment planning. The family education level might suggest effective ways in which the clinician can help them to provide support for maintaining the client's treatment gains at home.

With adult clients, the occupational history assumes a particular significance. Some clients may have been retired, but premorbidly, they may have maintained activities and hobbies that required certain kinds of speaking, reading, writing, and motoric skills. It is important to assess the extent to which such skills are now impaired and whether the client's activities and hobbies are negatively affected.

Other adult clients might still be holding a job to which they plan to return. Whether this is a realistic plan is something the clinician may need to assess, although this assessment is periodic in the course of treatment. Whether the client will return to the former position may depend on the degree of recovery (with or without treatment) of the skills that are essential to perform the job-related tasks. In all cases, however, it will be desirable to include hobby- or job-related communication and literacy skills in the client's treatment plan. Therefore, it is essential to gain information on the client's activities, hobbies, and job-related skills through the case history and the clinical interview.

Limitations of Case History Information

The case history is a good means of collecting information from the clients and their caregivers. It helps the clinician understand the communication problem from their standpoint. Nonetheless, the reliability and validity of case history information may be variable across clients and their caregivers.

The client and the family members may have differing views of the client's problem, and they may make conflicting claims about the client's limitations in performing everyday activities. Either party may over- or underestimate the communication problem and its effects on the quality of life. In some cases, they may guess requested information, and their guesses may or may not be valid. In other cases, the respondents may not understand all the questions, may interpret them differently, or may be variable in wording their answers.

Such limitations do not negate the value of a case history. Good clinicians interpret the answers carefully. During the interview, the clinician will tactfully explore the different meanings and interpretations of the client and the caregivers.

The Initial Clinical Interview

The clinical interview may be considered an extension of the case history. The advantage of the interview is that it is interactive; the clinician and the informants may go back and forth to make sure that they both understand each other. The interview offers a good opportunity for the clinician to get any vague or potentially inaccurate information on the case history form clarified or corrected.

The clinical interview serves a few significant purposes. First, the interview is more than just asking questions, it is an opportunity to get acquainted with the client and his or her caregivers. The interview is the beginning of a working relationship that develops as the client schedules additional services to the client. Second, the interview is designed to overcome some of the limitations of the case history. For instance, the client, the caregivers, and the clinician, by talking over what is written on the case history, may come to certain conclusions or consensus about the disorder that were hard to arrive at, based just

on the written information. Obviously, any misunderstanding or misinterpretation of the case history questions will be cleared. Another limitation of the case history the clinician may overcome during the interview is to get more details on selected aspects of the client's communication difficulty. The clinician may concentrate on the client's premorbid skills, expectations about returning to a previous job, his or her understanding of treatment or rehabilitation, and so forth. Third, the interview is a forum to not only ask questions, but also answer them. Clients and their caregivers are likely to come to the assessment situation with many questions they need answers for. It is the responsibility of the clinician to answer those questions.

To establish a good working relationship with the client and the caregivers, the clinician should conduct the interview in a supporting manner. The clinician should avoid rapid-fire questioning. The clinician should not only expect answers, but also invite comments, thoughts, and feelings related to the communication problem. The clinician should reflect on what the informants say and summarize their views. These actions will help assure the client and the caregivers that the clinician is a concerned and caring professional. By the time the interview is over and the clinician is ready to begin the assessment tasks, the client and the caregivers should feel at ease and comfortable in the clinical situation.

At the outset, the clinician introduces herself or himself and engages the client and the informants in a brief duration of informal conversation. The clinician then gives a description of what lies ahead for the client and the approximate time it will take. The clinician will then say that she or he would like to go over the case history form, ask questions to get additional information, find out what they think is the problem, and answer any questions the client and the informants may have about the assessment plan.

The interview will take more or less time, depending on the complexity and severity of the disorder being evaluated. A fully completed case history form will save interview time. Informants who more readily and completely answer questions also will help finish the interview in less time.

The specific questions asked during the interview will depend on the disorder being assessed. Therefore, a disorder-specific interview protocol is provided for apraxia of speech, dysarthria, aphasia, right-hemisphere syndrome, dementia, traumatic brain injury, fluency disorders, and voice problems. In this chapter, we offer general guidelines on conducting a productive and supportive interview, as given in Hegde and Pomaville (2017), and modified to suit the adult clients:

1. **Be prepared for the interview.** Review the written case history ahead of time. Be clear about the areas you wish to explore during the interview. Develop a list of major questions that need to be asked. A structured, well-planned interview promotes a professional image and reduces clinician anxiety.
2. **Arrange for comfortable seating and lighting.** Conduct the interview in a physical environment that is comfortable, attractive, well lit, and free from distractions.
3. **Record your interview (audio or video).** Do not rely on your memory; take notes on critical information the interviewee offers. However, try not to take excessive written notes, as this tends to take attention away from the client and the informants, and may reduce the amount of information they provide. Limit

your written notes to a few key points or items you want to explore further during the course of the interview.

