

## What the Neurologist Expects From the Clinical Aphasiologist

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I have been asked to discuss what the neurologist expects from the clinical aphasiologist. I am not able to speak for neurologists as a group because of the wide diversity of neurological opinion relating to speech therapy in aphasia. For that reason, I put the above question to 15 neurologists in my community. Here are their responses. Three neurologists indicated that they expect the speech pathologist to classify, quantify, determine prognosis, and to carry on an active program of therapy. Three others said that they refer only for testing and that they use the information provided by the speech pathologist in discussions of prognosis and management with the family and the patient. They rarely refer for treatment because of concern over costs, not only of speech therapy but of the entire medical diagnostic and management package. One said, "I call up a speech pathologist only when I have a troublesome patient or family. It is a very good way of getting someone who is not doing well off my back." Four other neurologists said that they never send their aphasic patients to speech pathologists because therapy simply does not work. They note that since there is a relatively rapid spontaneous recovery during the first several months after a cerebral insult, and that later on in the more chronic period not much can be done, there is really no rationale for speech therapy. Finally, four others indicated that they did not know what speech pathologists do. One said, "I don't know how to answer your question"; another said, "Tell me what a speech pathologist does, and I will tell you what I would expect of him."

The neurologists answering this question came from five separate training programs from different parts of the country, and were all in private practice. Most were associated with hospitals with active speech pathology programs. They were all very concerned about the cost of treatment, lack of clear, strong evidence for the effectiveness of speech therapy in aphasia, and many were puzzled and frustrated by the terminology which varied from speech pathologist to speech pathologist and from institution to institution. All were confused by the differing use of diagnostic terms, therapeutic philosophy, and mode of management among the speech pathologists with whom they dealt.

I am somewhat more optimistic and positive about the effects of speech therapy in aphasia. I believe that the speech pathologist is a valuable member of a team caring for the brain-damaged patient. I like to see aphasic patients enter therapy as early as possible, and I believe that the therapy should be as intensive as the general medical situation will allow. The speech pathologist is in an excellent position during the early stages of recovery not only to act as a patient advocate, but to obtain and fill in many of the historical details of the illness and background of the patient that the neurologist and nursing staff may not have been able to acquire. At times, this will have important implications in determining etiology and course of the disease. The speech pathologist is in an excellent position to detect and document subtle but definite trends in patient performance during the acute and subacute period. Very often changes in language and speech are the

only behavior that can be used for plotting the course of a particular illness. Thorough and reliable serial speech and language evaluations, then, will often aid in determining whether the disease is progressing, improving, is intermittent in nature and how fast it is moving along.

Aphasic patients sometimes get lost in the busy interaction between doctor, nurse, social worker, and other health care personnel during the acute and subacute period and during the time in which plans are being made for more chronic care. It is very often the speech pathologist who is in the best position to supply the necessary continuity of care. The hospital-situated speech pathologist is able to follow the patient from the more acute to the more stable states and to provide the required ongoing service that is so necessary. The patient and family begin to feel that they are indeed in the hands of an expert upon whom they can count during the many changes following cerebral insult.

There are some problems that appear to arise in the relationship of the neurological community to speech pathologists. Many neurologists feel that speech pathologists should have more understanding and appreciation of the medical model of behavioral change due to brain damage. For instance, knowing whether a particular cerebral lesion is frontal or occipital in location helps in the choice of language tests. Certainly patients should be given a routine core of speech and language tests, but important supplementary tests might be more rationally chosen if the medical model of aphasia were among the considerations. For example, a patient with infarction within the territory of the left posterior cerebral artery might be expected to have a reading disability out of proportion to other speech and language problems. There is much to be gained by knowing what to expect and in being prepared to look for unusual patterns of performance such as alexia or visual agnosia.

This includes knowledge of etiology. It is not sufficient to describe the patient as someone with a right hemiparesis and aphasia. Patients with hemorrhage improve at different rates than those with ischemic infarctions. Aphasia due to blunt head injury and brain tumor evolves differently from that caused by vascular lesions. It is important and will become even more important in the future to generate a full patient profile that will include a description of language and neuropsychological behavior, neurological status, lesion variables of place, size, and etiology, possibly dichotic listening patterns, and a variety of other variables that will help individualize the patient and determine specific therapeutic strategies. This is where the medical or neuroscientific model will be helpful. Some of the unexpected rapid recoveries previously attributed to idiosyncratic patterns of recovery in patients with standard middle cerebral artery strokes are now being linked to lesions in unusual locations such as the left thalamus or the left anterior medial frontal lobe.

