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ASSOCIATION

# Guidelines for Practice in Stuttering Treatment

*Special Interest Division on Fluency and Fluency Disorders*

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## About This Document

These guidelines are an official statement of the American Speech-Language-Hearing Association (ASHA). They are guidelines for practice in stuttering treatment but are not official standards of the Association. They were developed by members of the Steering Committee of ASHA's Special Interest Division on Fluency and Fluency Disorders (Division 4): C. W. Starkweather, Kenneth St. Louis, Gordon Blood, Theodore Peters, Janice Westbrook, Hugo Gregory, Eugene Cooper, and Charles Healey, under the guidance of Crystal Cooper, vice president for professional practices. Lyn Goldberg provided support from the National Office. The Steering Committee acknowledges the assistance of Diane L. Eger, vice president for professional practices, 1991–1993.

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## I. Introduction

The document that follows was developed by the Special Interest Division on Fluency and Fluency Disorders (Division 4) of ASHA in response to the affiliates' belief that the field lacked standards for the treatment of stuttering. It was felt too that the parallel move toward specialization made it necessary to define more clearly the role of nonspecialists. At the same time, the ASHA document, "Preferred Practice Patterns for the Professions of Speech-Language Pathology and Audiology" (*Asha* Supplement No. 11, March 1993), was published but addressed only Fluency Assessment and only in the most general terms. The failure of this document to address the treatment of fluency disorders left a gap to be filled.

It should be noted that the Steering Committee felt that the state of knowledge in several key areas—specifically treatment efficacy and the measurement of stuttering—was not developed well enough to allow the promulgation of "standards." It was decided to provide less prescriptive "guidelines."

Another issue concerned the base of knowledge used to determine whether a goal is desirable or a practice appropriate to achieve a goal. The Steering Committee felt that a set of criteria for determining guidelines that was based entirely on empirical evidence would be too restrictive. Some treatment practices may be quite useful even though their efficacy has not yet been determined empirically. The committee felt that both common practice and published data should be considered.

Finally, the document does not take a position on stuttering theory or advocate a specific philosophy of treatment. Instead, it puts forward what is hoped to be an agreed upon set of goals and the procedures that are used to achieve them.

## II. General Guidelines for Practice

### *Timing and Duration of Sessions*

There is considerable variation in the timing and duration of treatment sessions and in the total duration of treatment. Some residential programs treat clients very intensively, 6 or more hours each day for a number of weeks. Private clinicians may see clients one, two, or three times a week for a longer period of time. In the schools and hospitals, the timing and duration of sessions is restrained by overriding schedules. Intensive treatment may be expected to achieve more rapid change, but the intensive treatment alters the client's daily activity more extensively, creating a barrier to transfer that the clinician considers in planning treatment activities. Nonintensive treatment, on the other hand, disrupts the client's everyday life far less, but it may achieve change so slowly that the client becomes

discouraged. Clinicians who see clients less frequently can sequence treatment activity for early success, or provide for other motivational activities that will keep the client interested in continuing treatment.

### ***The Setting of Treatment***

Clients are seen in a wide variety of settings. Some programs are residential, providing treatment, usually intensive, in a setting removed from the client's everyday life. Others treat clients in the communities where they live. Both residential and nonresidential treatment programs provide activities for effective transfer of new behaviors to the ordinary social situations of everyday life. Transfer can be achieved through carefully sequenced, monitored practice in real-life social situations. Programs that treat the client only in a limited setting and do not provide for monitored practice of newly learned behaviors in natural settings fall outside the guidelines of good practice. There are a number of ways to monitor a client's practice: (1) direct observation, in which the clinician is present during the practice session, (2) interviews with the client after practice sessions, and (3) listening, with the client, to audiotape recordings of practice sessions. In each case, monitoring should include opportunities for the clinician to discuss the practice session with the client so as to increase understanding, and opportunities to provide immediate feedback on the client's performance. Listening to audiotape recordings that are submitted by mail and responded to with written comments from the clinician falls outside the guidelines of good practice, if it is the only method of transfer. It should be recognized, however, that there are circumstances—when a client lives in a remote area, for example—where it may be impossible to provide service that is within the guidelines. The best practice, in these circumstances, is to make sure that both client and clinician are aware of any necessary limitations on treatment.

There is also variation in the duration of individual sessions. In general, clinicians plan sessions so that they are long enough to accomplish some stated objective, but not so long as to lose clients' attention through fatigue or boredom. The client's age and ability to attend are taken into consideration in determining the duration of sessions.

### ***Duration of Treatment***

The total duration of treatment is an important variable of practice. Clinicians want to be sure that treatment lasts long enough for effective change, but they do not want to continue to provide treatment when there is no longer any further benefit. Our field is in the process of researching the variables that affect treatment duration, but we cannot yet say with certainty what these variables are. It seems clear that more intensive treatment produces more rapid change than nonintensive treatment (Prins, 1970). It also seems likely, but not yet demonstrated, that the complexity of a client's problem may influence the duration of treatment. People who stutter in a way that is unusually complex behaviorally, or who have other coexisting problems or disorders are likely to require considerable time in treatment. Those who are cognitively impaired, or who cannot attend easily, for example, would be expected to take longer in treatment. Also, the presence of a coexisting language or articulation disorder, or a psychoemotional disturbance, can lengthen treatment.

