Hegde's PocketGuide to Treatment in Speech-Language Pathology

Fourth Edition

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Main Entries

Preface to the Fourth Edition

The fourth edition of this PocketGuide to treatment procedures in speech-language pathology has been updated and expanded to offer even more comprehensive coverage of treatment procedures than did the third edition. New entries reflect changes in the nomenclature of disorders and treatment approaches. Several weaker and unfounded treatment procedures or approaches have been eliminated. As before, whether described treatment procedures are supported by experimental evidence or not is briefly noted to assist a critical evaluation of procedures. All entries have been further streamlined. Entries have been edited with a view to make them more succinct and direct. References to major entries have been updated.

Two companion volumes, *Hegde's PocketGuide to Communication Disorders* and *Hegde's PocketGuide to Assessment in Speech-Language Pathology*, have been simultaneously revised to update and expand information on disorders and assessment, respectively. As a set, the three PocketGuides offer comprehensive information on the characteristics of communication disorders, their epidemiology, etiology, and brief overview of major theories; assessment approaches and procedures; and treatment approaches and techniques. The three guides serve a dual function: First, they are detailed enough for the student clinicians as well as the more established practicing clinicians. Second, the guides are succinct enough to provide an overview of the entire range of knowledge in speech-language pathology.

This fourth edition of the PocketGuide to treatment procedures is designed for clinical practitioners and students in communicative disorders. The PocketGuide combines the most desirable features of a specialized dictionary of terms, clinical resource book, and textbooks on treatment of communicative disorders. It is meant to be a quick reference book like a dictionary because the entries are alphabetized; but it

offers more than a dictionary because it specifies treatment procedures in a "do this" format. The PocketGuide is like a resource book in that its main objective is to describe practical treatment procedure, but it offers more than a resource book by clearly specifying the steps involved in treating clients. The PocketGuide is like standard textbooks that describe treatment procedures; but it organizes the information in a manner conducive to more ready use and easier access.

How the PocketGuide Is Organized

All main entries for treatment of communication disorders are printed in bold and blue color. Each cross-referenced entry is underlined. Each main disorder of communication is entered in its alphabetical order. Subcategories or types of a given disorder are described under the main entry (e.g., Broca's Aphasia under Aphasia, Ataxic Dysarthria under Dysarthria, Neurogenic Stuttering under Fluency Disorders).

Specific techniques, most of them with general applicability across disorders (e.g., Modeling, Biofeedback, or Turn-Taking) also are alphabetized. Techniques that apply across disorders are described at their main alphabetical entry (e.g., Modeling under M). When appropriate, the reader also is referred to the disorders for which the techniques are especially appropriate.

For most disorders, a general and composite treatment procedure is first described. For example, there is a general treatment program each described for such disorders as aphasia, speech sound disorders, stuttering, and language disorders in children. Following this description of a comprehensive treatment procedure, specific techniques or published treatment programs are described (e.g., social approaches to treating aphasia, pragmatic language intervention for children with language disorders, syllable prolongation in stuttering). Organization of entries varies somewhat for different disorders, but they follow a general format that begins with a brief description of the disorder, general guidelines on treatment, ethnocultural considerations in treatment, comprehensive treatment procedures in many cases, ending with specific treatment programs or procedures when available. Major and current references are given at the end of each main entry and at the end of specific treatment technique or program.

Many treatment concepts and procedures are cross-referenced. All cross-referenced entries are underlined. Therefore, the reader who comes across an underlined term can look up that term in its alphabetical order.

How to Use This PocketGuide

There are two methods for the clinician to use this guide. In the first method, the clinician looks up treatment procedures by disorders in their alphabetical order. *Major Entries* (the table contents) will quickly refer the reader to specific communication disorders described in the guide. Clinicians can quickly gain access to treatment procedures for aphasia to voice disorders described in their alphabetical order. Under each of the main entries for major disorders, the clinician may look up subentries or specific types of disorders. For example, under Dysarthrias, the clinician will find the various types of dysarthria, also entered alphabetically, from ataxic dysarthria to unilateral upper motor neuron dysarthria. Similarly, following the main entry for Aphasia, the different varieties of aphasia are described in their alphabetical order.

In the second method, the clinician looks up a treatment procedure by its name. For example, the clinician can look up such specific treatment techniques as the following in their alphabetical order: activity-based language intervention, airflow management in stuttering, conversational repair strategies, delayed auditory feedback, event structure, functional equivalence training, mand model, melodic intonation therapy, and so forth. In many cases, the reader who finds a specific treatment technique in the general alphabetized order is referred to the specific disorder for which the technique is relevant.

