

Intermittent Auditory Imperception:
Clinical Characteristics and Implications for Treatment

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Partial or intermittent auditory imperception refers to a random fading in and out in comprehension performance. Schuell (1964, 1974) indicated that partial auditory imperception rarely occurred in isolation but usually occurs in conjunction with aphasia. She described these patients (in her Minor Syndrome A category) as having severe involvement of the auditory processes with defective acoustic feedback. The variety and unpredictability of responses exhibited by aphasic individuals with concomitant intermittent auditory imperception poses a dilemma for the aphasia clinician. Brookshire (1974) has appropriately pointed out the difficulty in differentiating intermittent auditory imperception from other auditory processing deficits. He suggests that refinement of procedures to adequately measure and describe specific processing deficits could eliminate the term intermittent auditory imperception from the literature.

From a practical standpoint it is reasonable to assume that clinicians will continue to confront "imperceptive" patients who, within a short time period, respond correctly, respond to only a portion of a message, respond as if they have heard a different message, or respond as though they were deaf. A lack of information relative to systematic management of such problems suggests that some attempt to clarify, describe, and devise therapeutic principles for imperceptive patients is warranted. The purposes of this paper are to describe some of the speech, language, and behavioral characteristics of aphasic patients with intermittent auditory imperception, to propose a hypothetical model which might explain the deficit, and to present some suggestions for the management of these individuals.

Within the context of this paper, intermittent auditory imperception is defined as "variability in auditory-verbal comprehension ability in the presence of essentially normal hearing sensitivity." The problem accompanies aphasia and probably occurs more frequently than has previously been documented in the literature. This material is primarily based on observations and reviews of records of patients seen at Portland Veterans Administration Hospital for the past seven years. It should be understood, however, that this information represents but one, rather speculative view of intermittent auditory imperception.

Speech and Language Behavior. The imperceptive patient is one of the most difficult to objectively evaluate. Some common observations when one approaches these individuals are that they appear not to listen, talk a great deal, and do not monitor their speech. Verbal output may reflect paraphasia, unintelligible jargon, or simple repetitive propositional utterances. Generally such patients are poor test takers, especially when

performance depends on the ability to process changes in test instructions as the examiner moves from task to task. Such patients tend to do better on tasks which require minimal instruction, such as naming, reading aloud, or following written instructions when they control the presentation rate. They may complain of not hearing well, ask for repetition of instructions, or become angry with the examiner for not speaking in such a fashion that they can understand. At severe levels, imperceptive aphasic patients have trouble with simple tasks such as matching, pointing to objects, and repeating, but may demonstrate on a non-demand basis that they can perform these tasks. They often repeat accurately but may look surprised as if they have not understood what they have said. Similarly, they may read material aloud but fail to grasp its meaning. In general, imperceptive patients receive low scores on standard aphasia test batteries and fall at the lower end of the continuum in any unselected sample of aphasic patients.

During an informal conversation, the imperceptive patient has greatest difficulty following changes in topic. He may focus on a particular topic and be unable to talk about anything else. Often he seems to monopolize conversations and responds to the statements of others with a dull "yeah" or "uh-huh" as if he were an inattentive listener. More successful responses center around everyday situations such as having coffee, greeting people, and personal concerns such as finances. When the clinician attempts to enhance the patient's comprehension by re-clarifying what has been said the response may reflect an attitude of "why didn't you say so in the first place?"

A Hypothetical Model Underlying Intermittent Auditory Imperception.
We might now consider a model which may describe, behaviorally, the auditory experiences of the aphasic patient with intermittent auditory imperception. This model suggests that both transmissive and central processing problems are implicated in the patient's auditory verbal comprehension deficit. Centrally, the patient, because of his aphasia, might be experiencing something similar to what one might undergo should he have taken a year of Russian and then found himself exposed to people speaking Russian. He would pick up a familiar word or two amidst a stream of fluent Russian, but before he could attach meaning to the word, relate it to the rest of the utterance, or distinguish it from similar sounding words, the speaker would have gone on to something else and the listener would be left imperceptive. With exposure to the language, or in the event of recovery by the patient, what might occur? Hopefully the individual would learn to attach meaning, differentiate newly learned symbols, master syntactic structure and improve his understanding of Russian.

A transmissive problem suggests that verbal messages are somehow masked or blocked at some level in the system, as if by a screen. The severity of the problem might then depend on the extent to which the mesh of this screen were filled and messages were prevented from reaching the higher auditory centers for processing. Adequacy of responses to auditory-verbal stimuli could be influenced by alterations in the presentation of stimuli which facilitated or inhibited information passing through the screen. Some of these could be physiological or psychological conditions. If this were a permanent problem one would expect the patient to continue to vary in his responses. Improvement might result from therapy or from persons in the environment deciding how best to deliver messages, or from the patient developing his own set of techniques.