A client's personal level of motivation and commitment to the treatment process will also influence the duration of treatment. School-age, adolescent, and adult stutterers require longer durations of treatment than preschool children. In spite of the uncertainty that remains in this area, clinicians try to provide to clients and their families some sense of how long treatment may take, including the processes of maintenance and follow-up.

### ***Complexity of Treatment***

Stuttering is typically a complex problem. It may begin simply, but it usually, and sometimes quickly, becomes complex because of the reactions, defensive behaviors, and coping strategies of the person who stutters and the reactions of significant others in the listening environment. Furthermore, in older children and adults, the communicative difficulties that stuttering creates present barriers to social, educational, and vocational life that can greatly complicate the problem. In some cases, there can be serious emotional disturbance, such as depression or sociopathic behavior. These complexities create issues that clinicians help their clients deal with through treatment and referral. Stuttering treatments that do not address the complete problem in whatever complexity it presents are not within the guidelines of good practice.

### ***The Cost of Treatment***

As independent professionals, clinicians working with stutterers have the responsibility of setting their own fees. In doing so, they consider a number of factors. People who stutter sometimes seek help with an intense longing for relief, and in some cases feel quite desperate. Clinicians, in setting their fees, do not exploit these feelings. In addition, the client's desire for help can be increased through statements by the clinician implying that the treatment is highly effective. The prohibition in the Code of Ethics of ASHA against misrepresentation in public statements has particular relevance for stuttering treatment. When clinicians make public statements about their own treatment programs, they are appropriately cautious about its effectiveness. It would seem well outside the guidelines of good practice for a clinician to make a public statement that a new technique could solve every stutterer's problem, and then charge far more than is the usual practice.

Typically, the amount of time the clinician spends in face-to-face contact with the client is the main yardstick by which the value of treatment is determined. Telephone contact, tape recordings, paper and electronic mail contact also have value, although not many clinicians charge for these services. The value of treatment for people who stutter lies in the supportive nature of the client-clinician relationship and in the clinician's ability to hear and see the stutterer's behavior and respond to it in a way that helps the client learn to talk more effectively.

It is desirable for clinicians to have certain personal attitudes and qualities and a fund of certain information. The following list is an expanded version of the Texas Speech and Hearing Association Fluency Task Force's list of "Personal Clinician Competencies":

### ***Personal Attributes***

1. Is interested in and committed to the treatment of people with fluency disorders.

## **III. Attributes of Clinicians Who Work With People Who Stutter**

2. Is willing to develop as much knowledge and skill as possible related to diagnosis and treatment of stuttering and keeps abreast of current developments.
3. Is willing to refer clients when the need for more assistance is necessary.
4. Is willing to take an active role in the profession to know about specific services that are available both locally and nationally to clients who stutter.
5. Has good problem-solving skills and uses them when things do not go according to plan in evaluation and treatment.
6. Is flexible in thinking and planning.

#### *Learned Attributes*

7. Has a general understanding of the literature relative to the etiology and development of stuttering.
8. Has an adequate level of knowledge of the phenomenology of stuttering, particularly with regard to those phenomena that influence therapeutic practice, such as, episodic variation, clustering, paradoxical intention, adaptation and consistency, spontaneous recovery, fluency enhancement, arousal effects.
9. Has a general understanding of the literature on normal and language-based (dis)fluency, rate, prosody, rhythm, and effort, and the development of these speech characteristics and has the skill to gain new information from the literature as new findings are incorporated into it.
10. Has a view of stuttering that is focused enough to provide guidance in the planning of treatment but broad and adjustable enough to accommodate new research findings and theoretical perspectives.
11. Has an understanding and appreciation of the possible relations between a person's normal and abnormal speech behavior on the one hand, and their beliefs, upbringing, and cultural background on the other.
12. Has an understanding and appreciation of the basic processes of dynamic clinical interaction, such as transference, denial, grief, victimization.
13. Can communicate relevant ideas about stuttering to clients and their families.
14. Has a general working knowledge of psychopathology.
15. Has a general working knowledge of cognitive and behavioral learning theory.

In addition, the specialist in fluency should meet the guidelines listed below:

#### **IV. Specific Guidelines for Practice-Goals, Processes, and Competencies**

This section contains three parts. First, a list of goals, appropriate to the treatment of fluency disorders, is described. The criterion for including goals is that they be acceptable and desirable for speech-language pathologists to try to reach with clients with fluency disorders. These goals follow from the nature of fluency disorders, and it is expected that few will disagree with the choice of goals. Indeed, peer review of the guidelines revealed a broad consensus on the goals.

The philosophy of treatment that a clinician believes in will, of course, strongly determine which goals are considered most important. This list is intended to include all goals that are considered appropriate by all philosophies of treatment currently held by speech-language pathologists who treat people who stutter. The order of goals presented in this document does not reflect their order of importance.