A Caveat

Serious attempts have been made to include most treatment techniques described in the literature. However, the author is aware that not all techniques have been included. Some have been excluded because of their transparent lack of logic, appropriateness, or even expectation of desirable effects. A few are described briefly with the cautionary note that there is no evidence to support its practice. Most importantly, in

any task such as this that requires encyclopedic review of literature, omission of a procedure that deserves inclusion is an acknowledged and unintended limitation. The reader may be more often correct in assuming that a technique was omitted inadvertently than to assume that it was considered and rejected.

The author did not set for himself the impossible goal of including all treatment techniques. The practical goal was shaped more by such qualifiers of treatment techniques as *most*, the *major*, the *generally effective*, the *most widely practiced*, and so forth. Such qualifiers necessarily involve judgment with which clinicians will disagree. If some techniques included do not meet these qualifiers, that is fine; the author would rather err in that direction. On the other hand, errors of omission are correctable through revisions. Therefore, the author is open to suggestions from clinicians and researchers.

Although most treatment techniques in communicative disorder are in need of treatment effectiveness or efficacy data, those that are especially deficient are noted in their description or definition. Those treatment techniques that have especially strong supportive evidence also are noted. In most cases, unfortunately, information on effects and efficacy is unavailable or ambiguous. This guide is not a means of evaluating treatment techniques; such evaluation is solely the responsibility of the clinician who selects treatment techniques. To help the clinician make such evaluations, procedures and experimental designs that are used in treatment efficacy research are included in this guide. Also included are suggested *Treatment Selection Criteria*.

About the Author

M.N. Hegde, PhD, is Professor Emeritus of Speech-Language Pathology in the Department of Communicative Disorders at California State University, Fresno. A highly regarded author in speech-language pathology, his books include leading texts in academic courses and valuable resources for clinicians. His books have been used in worldwide in speech-language pathology programs.

He holds a master's degree in experimental psychology from the University of Mysore, India, a post master's diploma in Medical (Clinical) Psychology from Bangalore University, India, and a doctoral degree in Speech-Language Pathology from Southern Illinois University at Carbondale.

Dr. Hegde is a specialist in fluency disorders, language disorders, research methods, and treatment procedures in communicative Disorders. He has made numerous presentations to national and international audiences on various basic and applied topics in communicative disorders and experimental and applied behavior analysis. He also has served on the editorial boards of scientific and professional journals and continues to serve as an editorial consultant to Journal of Fluency Disorders and the American Journal of Speech-Language Pathology.

Dr. Hegde is a recipient of various honors including the Outstanding Professor Award from California State University-Fresno, CSU-Fresno Provost's Recognition for Outstanding Scholarship and Publication, Distinguished Alumnus Award from the Southern Illinois University Department of Communication Sciences and Disorders, and Outstanding Professional Achievement Award from District 5 of California Speech-Language-Hearing Association. Dr. Hegde is a Fellow of the American Speech-Language-Hearing Association.

Acknowledgments

I am pleased to note that this new edition is being published by Plural, whose predecessor, Singular, was the original publisher of the first edition. I would like to thank Valerie Johns, Executive Editor, Nicole Hodges, Assistant Editor, Linda Shapiro, Production Coordinator, Jessica Bristow, Production Assistant, and Angie Singh, President and CEO of Plural for their excellent support throughout the preparation of the new edition of this PocketGuide.

A

ABA Design. A single-subject treatment research design used to evaluate treatment effects; a target behavior is first baserated (A), taught with the procedure to be evaluated (B), and then reduced (A) by withdrawing treatment to show that the teaching was effective; if the treatment procedure you wish to select has been evaluated with this design, examine whether the investigator used the following procedure to establish its effectiveness:

- Baserated the target behavior to be taught
- Applied the new treatment to be evaluated
- When the target behavior increased, withdrew treatment
- Charted the outcomes to show that the results for the baserate and withdrawal conditions were similar but those for the treatment condition were different.

ABAB Design. A single-subject treatment research design used to evaluate treatment efficacy; a target behavior is first baserated (A), taught by applying the treatment program (B), reduced by withdrawing or reversing the treatment (A), and then taught again by reapplying the treatment (B) to show that the teaching was effective; the design has two versions: Reversal and Withdrawal; if the treatment procedure you wish to select has been evaluated with this design, examine whether the investigator used the following procedure to establish its effectiveness:

- Baserated the behavior to be taught
- Applied the new treatment to be evaluated for the target behavior
- Briefly, applied the treatment to another behavior or simply withdrew treatment
- Again treated the target behavior
- Charted the outcomes to show that the two no-treatment conditions were convincingly different from the two treatment conditions.