When the transmissive and central elements influencing the patient's

response to an auditory-verbal signal are combined, certain possibilities emerge which are helpful in understanding the patient's behavior. These are described in Table 1. In an essentially normal response the message is transmitted appropriately through the screen and processed centrally. The stimulus is "Are you cold?" and the patient replies "Yes I am cold." In the second example the signal is transmitted adequately, but not centrally processed. The stimulus "Are you cold?" is echoed back with little recognition of meaning. Subsequently the next example shows that the message could be transmitted intact but processed only partially by the central system. Thus, the patient in response to "Are you cold?" may delay and say, "Am I cold?" usually with a questioning look on his face. The fourth situation illustrates what might occur in terms of central processing when a signal is distorted in transmission. Here the redundancy of the message may prompt a related response. Finally, it is possible for the message not to be transmitted, which leaves the question of central processing open. Here the patient replies with an irrelevant response or fails to respond while showing awareness that you are speaking to him.

Table 1. Examples of responses from aphasic patients with intermittent auditory imperception.

	<u>Stimulus</u>	<u>Response</u>
+ +	"Are you cold?"	"Yes, I am cold."
+ -	"Are you cold?"	"Are you cold?"
+ -	"Are you cold?"	"Am I cold?"
- +	"Are you cold?"	"It's so cold today."
- -	"Are you cold?"	No response or irrelevant response

Other possibilities certainly exist, but in general the reasons underlying intermittent auditory imperception are unclear at this time. The purpose in presenting this material is to provide a framework against which one can approach the problem in terms of what the patient might be experiencing so as to facilitate developing approaches to the management of these individuals.

Suggestions for Treatment. Many of the treatment suggestions for the aphasic patient with intermittent auditory imperception are similar to those used with other patient groups. There appear to be, however, some basic essentials implicit to the management of imperceptive clients. First, the clinician needs to identify and eliminate, when possible, variables associated with the patient being more imperceptive. Brookshire (1974) has suggested variation in comprehension by imperceptive patients may not be random but related to unspecified situational and physiological factors. Within this context a sudden change in the patient's listening environment may cause him to become more imperceptive. If, for example, the patient were actively engaged in an occupational therapy task and were suddenly taken to speech therapy, he might have a difficult time tuning in to the new situation. Similarly, when patients are in the process of dealing with personal problems they appear to be imperceptive to messages not related to

their immediate needs. In addition, some clinicians may present material in such a fashion that imperceptive patients have difficulty processing it. Accordingly the clinician's role becomes that of manipulating stimulus variables to insure optimum response from the patient.

As indicated above, a second essential is to provide the patient with something he can listen to which is within his level of responsivity. This involves manipulating the signal so that the likelihood of its being comprehended increases. The use of alerters, carrier phrases, vocal variations, and repetitions which help the patient "tune in" to the signal may be helpful. Towards this end it is important to be aware of the context in which material is presented. Thus if the patient is putting on a sweater, the clinician might stimulate with "Are you cold?" or "I like the color of your sweater" rather than "What did you have for breakfast today?" Since the patient's most successful responses relate to himself it is advantageous to secure as much history and information regarding his interests as possible. It is sometimes useful to have information germane to the patient's daily living needs in a small pocket notebook. This facilitates retrieval of information he may be unable to communicate verbally and enhances structuring of information for him. Schuell (1964) suggested that imperceptive aphasic patients may perceive visually presented material better than auditorially presented material. Initially, a combination of auditory and visual stimulation may be useful, with the latter systematically faded out. In stimulus-response situations, the clinician should be aware of the number of stimulations the patient can receive before he decreases performance and plan rest periods accordingly. He needs to assess whether his repetition of the stimulus assists the patient or creates "noise build up" (Brookshire, 1974) causing performance to drop. In the latter instance it may be necessary to ask the patient to move on to the next response. When the clinician provides directions it may be helpful to place the content words in significant places where the patient can respond to them. Imposed pauses prior to allowing the patient to respond (Yorkston, 1975) or inserted within the command (Salvatore, 1975) may be helpful in controlling the therapy situation. Accordingly rhythm or pace, organization, and routine in the therapy session would seem meritorious.

A final requirement in dealing with the imperceptive patient with aphasia is to stop him from talking and establish control of the therapy session. Excessive verbalization from the patient is fed back through his defective feedback system rendering selective listening difficult. Should the clinician let this continue, he may become so adept at interpreting the patient's disrupted speech that objective evaluation will be difficult. Control may sometimes be established by timing the patient out with silence until he stops talking. It may be advantageous to ask the patient to be silent and to look at the clinician for a "signal" to begin talking.

In summary, the "key words" in developing a therapeutic plan for imperceptive patients with aphasia would appear to be flexibility and innovation. As each new therapy session arises, the clinician must continually decide what he will do to put information into the patient's auditory processing system. In all probability there are a nucleus of patients who cannot profit from this approach and after thorough evaluation over time are not treatment candidates. For these individuals we need to develop ancillary systems or to educate persons in their immediate environments how best to make their world as meaningful as possible.

References

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