It is recognized that certain goals may be desirable for (some) clients to reach but are nevertheless outside the scope of practice for most speech-language pathologists, e.g., psychotherapeutic goals unrelated to fluency, or parenting issues unrelated to a child's fluency.

The second part lists processes that are useful for achieving specific goals. The inclusion of processes in this list in no way mandates their use by clinicians. Some clinicians will rely exclusively on a few processes; others will combine many different processes. The list is an attempt to set down processes that are in widespread use by speech-language pathologists who treat stuttering.

The criteria for selecting processes combine empirical knowledge, theory, and common practice. For example, one goal is a reduction in the frequency of stuttering behaviors. Processes that have been shown empirically to reduce stuttering behaviors in a lasting way, for example, slowed parental speech rate for young stuttering children, have consequently been included. Another process, for example, instrumental extinction, might be included for more theoretical reasons. In some cases, either the empirical or the theoretical support is weak, and this weakness is pointed out in the document.

The third part identifies competencies—skills and knowledge—that clinicians can use to engage in the processes identified in part two. The criteria for inclusion in this list of competencies are simply logical. If the modification of cognitive structures that make it difficult for clients to think about their speech in a productive manner is a desirable goal, then cognitive restructuring is a useful process, and a competency in that technique is useful for clinicians to have. It is understood that not all clinicians will have all competencies, although it is expected that clinicians will continue to augment their current competencies through continuing education.

#### ***A. Assessment***

Desirable goals in the assessment of fluency disorders:

##### **Assessment Goal 1**

Obtain a speech sample that is as representative as possible of the client's speech in everyday use.

##### **Assessment Goal 2**

Obtain a sample of the client's speech under circumstances that are constant from one client to the next.

##### **Assessment Goal 3**

Generate, from obtained speech samples and incidental observations, quantitative and qualitative descriptions of the client's fluent and disfluent speech behaviors that can be related where applicable to vocal tract physiology, and that are communicable to other interested professionals.

##### **Assessment Goal 4**

Obtain information about variables that affect the client's fluency level and apply this to treatment planning.

**Assessment Goal 5**

Obtain information about a client's early social, physical, behavioral, and speech development, including information about variables that might be related to the origin of the disorder or its course of development, and apply this information to treatment planning.

**Assessment Goal 6**

Obtain information about variables that might influence clinical outcome and/or the prognosis for treatment and apply this to treatment planning.

**Assessment Goal 7**

Obtain information about other communicative problems or disorders that may or may not be related to fluency.

**Assessment Goal 8**

Generate descriptions of the results of assessment that are communicable to other professional and lay persons.

**Processes for achieving the goals of assessment***Processes for achieving Assessment Goal 1 — achieving a representative sample*

1. Observation and recording of the client's speech during an interview with the clinician about the client's stuttering disorder.
2. Observation and recording of the client talking to a relative or friend prior to meeting with the clinician.
3. Observation and recording of a child playing with parents after instructions to the parents to play with the child as they normally would at home (Family Play Session).
4. Tape recordings made by the client of conversations during daily activities at work, home, or anywhere.

*Processes for achieving Assessment Goal 2 — a speech sample from a constant setting*

1. Observation and recording of the client's speech in response to being asked to describe a standard stimulus picture.
2. Observation and recording of the client's speech while reading a standard passage aloud.
3. Observation and recording of the client's speech while the client plays a "barrier game"<sup>1</sup> with the clinician, or, preferably, with a third party.
4. Observation and recording of the client's speech during a structured interview, in which the clinician asks the same question of each client by referring to an interview form.
5. Observation and recording of the client's speech while performing a specific speech task, such as describing a job or a favorite activity or a school subject.

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<sup>1</sup> In the barrier game, the client and another person sit opposite each other at a table. A barrier is erected across the table so that the two cannot see each other. The client has to direct the other person in the assembly of, for instance, a puzzle, piece of equipment, or toy.

*Processes for achieving Assessment Goal 3 — quantitative and qualitative description of the client's fluency level*

1. Administering any of a variety of published tests of fluency, stuttering severity, attitudes toward stuttering and speech, self-efficacy as a speaker, situational fears, and avoidance behavior.
2. Administering any of a variety of systematic protocols for coding speech sample(s) so as to reflect the categories of disfluency, and the extent of fluency or nonfluency, and the presence and type of secondary behaviors.
3. Transcribing a speech sample verbatim in such a way as to accurately reflect all fluent and nonfluent speech behavior.
4. Identifying and counting the frequency of primary and secondary stuttering behaviors.
5. Measuring the duration of discontinuous and continuous speech elements.
6. Measuring speech rate (syllables per second with pauses included) and articulatory rate (syllables per second with pauses excluded).
7. Observing and recording behavioral and/or physiological measurements of oral, laryngeal, and respiratory behavior so as to relate specifically identified stuttering behaviors to possible vocal tract events and to assess the capacity for fluent speech production.
8. Describing qualitatively any of the nonmeasurable aspects of fluency, such as apparent level of muscular tension, emotional reactivity to speech or stuttering behaviors, coping behaviors, nonverbal aspects of stuttering behavior, or anomalies of social interaction such as poor eye contact, generalized low muscle tonus, poor body posture.