ABAB Reversal Design. A single-subject treatment design for evaluating treatment effects; a desirable behavior is baserated (first A), taught (first B), reduced by teaching its counterpart (second A), and then taught again (second B) to show that the teaching was effective; if the treatment

procedure you wish to select has been evaluated with this design, examine whether the investigator used the following procedure to establish its effectiveness:

- Baserated the behavior to be taught
- Applied the new treatment to be evaluated for the target behavior
- Briefly, applied the treatment to an incompatible behavior
- Again treated the target behavior
- Charted the outcomes to show contrasting rates of behaviors under the baserate and experimental conditions.

ABAB Withdrawal Design. A single-subject research design for evaluating treatment effects; a desirable behavior is baserated (A), taught (B), reduced by withdrawing the treatment (A), and then taught again (B) to show that teaching was effective; if the treatment procedure you wish to select has been evaluated with this design, examine whether the investigator used the following procedure to establish its effectiveness:

- Baserated the target behavior to be taught
- Applied the new treatment to be evaluated
- When the behavior increased, withdrew treatment
- Reapplied the treatment to the target behavior
- Charted the outcomes to show that the behavior varied according to the treatment and withdrawal operations

Hegde, M. N. (2003). *Clinical research in communicative disorders: Principles and strategies* (3rd ed.). Austin, TX: Pro-Ed.

Agraphia. To treat lost or impaired writing skills associated with cerebral pathology or injury that may also be associated with reading problems (Alexia), see Treatment of Aphasia: Writing Problems; note that treatment for agraphia may have different parameters than treatment of writing problems in children who simply have not mastered the writing skills; see the two companion volumes, *Hegde's PocketGuide to Communication Disorders* and *Hegde's PocketGuide to Assessment in Speech-Language Pathology*, for description of different types and assessment procedures.

Airflow Management. A stuttering treatment target within the comprehensive fluency shaping procedure; includes inhalation of air, slight exhalation before initiating phonation, and sustained airflow throughout an utterance; for procedures see Fluency Disorders (Stuttering; Treatment of Stuttering: Specific Techniques or Programs).

Alaryngeal Speech. To teach speech without a biological larynx—a mode of communication for persons whose larynges have been surgically removed—see Laryngectomy.

Alerting Stimuli. Various means of drawing the individual's attention to the imminent treatment stimuli; needed whenever the individual's attention is likely to wander; include such statements as "Get ready! Here comes the picture!" or "Look at me, I am about to show you how," or such nonverbal cues as touching the individual's hand just before presenting a stimulus; important in treating individuals with autism spectrum, aphasia, dementia, right hemisphere syndrome, and children with attention deficit disorders.

Alexia. Treating reading problems of adults who have neurological impairments (e.g., strokes, neurodegenerative diseases); does not refer to teaching children who have not mastered grade-appropriate reading skills, called dyslexia, which is often due to inadequate instruction or learning disabilities; may be associated with writing problems (Agraphia) in some, isolated in others; for treatment of alexia in individuals with neurological communication disorders, see Treatment of Aphasia: Reading Problems; see the two companion volumes, *Hegde's PocketGuide to Communication Disorders* and *Hegde's PocketGuide to Assessment in Speech-Language Pathology*.

Alphabet Board. A means of teaching basic communication skills to individuals who have limited verbal language skills; also may be used to reduce the speech rate to improve intelligibility in individuals with hypokinetic dysarthria; it contains a communication board with the alphabet printed

on it; may also contain a few words and sentences; the individual simultaneously speaks (to the extent he or she can) and points to the printed first letter of each spoken word; the "listener" reads what is pointed out and thus understands the message; helps slow down the rate of speech in individuals whose speech rate is excessive (e.g., some individuals with Dysarthria).

Alternative Communication. To teach methods of non-oral, nonvocal communication that serve as *alternatives* to oral speech and language, see Augmentative and Alternative Communication; only in a few extreme cases are the methods totally *alternative*; most non-oral, nonvocal means of communication augment oral and vocal communication, regardless of how limited the vocal and verbal skills might be.