4. **Treat the client with respect.** Clients with severe neurological disorders or neurodegenerative diseases with profoundly impaired communication may have difficulty understanding questions or performing simple assessment tasks. They should be treated with respect. Do not address them by their first name until you have come to know then better and they indicate that they are fine with it.
5. **Take your time.** Do not rush the informants, limit their responses, complete their sentences, or interrupt their comments. Let them speak freely and redirect them only as needed. Give them a patient and sympathetic listening, but do not patronize or show excessive sympathy and concern that adults might dislike.
6. **Avoid certain kinds of questions.** Do not ask too many questions that can be answered with a simple "yes" or "no." Use open-ended questions.
7. **Do not talk too much.** Avoid talking too much yourself, and do not fall into stereotypical, repetitive responses.
8. **Limit the use of professional jargon, but do not talk down.** Use technical terms sparingly. Define or describe specialized terms in everyday language. Do not try to explain *grammatical difficulties* to a client's spouse who is a professor of linguistics.
9. **Do not put words in the informants' mouths.** Let the client and the caregivers describe the problem in their own terms. After they have done this, seek clarifications or details, and suggest the technical terms when it is helpful.
10. **Explore the conditions of onset.** Seek information about the client's physical symptoms and etiologic factors by exploring the conditions associated with the onset and development of the communication disorder. Conditions associated with onset of communication disorders in adults include various neurological or neurodegenerative diseases (leading to motor speech disorders, aphasia, dementia, right-hemisphere syndrome), laryngeal diseases (leading to voice disorders), head injury (leading to intellectual and communication disorders), stress and a need to escape from stressful situations (leading to a form of aphonia), laryngeal trauma or vocal abuse (leading to dysphonias), and so forth. Stuttering in most adults will have started in early childhood days and the conditions of onset may be unclear, but neurogenic stuttering will be of recent onset associated with neurological diseases.
11. **Find out what the client and the caregivers think and feel.** Address the client and family members' feelings, dispositions, and beliefs regarding the communication problem, its origin, and potential remediation. Some of them may have valid or invalid beliefs about the causes and management of communication disorders.
12. **Take note of the client's strengths.** Do not concentrate solely on the impairments and weaknesses of the client. Be realistic and highlight the strengths to reassure the client and the family members. For instance, highlight

the fact that a particular client with aphasia is relatively young, well educated, and already has shown good physical recovery, and that these strengths suggest good prognosis for improved communication skills with sustained treatment.

13. **Rephrase questions at different times.** Ask the same question in different terms during the interview to confirm that you are getting reliable and consistent responses.
14. **Repeat important points.** Throughout the interview, repeat the critical pieces of information you have learned from the client and the family. This will help them validate the information.
15. **Be sensitive to cultural differences.** Understand the cultural and language differences of the client and the family. If there are language barriers that could interfere with obtaining or sharing information, arrange for an interpreter's help.
16. **Summarize at the end.** At the end of the interview, summarize the key points to allow the informants to rephrase or correct your misunderstandings. Ask if they have any additional questions.
17. **Tell them what the next step will be.** Finish the interview by telling what will be done next and thanking them for their information.

Hearing Screening

Some older adults with a disorder of communication may have had their hearing assessed by an audiologist. Some may be hearing aid users. Other adults may not have had their hearing tested in recent times or not at all. Therefore, it is essential to screen the hearing of adult clients whose hearing has not been assessed. Using a well-maintained and calibrated audiometer, the clinician may screen the client's hearing at 20 dB for the frequencies of 500, 1000, 2000, and 4000 Hz. A referral to an audiologist may be made if the client fails the hearing screening. The form for recording the results of the hearing screening is included as part of the *Orofacial Examination and Hearing Screening Protocol* presented in Chapter 2.

Orofacial Examination

Speech-language pathologists routinely perform an orofacial examination of all clients they assess. This examination helps evaluate the structural adequacy of the oral mechanism for speech production. Structural inadequacies may impede speech production. In some cases, speech production may be negatively affected with no obvious structural deviation. In either case, the clinician needs to rule out both structural and functional problems in producing speech sounds. An orofacial examination is not only a means of observing deviations in the structures of speech production, but also any irregularities in the strength, range, coordination, and consistency of movements.

The detail and the depth of orofacial examination depend on the disorder the client presents. Although it is performed on all clients, the examination is especially detailed in assessing clients with neuromotor disorders associated with their communication problems. Clients with apraxia of speech, dysarthria, and traumatic brain injury need in-depth examination of the orofacial structure and function, along with an assessment of their diadochokinetic rate, described in the next section. Clients who have aphasia due to frontal lesions also are good candidates for thorough orofacial and diadochokinetic assessments.

The clinician needs to assemble the following materials to complete an orofacial examination:

- Gloves
- Flashlight
- Tongue depressor
- Mirror
- Stopwatch or a clock with a second hand

To complete the assessment, the clinician may use the *Orofacial Examination and Hearing Screening Protocol* provided in Chapter 2. The chapter also contains *Instructions for Conducting the Orofacial Examination: Observations and Implications.*

Diadochokinetic Tasks

Diadochokinetic tasks are used to assess an individual's production of rapidly alternating speech sounds. Typically, these are divided in alternate motion rate (AMR) and sequential motion rate (SMR) tasks. It is important to observe the rate, accuracy, and consistency of the individual's speech production during these tasks, particularly as single syllables are combined to create longer or more complex utterances. Such an assessment is especially helpful in the differential diagnosis of dysarthria and apraxia of speech. For example, individuals with flaccid and spastic dysarthria usually demonstrate slow but *regular* AMRs. In contrast, individuals with ataxic dysarthria often produce slow and *irregular* AMRs. With apraxia of speech, errors are often inconsistent, and speech production may break down as the length and complexity of the utterance increase. An individual who produces the single-syllable phonemes in the AMRs maybe unable to produce the same phonemes in a multisyllable production (SMRs). In addition, sound-syllable transpositions, repetitions, or additions are more likely to occur. Groping and searching behaviors might also be observed if verbal apraxia is present (see *Apraxia of Speech Assessment Protocol* in Chapter 4).

Diadochokinetic syllable tasks usually consist of having the individual produce the following sounds continuously and as quickly as possible: /pʌ/, /tʌ/, /kʌ/, /pʌtə/, and /pʌtəkə/. These phonemes are selected because they require the use of different muscle groups. The phoneme /p/ requires labial activity, /t/ requires elevation of the tongue tip to the front of the oral cavity (alveolar ridge), and /k/ requires posterior tongue elevation to the back of the oral cavity (velum).