*Processes for achieving Assessment Goal 4 — assessing variables that affect fluency*

1. Developing and systematically testing hypotheses about variables that might affect fluency level, for example, talking slowly to a stuttering child to see if a measurable improvement in fluency can be obtained.
2. Interviewing the client or the client's family about social circumstances, words, listeners, sentence types, speech sounds, that improve or exacerbate fluency.
3. Playing videotapes or audiotapes of parent-child interactions to the parents of a child who presents with a potential or actual fluency disorder.
4. Conducting a variety of brief trial treatment procedures, such as delayed auditory feedback, whispering, rate modification.

*Processes for achieving Assessment Goal 5 — getting and using a developmental history*

1. Developing questionnaires or other written materials (e.g., fluency autobiography) designed to obtain potentially relevant background information.
2. Interviewing the client, the client's family, or others about developmental milestones of motor control, social-emotional behavior, speech and language, and cognitive level.

*Processes for achieving Assessment Goal 6 — getting and using prognostic information and information that will optimize treatment planning*

1. Administering tests or reading reports of others who have administered formal tests of intelligence, attitudes, motivation, comprehension, ability to take direction, or other prognostic indicators.



2. Making informal tests and observations related to intelligence, attitudes, motivation, comprehension, ability to take direction, or other prognostic indicators.

*Processes for achieving Assessment Goal 7 — getting and using information about coexisting problems*

1. Administering tests or reading reports of others who have administered formal tests of language, voice, articulation, psychoemotional function, learning disability, cognitive level, or auditory or visual deficits and using this information to plan for treatment and to provide prognostic information.
2. Making informal observations of language, voice, articulation, psychoemotional function, learning disability, cognitive level, or auditory or visual deficits, and using this information to plan for treatment and to provide prognostic information.

*Processes for achieving Assessment Goal 8 — communicating the results of assessment*

1. Writing reports of assessment processes designed to be read by physicians, psychologists, and other nonspeech-language pathology professionals.
2. Writing comprehensive reports of assessment processes designed to be read by the current or subsequent clinicians.
3. Reporting the results of assessment processes, formally or informally, to the client and/or the client's family/significant others.

**Clinician competencies related to assessment<sup>2</sup>**

1. Can differentiate between a child's normally disfluent speech, language-based disfluency, the speech of a child at risk for stuttering, and the speech of a child who has already begun to stutter.
2. Can distinguish cluttered from stuttered speech and understands the potential relationship between these two disorders.
3. Can relate the findings of language, articulation, voice, and hearing tests to the development of stuttering.
4. Can obtain a thorough case history from an adult client or the family of a child client.
5. Can obtain a useful speech sample and evaluate it for stuttering severity both informally by subjective impression and formally by calculating relevant measures such as the frequency of disfluency, duration of disfluency, speaking rate.
6. Is familiar with the available diagnostic tests for stuttering that serve to objectify aspects of the client's communication pattern (secondary features, avoidance patterns, attitudes, etc.) that may not be readily observed.
7. Is able to identify, and measure where feasible, environmental variables (i.e., aspects, such as time pressure, emotional reactions, interruptions, nonverbal behavior, demand speech, or the speech of significant others) that may be related to the onset, development, and maintenance of stuttering and to fluctuations in the severity of stuttering.

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<sup>2</sup> This list of competencies is an expanded and revised version of a list prepared originally by the Texas Speech and Hearing Association Fluency Task Force.

8. Can identify disfluencies by type (prolongation, repetition, etc.) and, in addition, can describe qualitatively the fluency of a person's speech.
9. Can relate, to the extent possible, what stuttered speech sounds like to the vocal tract behavior that is producing it (for example, recognizing the subtle acoustic cues that signal vocal straining).
10. Can, in appropriate consultation with the client or parents, construct a treatment program, based on the results of comprehensive testing, on the client's personal emotional and attitudinal development, and on past treatment history, that fits the unique needs of each client's disorder(s).
11. Can administer predetermined programs in a diagnostic way so that decisions with regard to branching and repeating of parts of the program reflect the unique needs of each client's disorder(s).
12. Can explain clearly to clients or their families/significant others what treatment options, including the various types of speech treatment, medication, devices, self-help groups, and other forms of treatment are available, why they may or may not be appropriate to a specific case, and what outcomes can be expected from each, based on knowledge of the available literature.

### ***B. Management***

Desirable goals in the management of fluency disorders:

#### **Management Goal 1**

Reduce the frequency with which stuttering behaviors occur without increasing the use of other behaviors that are not a part of normal speech production.

#### **Management Goal 2**

Reduce the severity, duration, and abnormality of stuttering behaviors until they are or resemble normal speech discontinuities.