Alzheimer's Disease. Intervention for individuals with Alzheimer's disease is the same as that for dementia; intervention may be beneficial in slowing down deterioration; direct intervention to sustain the skills as long as possible and family and caregiver intervention to help them interact effectively with the individual are the two main components of intervention; see Dementia for management details.

American Indian Hand Talk (AMER-IND). A system of nonverbal communication used by native Americans to communicate with members of other tribes with different languages; a manual interlanguage; the signs represent ideas and many are pictographic; gestures may be produced in series to express more complex ideas, called agglutination; many signs are one-handed; used in teaching Augmentative Communication, Gestural (Unaided).

American Sign Language (ASL or AMESLAN). A highly developed manual (gestural) language used mostly by deaf persons in the United States; a communication target for certain nonverbal or minimally verbal persons; each sign or gesture may represent a letter of the English alphabet, a word, or a phrase; signs provide phonemic,

morphologic, and syntactic information; used in teaching Augmentative Communication, Gestural (Unaided).

Amyotrophic Lateral Sclerosis (ASL). To treat motor speech disorders associated with this progressive neurological disease in which the upper and lower motor neurons degenerate, see Dysarthrias.

Anomia. Treatment of naming difficulties (anomia) is essential in many individuals with neurological diseases or disorders who exhibit word finding problems; people with traumatic brain injury, dementia, and especially those with aphasia need treatment for their naming problems; see Aphasia for treatment strategies.

Antecedents. Important elements of behavioral treatment of communication disorders; events that occur before responses; stimuli or events the clinician presents in treatment; to make treatment stimuli effective, select them from the individual's natural environment whenever possible or use common stimuli; select stimuli that are ethnoculturally appropriate for the individual; antecedents may be:

- Common objects or objects from the individual's home environment (e.g., a child's favorite toy or book)
- Pictures that are colorful, unambiguous, and ethnoculturally appropriate
- Re-created or enacted events to show actions and scripts
- Instructions, demonstrations, modeling, prompting, manual guidance, and other special stimuli

Aphasia. Treatment of aphasia—a language disorder caused by recent brain injury—involves multiple treatment targets; initially and in a hospital setting, the treatment may be managed by a team of multiple professionals; eventually, most individuals with aphasia may receive communication treatment as outlined; see the sources cited at the end of this main entry and the companion volume, *Hegde's PocketGuide to Communication Disorders*, for epidemiology and ethnocultural considerations, neuropathology,

and aphasic symptomatology; see *Hegde's PocketGuide to Assessment in Speech-Language Pathology* for assessment procedures.

Treatment of Aphasia: General Guidelines

- Note that there is both controlled and uncontrolled evidence to suggest that aphasia treatment is effective and that all individuals are candidates for treatment
- Conduct a detailed assessment; see the cited sources and the companion volume, *Hegde's PocketGuide to Assessment in Speech-Language Pathology*
- Reduce the effects of the residual deficits on the personal, emotional, social, family, and occupational aspects of the individual's life
- Teach compensatory strategies (e.g., signing, gestures)
- Counsel family members to help them cope with the residual deficits
- Give a realistic prognosis that modifies the individuals' and the family members' expectations
- Develop a variety of task- and individual-specific treatment procedures as illustrated in this outline
- Choose functional communication targets rather than grammatical correctness
- Sequence target behaviors in treatment; move from simple to complex tasks
- Offer an intensive treatment program; the greater the frequency of weekly sessions, the higher the progress
- Use such extra stimuli as instructions, prompts, modeling, pictures, and objects in initial stages of treatment; fade such extra stimuli used in treatment
- Use only natural stimuli (e.g., only a question, not a prompt) to evoke speech in later stages of treatment
- Program natural consequences for functional communication targets (e.g., smile and approval to reinforce verbal expressions; real objects to reinforce requests for objects)
- Provide immediate, response-contingent reinforcement for correct or effective responses and give equally immediate corrective feedback for incorrect responses

- Teach and reinforce self-monitoring skills to reduce errors and to sustain treatment gains in the natural environment
- Train family members to evoke, prompt, reinforce, and maintain communicative behaviors
- Offer group treatment sessions to reinforce verbal skills in the context of social communication and social integration
- Judge when it is not useful or ethical to continue the treatment