It would be very helpful to all concerned if each speech pathologist would be willing to translate their own terminology to the system used by the referring neurologist, without either being threatened or assuming a threatening posture. It is certainly easy for any one of us to snow a colleague by using highly technical jargon. If we are rigid and defensive about our approach, no one benefits. Many of the terminological disagreements disappear when colleagues have a chance to sit down to talk about actual findings and engage in a meaningful dialogue.

Another concern of neurologists is the lack of strong documentation of the value of speech therapy in aphasia. The entire health care community is

becoming increasingly sensitive to the cost-effectiveness of diagnostic and therapeutic measures. Physicians spend many hours a week doing utilization reviews on hospitalized patients. They are required to document why the present level of care is necessary. Such reviews naturally raise the question of whether speech therapy is indicated from the point of view of cost-effectiveness. Hopefully in the near future, valid studies of the efficacy of speech therapy will be available to support the view that in most patients early and intensive speech therapy is important.

The future looks very promising for increasing interdisciplinary collaboration in the management of aphasic patients. Because of the ease of locating and determining etiology with computerized axial tomography, neurologists will have more time to give to the behavioral assessment of patients. Less time will be spent in deciding whether the deficit is due to a stroke or tumor and more time in determining what can be done for the patient. On the other hand, the speech pathologist will have to become more neuroscientifically involved. I believe that an introduction to neuroscience should be included in aphasiology training programs. This should consist of an introductory course similar to the type given to psychologists, first and second year medical students, and others interested in neuroscience. It would include anatomy, neuropathology, and elementary principles of neurology. I have met many speech pathologists very interested in the neurological basis of aphasia. Many have indicated that they have somehow felt cheated because their education did not include a good neuroscientific introductory course.

I believe that in the future, neurologists and neurosurgeons will be seeking the advice of speech pathologists in the evaluation of some of the newer neurosurgical techniques to improve cerebral circulation. These include carotid endarterectomies and anastomoses of superficial cranial arteries to cerebral arteries. These procedures are being performed in increasing numbers on patients with deficits due to cerebrovascular disease. The efficacy of these techniques must be validated. Will they improve the status of the stabilized aphasic patient? Should a stroke patient with a fixed deficit such as aphasia be operated on? The speech pathologist will be asked to predict language performance six, nine and twelve months in the future because the neurosurgeon will not want to operate on patients whose prognosis is dismal and who will be globally aphasic regardless of the type of therapy. The question will be, is there anything to salvage? Decisions of whether or not to operate may very well be based on predictions of recovery.

There is another area that does not relate directly to aphasia, but which should be mentioned. Most neurologists know relatively little about disorders affecting voice and articulation. They would benefit from working with a well-trained speech pathologist in this area, both from the diagnostic and therapeutic standpoints. Many neurologists do not have the terminology to describe abnormal voice and articulation problems. When the differential diagnosis depends on accurately distinguishing between differing forms of voice and articulation disturbances, the speech pathologist providing such a service will do much toward cementing firm relationships between the speech pathology community and neurologists.

Finally, I feel that we are on the verge of several breakthroughs in the area of plasticity of the brain and its potential for recovery after damage. For example, the use of biofeedback in hemiplegia has been used effectively in many cases. Operant conditioning in association with biofeedback has been very helpful in a variety of other neurological conditions once

thought to be invulnerable to treatment. Will such therapies be of any use in speech rehabilitation? Probably not, unless we are able to direct the stimulus and knowledge of response to areas of the brain which we want to train. In standard therapy, we engage both the damaged and undamaged parts of the brain simultaneously and have no way of selectively engaging areas potentially able to assume function. When we learn to reduce the noise and distortion contributed to the system by the damaged language zone, we may well be on our way to seeing significant gains in therapy. Therefore, I believe that everyone involved in rehabilitation of aphasic individuals should be opportunistic and be prepared to understand on a scientific basis the rationale for impending breakthroughs in this area. This will require active interdisciplinary cooperation between neurologists, neuropsychologists, and speech pathologists.