#### **Management Goal 3**

Reduce the use of defensive behaviors.<sup>3</sup>

Note that when clients use avoidance behaviors that are successful (in that they avoid stuttering behavior) they will appear to have made progress toward Management Goal 1, but in fact will have done so by including some additional, and abnormal, behavior. For example, clients who are able to change words so as to avoid saying a word that they will stutter on will have a reduced frequency of stuttering behavior, but they will also have an increased frequency of cognitive behaviors involved in the search for and retrieval of substitute words.

#### **Management Goal 4**

Remove or reduce processes serving to create, exacerbate, or maintain stuttering behaviors.

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<sup>3</sup> Defensive behaviors are behaviors performed so as to prevent, avoid, escape from, or minimize aversive events, real or imagined (Bandura, 1969). A somewhat broader category than avoidance behaviors, defensive behaviors include also struggled stuttering behavior, trying to force a word or sound out, rushing through a phrase so as to "get past" the stuttering.

In children, this might entail modification of the child's parents' behavior so as to reduce maladaptive reactions to the child's stuttering behavior. In adults it might include teaching the client how to change his or her listeners' behavior. In some cases, there may be reinforcement for stuttering, such as excuses for failure, or getting attention that is otherwise not forthcoming. In other cases, denial may prevent an adult from perceiving the extent to which stuttering affects his or her life.

**Management Goal 5**

Help the person who stutters make treatment (e.g., adaptive) decisions about how to handle speech and social situations in everyday living.

This includes such things as helping the client learn how to respond to people who try to talk for him or her, or helping the client learn not to use behaviors that avoid, rather than confront, specific social situations such as using the telephone, ordering in a restaurant, or helping the client learn that changing words costs something in personal self-esteem. This also includes teaching the client how to politely influence listeners' behavior so that the client's fluency can be improved.

**Management Goal 6**

Increase the frequency of social activity and speaking.

Clients who have adopted reticence as a strategy to deal with stuttering will need help in regaining a normal amount of social speech.

**Management Goal 7**

Reduce attitudes, beliefs, and thought processes that interfere with fluent speech production or that hinder the achievement of other treatment goals.

In some adults this might involve modifying their attitude toward very brief stuttering behaviors so as to prevent stuttering from returning at a later date. Similarly, certain attitudes toward fluency and disfluency, or beliefs about these attitudes, can maintain stuttering behaviors, for example, perfectionist fluency, abhorrence of normal disfluency, rigidity in speech behavior. Some clients may have attitudes toward themselves that serve to exacerbate or maintain stuttering behaviors, for example, low self-esteem, lack of confidence, or feelings of worthlessness.

**Management Goal 8**

Reduce emotional reactions to specific stimuli when these have a negative impact on stuttering behavior or on attempts to modify stuttering behavior.

For example, fear of specific social situations, word fears, a sense of intimidation by specific categories of listeners, a sense of helplessness or fear of specific speech tasks, such as answering the telephone or asking questions in class, or a fear of the embarrassment of stuttering in public. This should not be confused with the reduction of defensive behavior, which is one kind of reaction to these fears. Both fear reduction and defensive behavior reduction can be appropriate.

**Management Goal 9**

Where necessary, seek helpful combinations and sequences of treatments, including referral, for problems other than stuttering that may accompany the fluency disorder, such as, cluttering, learning disability, language/phonological disorder, voice disorder, psychoemotional disturbance.

**Management Goal 10**

Provide information and guidance to clients, families, and other significant persons about the nature of stuttering, normal fluency and disfluency, and the course of treatment and prognosis for recovery.

In addition, help clients and families/significant others understand the nature of past treatment and the availability and possible utility of other options, including other forms of treatment, devices, and self-help groups.

**Processes for achieving the goals of management**

It is not the intention of this document to assert that all processes should be used with all clients. A process for reducing excitement is useful only with a client whose fluency is adversely influenced by excitement. For each client, clinicians choose a set of appropriate goals, based on a careful evaluation of the client. Having established what are appropriate goals for a client, a selection of processes to achieve these goals is made. At times during treatment, both goals and processes should be re-evaluated, and after treatment, it is likewise appropriate to review the selection of goals and processes and evaluate them with regard to the outcome of treatment.

Note that processes are not exactly the same as techniques. There might be several techniques for engaging in a particular process. For example, one process mentioned below is “Identify reinforcers for stuttering.” A clinician could engage in this process by interviewing clients and asking what happens after they stutter, or spend some time with clients, observing them in real speaking situations, or interview people who know the clients well, such as parents, siblings, or partners. Each of these techniques would or could result in the identification of reinforcers that are contingent on stuttering behavior.

Note that referral and consultation are processes that may be used to achieve goals.

*Processes for achieving Management Goal 1-Reducing the frequency of stuttering behaviors*

## 1. Fluency-shaping approach:

- a. Slowed rate of speech movements.
  - typically taught in stages of speed (e.g., Rate I, Rate II, and Slow-Normal Rate)
- b. Easy onset of voicing.
  - slow inhalation
  - soft but true voice changing to full voice before vowel initiation
  - practice in order to shorten the time taken up by the onset of voicing period
- c. Blending, or continuous voicing.
- d. Light articulatory contacts.
- e. Smooth, slow speech movements.