Treatment of Aphasia: Ethnocultural Guidelines

- Consider the ethnocultural, linguistic, and economic background of the individual in planning treatment
- Gain an understanding of the individual's family and its economic resources to pay for extended treatment, afford regular transportation, ability and willingness to keep regular appointments
- Help find public and private resources that support the individual's continued treatment and rehabilitation
- Assess the family members' educational level, emphasis on communication skills, and their willingness and time available for helping the individual
- Understand the individual's family constellation and communication patterns (e.g., living in an extended family; the individual's role in educating and raising grandchildren)
- Evaluate the individual's linguistic background and especially if the individual speaks a different dialect or form of standard English (e.g., African American English or Spanish-influenced English); premorbid literacy level and the current need for literacy skills (e.g., Does the individual need treatment for reading and writing or will functional communication suffice?)
- Assess communication needs of a bilingual individual in both languages or, at the least, in the dominant language
- Select treatment stimuli that are available in the individual's home, and, if appropriate, work environment

- Carefully describe the treatment procedures and note the effects they produce or fail to produce; modify the treatment procedure in light of the individual's performance and ethnocultural background

Treatment of Aphasia: Auditory Comprehension. Auditory comprehension is the least researched of the aphasia treatment procedures; there is no controlled evidence to support a time-consuming auditory comprehension treatment for individuals with aphasia; typical and repeated trials in which the clients are asked to point to objects or words may not produce beneficial effects on comprehending conversational speech; there is no evidence to suggest that improved comprehension (if that is demonstrated) results in improved production; dealing with evident comprehension problems in the context of teaching functional and social communication skills may be the best strategy; evidence suggests that when production skills improve, comprehension skills also improve with no additional and direct treatment for comprehension; a few general guidelines and management suggestions may be considered for individual clients with significant speech comprehension deficits; these suggestions may be useful for most individuals with aphasia.

Promoting Auditory Comprehension: General Guidelines

- Select picturable verbs and other words that give a clue to auditory comprehension
- Select unambiguous stimulus pictures to be used in treatment
- Use shorter and simpler sentences
- Use active sentences and avoid passive and indirect expressions
- Build personally relevant information into treatment tasks
- Speak at a slower rate; pause frequently; and give additional stress on key terms
- Conduct treatment in quieter environment with little or no distraction

- Give redundant messages and instructions; repeat them
- Speak in connected speech that gives context, rather than isolated words or sentences that do not
- Give the individual limited response choices; do not confuse by demanding multiple responses at the same time
- Pair auditory treatment stimuli with appropriate visual stimuli; use objects whenever possible; if not, use realistic, colorful, unambiguous pictures
- Make your face visible to the individual as you speak
- Draw the individual's attention before presenting treatment trials if necessary (give Alerting Stimuli; e.g., "Look at my face," "Here comes the picture," "Listen! I am going to ask you to do something").

Sequence of Auditory Comprehension Treatment

Comprehension of Words. Ask the individual to point to the items named; positively reinforce correct responses; repeat the trials for stimuli to which the individual gave a correct response; ask the individual to name:

- Various body parts
- Everyday objects and pictures you display in front of the individual
- Actions depicted in various individual pictures or pictures in story books

Comprehension of Spoken Sentences. Accept an appropriate verbal or nonverbal (gestural) response that suggests good comprehension; reinforce positively. Target comprehension of:

- Simpler sentences before more complex sentences
- More redundant sentences before less redundant sentences
- Sentences with familiar information before those with unfamiliar information
- Use the sentence verification or recognition format:
  - Present various pictures that include similar elements (e.g., pictures of a dog chasing a man,

a man chasing a dog, a dog chasing a cat, and a cat chasing a dog)
- Say a sentence and ask the individual to show the picture that represents the sentence; for example, "Show me the man chasing a dog" or "Show me the dog chasing the man"

Target Comprehension in Conversation *and* Narration. Targeting comprehension during conversation and discourse may be the best strategy, as it combines production as well as comprehension; target such skills as:

- Understanding conversation
  - Hold typical conversations and frequently check for comprehension of what you say
  - Reinforce for correction statements that imply good comprehension
  - Reiterate the statements that are misunderstood or not comprehended
- Understanding narratives
  - Tell a brief story and ask the individual to retell it
  - Read aloud a brief story and ask the individual to retell it
  - Ask questions about the details and sequence of the story to assess and positively reinforce comprehension
  - Prompt details and sequences to reinforce narrative skills

Treatment of Aphasia: Verbal Expression

Treatment of Naming: General Considerations. Select both the target words and intervention strategies that are client specific and functional:

- Select words that are most commonly used; make the list individual specific (e.g., nouns related to the individual's hobbies, interests, and occupation; names of family members, friends, and pets)
- Select the names of manipulable objects; select objects that are relevant to the individual (e.g., a