- f. Use of computer-assisted feedback to train clients in fluency — producing coordinated speech production movements.
2. Vocal control treatment approach.
  - a. Better vocal tone, breath support, full resonance, efficient and relaxed voice, adequate loudness.
  - b. Typically accompanied by systematic desensitization.
3. Contingency management:
  - a. Combined reinforcement for fluent speech and mild, nonaversive punishment for stuttering behaviors.
  - b. Successive approximation (shaping) toward fluent speech.
  - c. Practice in a systematically sequenced series of steps from where fluent speech is easiest to achieve toward where fluency is more difficult to achieve, for example, through gradually increasing the length and complexity of an utterance, or through a hierarchy of feared social situations.
  - d. Use of fluency-enhancement, in the clinic, or via a wearable device, may be a useful way to establish the behavior in the first place.
  - e. Use of computer-assisted devices to ensure rapid and consistent feedback.
  - f. Systematically administered reinforcement for more natural-sounding speech.
4. Reduction of speech-associated anxiety:
  - a. Systematic desensitization to social situations.
  - b. Desensitization to the experience of stuttering (confrontation).
  - c. Pseudostuttering (voluntary stuttering, or faking).
  - d. With children, through counseling parents, reduction or removal of as many anxietyproducing events as possible.
5. Reduction of speech-associated excitement:
  - a. With children, through counseling parents, reduction of as many exciting events as practical and reasonable.
6. In prevention, training parents to speak more slowly but with normal intonation, timing, and stress patterns.
7. In prevention, training parents to talk less often, and with simpler language, to interrupt less often, and to ask fewer questions requiring long complex answers.

*Processes for achieving Management Goal 2-reducing the abnormality, severity, or duration of stuttering behaviors*

1. Disfluency shaping:
  - a. Help the client learn ways to be disfluent in a more normal way.
  - b. Remove, through modeling and practice, one behavior at a time until disfluencies are normal in type.
2. Muscle tension reduction:
  - a. Reduction of oral and vocal muscular tension during speech.
    - slowed rate and rate control
    - direct suggestion to reduce muscle tension in specific parts of the vocal tract
    - referrals for the possible use of medication to achieve muscle relaxation

- attitude modification via techniques described below
3. Repair treatment:
    - a. Teach client the various types of speech sounds and how they are fluently produced.
    - b. Teach client the types of stuttering behaviors used by client.
    - c. Teach client types of repairs — ways of changing from the stuttered to the nonstuttered type of production.
    - d. Practice repairs in different environments.
    - e. Work on one or two specific sounds or sound category at a time.
  4. Stuttering modification sequence:
    - a. Post-block modification, or cancellation.
    - b. In-block modification, or pull-out.
    - c. Pre-block modification, or preparatory set.
  5. Counterconditioning techniques:
    - a. Associating stuttering with pleasant events, for example, “reinforcement” for stuttering, or tag game.
    - b. Voluntary stuttering.
  6. Confrontational (nonavoidance) techniques:
    - a. Discussion with the client of specific behaviors, the circumstances under which they occurred, and the variables that may have influenced them.
    - b. Listening to clients or watching audio or videotapes of themselves with them while speaking and discussing specific behaviors and reactions with them.

*Processes for achieving Management Goal 3-reducing defensive behaviors*

1. Extinction of defensive behavior:
  - a. For secondary (avoidance) behavior:
    - direct instructions to stop performing the secondary behavior, accompanied by an alternative to stuttering behavior, for example, in-block modification (pull-outs), or slowed speech, or monitored vocalization
    - punishment (time-out, response cost or other nonaversive punishment only) accompanied by an alternative to stuttering behavior
  - b. For primary (escape) behavior, that is, struggled disfluency:
    - stuttering modification sequence of post-block, in-block, pre-block modification
    - modeling stuttering that is easy and free of struggle, then reinforcing the client for disfluency that is less struggled
    - direct suggestions, accompanied by cuing and reminders
    - discussions about the client's stuttering pattern, approaching feared situations, to toughen attitudes toward stuttering
2. In prevention, training parents in the relaxed production of occasional disfluencies that are normal for their child's age.

*Processes for achieving Management Goal 4-removing processes that may be maintaining stuttering behaviors*

1. Instrumental (operant) conditioning:
  - a. Identify reinforcers for stuttering.
  - b. Remove conditions in the environment, including in the client's “internal environment” that are reinforcing stuttering or defensive behavior.

2. Defensive counterconditioning:
  - a. Identify aversive consequences for stuttering.
  - b. Identify stimuli, or constellations of stimuli (situations) associated with or predictive of aversive consequences, as in a hierarchy of speech situations.
  - c. Identify behaviors that terminate or avoid the aversive consequences.
  - d. Provide experiences for the client in which the conditioned stimuli occur, but the avoidance behaviors are NOT performed and no aversive consequences follow.
  - e. Help client learn how to handle pressure situations while still using newly learned fluency skills.
3. Vicarious conditioning:
  - a. Identify speech models who are reinforced for stuttering, or who avoid stuttering or try to avoid stuttering (i.e., use defensive behavior), or who demonstrate negative emotional reactions to disfluency.
  - b. Counsel, train, or modify the behavior of these models so as to remove or reduce the occurrence of vicarious conditioning.
4. Environmental manipulation:
  - a. Alter the client's environment, external or internal, so as to remove any conditioning process that is exacerbating or maintaining stuttering behavior:
    - by counseling significant others
    - by counseling the client
    - by providing for experiences that will alter attitudes or beliefs that result in deleterious conditioning processes.

*Processes for achieving Management Goal 5-helping clients learn how to make decisions about everyday speaking situations*

1. Identification of specific decisions about social behavior that may affect fluency, for example, deciding to let a colleague answer the phone even though the client is closer to it.
2. Counseling, including sensitive explanations about how decisions based on defensive reactions serve to increase fear and decrease selfconfidence.
3. Identify, with the client's help, attainable behavioral goals for more effective decisionmaking.
4. Plan activities that will provide opportunities for the client to make better decisions.
5. Reinforce client for making decisions that are more conducive to speaking fluently and with confidence.
6. Help clients foresee the natural consequences of their decisions to use or not use learned treatment techniques in day-to-day activities.
7. Attendance in a support group with other people who stutter.

*Processes for achieving Management Goal 6-increasing social activity and speaking behavior*

1. Provide reinforcement for entering speech situations previously feared.
2. Encouragement and reinforcement for talking more often and in a wider variety of situations, structured hierarchically from least to most stressful or intimidating.
3. Encourage client to participate in a self-help group.

4. Use of a fluency-enhancing device to make possible social activity that would otherwise be too intimidating for the client.

*Processes for achieving Management Goal 7-improving self-esteem or revising a perfectionist attitude toward speech*

1. Counsel the client so as to provide for successful experiences of any kind.
2. Counsel the client so as to provide for successful speech experiences.
3. Validation of the client as a person and speaker:
  - a. Listen to the client and demonstrate appreciation of the client as a person.
  - b. Listen to the client and validate aspects of speech that are unrelated to fluency, through expressed appreciation for aspects of the client's speech that are normal or superior, e.g., voice quality, expressiveness, word choice, articulation.
  - c. Listen to the client and validate fluency, where appropriate, by expressed appreciation for stuttering behaviors that are less struggled or less abnormal.
  - d. Transfer similar listening skills to client (self-listening).
4. Provide for increased attention from significant others.
5. Help client attain better identification of self through support group or other activities.
6. Provide for increased tolerance of failings through counseling, modeling.
7. Positive self-talk and affirmation training.

*Processes for achieving Management Goal 8-reducing negative reactions to stuttering and social situations that have included stuttering in the past*

1. Confrontational desensitization to stuttering events:
  - a. Talk about stuttering with the client in an objective way.
  - b. Have clients learn, through self-demonstration, that speech improves when they “give permission to stutter” or stutter on purpose.
  - c. Stuttering on purpose in the clinical setting.
  - d. Stuttering on purpose in real situations.
  - e. Keep a record of situations in which clients have stuttered on purpose or allowed themselves to stutter.
2. Desensitization to anxiety-provoking speech situations:
  - a. Traditional systematic desensitization:
    - constructing a hierarchy of feared words, listeners, and situations
    - inducing a physically and emotionally relaxed state
    - imagining feared situations while in a relaxed state
    - imagining oneself talking to feared listeners while in a relaxed state
    - imagining oneself producing feared words while in a relaxed state
    - imagining oneself stuttering while in a relaxed state
    - testing the effects of these experiences in real situations
  - b. in vivo systematic desensitization:
    - ...feared words, listeners, and situations



- systematically talking in real life situations, starting with the easiest elements in the hierarchy, and gradually increasing the level of difficulty. A fluencyenhancing device may provide a place to begin this process, although it will be important to wean the client from the device so as not to create a dependency on it.

*Processes for achieving Management Goal 9-dealing with coexisting problems:*

1. Referral to other professionals with regard to psychoemotional or learning disability problems.
2. Team treatment with other speech-language pathologists so as to work simultaneously on language, phonological, or voice problems.
3. Sequencing treatment so as to deal with one problem at a time. Usually this means postponing work on language, voice, or articulation until fluency is under control, but sometimes it means postponing work on fluency until some progress is made on the other disorder, for example, improved intelligibility.
4. Designing treatment plans that deal simultaneously with stuttering and coexisting problems.

*Processes for achieving Management Goal 10-providing information to significant others:*

1. Direct counseling of parents, spouses, siblings, and others.
2. Bibliotherapy for parents, spouses, physicians, psychologists, and others.
3. Use of audio and videotape to present to clients and the parents of clients examples of specific behaviors and reactions.
4. Provide information about other treatment approaches, treatment devices, self-help and consumer advocate groups.
5. Provide information about third-party payment options.

**Clinician competencies related to management**

1. Is familiar with the appropriate goals of treatment and the processes for achieving them and can engage these processes, choosing techniques that are best for the client, and administer them with an attitude that balances the goal of normal speech with a tolerance for abnormal speech.
2. Has flexibility in choosing and changing the level of difficulty of tasks based on fluency level of the client.
3. Can teach clients to produce vocal tract behaviors that result in normal sounding speech production.
4. Has sufficient counseling skills so as to interact with clients of all ages and develop a reasonable set of expectations in the client.
5. Has a thorough understanding of, and knows how to put into practice, the principles of conditioning and learning so as to achieve a successful and appropriate modification of speech behavior.
6. Understands the relations between stuttering and other related disorders of fluency, such as cluttering, neurogenic and psychogenic stuttering, as well as disorders of language, articulation, learning, and so on, and can with flexibility identify sequences and combinations of treatment options that are helpful to the client.
7. Understands the dimensions of normal fluency and the relation of normal fluency to speech situations and is able to work toward normal speech, with an awareness of the compromises among effort, fluency, and natural-sounding communication.

8. Understands that some stuttering behaviors may be reactions to other stuttering behaviors and knows how to plan treatment to account for this.
9. Can evaluate available treatment programs with regard to treatment application for a wide variety of clients.
10. Is able to decide, based on objective progress, motivational level, and cost in time and money when it is appropriate to terminate treatment.
11. Is aware of the continuous nature of fluency and can identify subtle changes in speech or other behaviors related to treatment change and explain their importance to the client.
12. Can explain stuttering and treatment for stuttering to lay persons, such as day care workers, teachers, baby sitters, grandparents, and others who may influence the life of children who stutter.
13. Knows how to develop a plan for assessing objectively the efficacy of treatment in an ongoing way.
14. Can recognize problems that are treated by professionals other than speech-language pathologists and can guide a client to acceptance of an appropriate referral.

### ***C. Transfer and Maintenance***

Desirable goals in the transfer and maintenance of acquired fluency behaviors

#### **Transfer and Maintenance Goal 1**

Generalization of the behavioral changes learned in the treatment setting to speech situations in the client's everyday life.

#### **Transfer and Maintenance Goal 2**

A sense of committed interest and self-reliance on the part of clients in managing their own speech behavior, balanced against an awareness of the need for occasional help (professional or otherwise) as needed.

#### **Transfer and Maintenance Goal 3**

Ability on the client's part at recognizing the earliest signs of returning emotional reactions and/or stuttering behaviors and knowledge and skill for dealing with these occurrences.

#### **Transfer and Maintenance Goal 4**

In parents, knowledge and skills needed to facilitate their child's further development of fluency.

#### **Processes for achieving transfer and maintenance goals**

*Processes for achieving Transfer and Maintenance Goal 1—generalization of behavior to external settings.*

1. Variation of speech use within the treatment setting.
2. Role-playing of social interactions while using new behaviors.
3. Hierarchically structured practice in the client's everyday life, monitored by the clinician via tape recordings and/or interviews.
4. Continued practice in the treatment setting.
5. Use of self-help and support groups.

*Process for achieving Transfer and Maintenance Goal 2—self-reliance and commitment.*

1. Counseling clients to assist themselves in taking over the process of decision making in treatment.
2. Providing exercises for the client designed to increase skills at self-evaluation and self-treatment planning.
3. Gradually reducing the clinician's input in making decisions about treatment.
4. Gradually decreasing the frequency of contact between clinician and client.
5. Use of self-help and support groups.

*Processes for achieving Transfer and Maintenance Goal 3—self-monitored maintenance.*

1. Practice self-listening and identification of stuttering behaviors, even brief or barely noticeable ones.
2. Counseling and training in the modification of brief and barely noticeable stuttering behaviors.
3. Counseling and training at recognizing changes in client's attitude, specifically increasing tendency to avoid speech situations and/or stuttering.
4. Use of self-help and support groups.

*Processes for achieving Transfer and Maintenance Goal 4—parent facilitation of child's fluency development*

1. Counseling and training families in recognition of subtle signs of returning struggle.
2. Desensitization and empowerment of parents so as to reduce anxious reactions to signs of returning struggle behavior.
3. Training parents and other family members in skills useful in providing a fluency-enhancing atmosphere.
4. Use of family support groups.

#### **Clinician competencies related to transfer and maintenance**

1. Is aware of the principles of stimulus generalization and response transfer.
2. Has knowledge of, and can implement a variety of procedures to achieve transfer and maintenance of behavior changes achieved in the clinical setting.
3. Can, through guidance and counseling, help clients develop an attitude toward maintenance that includes an understanding of their own responsibility for their speech yet permits occasional booster session (e.g., the dental model) and that tolerates failure yet appreciates success.
4. Can help the client develop an awareness of the subtler forms of (returning) abnormality and know how to deal with them in a variety of ways, such as the use of home practice, graded hierarchical practice in social situations, and support groups.
5. Knows how to counsel parents regarding changes they can make at home that will facilitate their child's fluency development or encourage the generalization of gains made in treatment.

#### **Reference**

- Prins, D. (1970). Improvement and regression in stutterers following short-term intensive therapy. *Journal of Speech and Hearing Disorders*, 35, 123–135.