Assessment Based On Patient-Reported Problems

Speech-in-Noise Testing

By Lindsey E. Jorgensen and Jessica J. Messersmith

The standard of care are those practices within the clinical setting that should be completed. In audiology, examples include otoscopy and air conduction threshold testing. However, there are other assessments that should be part of our clinical practice to ensure comprehensive evaluation of hearing status. As audiologists, we not only diagnose hearing and balance disorders: we develop treatment plans for these disorders. To equip ourselves to do so, we must provide care that moves beyond a minimum step-by-step protocol, prescribing a piece of technology based upon the results of the minimum protocol, and sending the patient out the door. As a doctoring profession, we must provide personalized care to our patients through the selection and development of individualized evaluation, treatment, and care plans. There are innumerable objective and subjective assessments that could be employed in the audiology clinic to evaluate different aspects of an individual’s auditory performance. While minimum protocols play an important role in the clinical setting, the minimum protocol is not likely to provide a complete picture of the auditory performance of every individual. Inclusion of assessments beyond the minimum protocol allows for the discovery of more precise information about our patients’ hearing statuses, which is critical to providing high-quality care. Selection of additional assessments can be enhanced by listening to our patients’ concerns, and health and medical histories. Tailoring our test battery to the unique needs of the patients demonstrates the rehabilitative nature of our profession. Further, individualization of our test battery and resultant treatment plan ensures that the patients remain at the center of care, highlighting their role as
partners in their journey toward communication competence.

As previously stated, there are numerous assessments available that can provide very valuable information about an individual’s auditory performance. It could be argued that any of these tests should be completed with all patients. However, as clinicians, we know that time restraints and patient willingness preclude this all-inclusive approach. In practical clinical situations, where only a limited number of assessments can be performed, a thorough case history and discussion with the patient about their concerns and desires prior to testing can help direct the decision process of what testing should be completed. Across the majority of patients with hearing loss, one situation continues to arise as a priority for our patients—the ability to hear in the presence of background noise.

Since the birth of the profession of audiology, it has been shown that the most common problem reported by persons with hearing loss and those who use assistive technology is the ability to hear speech in noise (Hirsch, 1950; Carhart and Tillman, 1970; Dubno et al, 1984; Wilson et al, 2003). In 1970, Carhart and Tillman reported that those speech-in-noise situations that are just slightly annoying for those with normal hearing are disproportionately difficult for those with hearing loss. Throughout the literature, researchers and clinicians have been urging practitioners to implement speech-in-noise testing for appropriate assessment of communication difficulty in terms of word recognition ability in the presence of competing speech. In the July/August issue of Audiology Today, George Lindley (2015) reported on his clinical findings of completing speech-in-noise testing. Just as previous clinicians and researchers have reported, Lindley suggested that the information gained through speech-in-noise testing provided him invaluable information about his patients’ needs. It could be argued that he was not only getting important information about the patients’ speech perception performance, he was also validating the patients’ concerns which can build rapport by demonstrating that we are listening and understanding their specific concerns.

Evidence from published research has repeatedly shown that word recognition testing in quiet does not accurately predict performance in real-world settings. For example, Walden and Walden (2004) suggested that patient performance on speech-in-quiet testing only predicted half of the variability on a test of speech-in-noise ability. This suggests that for half of the patients, speech-in-quiet testing was not an accurate predictor for speech-in-noise performance. Furthermore, speech-in-quiet testing has little relationship with patient-reported satisfaction with their hearing assistive technology (Wilson et al, 2003). Trying to infer speech-in-noise ability through patient reports and performance on standard word recognition measurements in quiet does not provide adequate footing for a comprehensive care plan. Additionally, as the patient’s primary complaint when coming into the clinic is likely to be understanding speech-in-noise, not assessing it is a disservice to our audiologic practices.

Several surveys of audiologists have reported that less than half of audiologists and hearing instrument dispensers include a speech-in-noise test in their clinical protocol (Martin et al, 1998; Mueller 2003; Lindley 2006; Strom 2003). Although the most recent of these surveys was completed nearly a decade ago, anecdotal evidence suggests little has changed since then. So why are clinicians not including speech-in-noise?

Several possible factors have emerged. Most prominently, audiologists report that they don’t have time to complete such testing. Unfortunately, the validity of this concern is questionable given that many speech-in-noise measures require minimal time: about five minutes in many cases. These brief tests provide invaluable information about our patients that will help us meet their needs. The time it takes to administer the measure, explain the results, and integrate results into establishment of appropriate expectations is likely to be saved through a refinement in the treatment plan and resultant reduction in the number of return visits. In those cases where time restraints do not allow for an additional five-minute measure, there are other tests that audiologists typically perform that could be excluded if case history and other aspects of the test battery deem unnecessary (e.g., tympanometry in those cases with no middle ear or conductive hearing loss concerns). Selection of the assessments included in the test battery should follow the patients’ needs and address their concerns; this in turn will improve the patients’ perception of the clinician and the practice.

This leads directly into a second possible objection to completing speech-in-noise testing: reimbursement. Audiologists could be resistant to include tests that are not currently listed as reimbursable. Some current procedural terminology (CPT) guidelines suggest that the CPT code 92626 (evaluation of auditory rehabilitation status) could be used for speech-in-noise testing, but many insurance companies do not reimburse for this service, or require copious
A poor score on a speech-in-noise test could demonstrate the need for additional technology such as a remote microphone or FM system. As we all know, audiologists have more hearing assistive technology available to them than just hearing aids. While some will state that patients don’t want to spend more money on more technology, patients should be given the option and allowed to make their own decisions regarding additional technology to assist them in achieving their communication goals. In addition, results from speech-in-noise testing can be used as a counseling tool to establish realistic expectations. Our job as audiologists is to work with our patients to develop personalized care plans, through which we must provide all appropriate care options so they may make informed decisions. Speech-in-noise testing provides guidance for setting appropriate expectations and, in the end, is likely to enhance patient satisfaction.

Finally, some audiologists may fear that performing speech-in-noise testing will increase their need for referrals to other facilities for technology, such as a cochlear implant. With the expanding candidacy criteria for traditional cochlear implants and with the approval of the hybrid cochlear implant, non-implant audiologists may fear that they are going to lose their patients to the cochlear implant audiologists/centers. This viewpoint is where audiologists need to think collaboratively and keep their patients’ needs and best interests at the center of the care plan.

Our patients rely on us to provide appropriate information and adequate testing to meet their needs. Our goal is to provide quality patient care while effectively using our time. Many believe that adding more assessments to our test battery will decrease productivity and thus reduce the viability of the practice. While it is important to be diligent in our time management, it is also important to connect with our patients. It is a matter of ethics that we provide the best care to our patients. They have the right to expect it from all medical professionals. Listening to our patients ensures they will return their business to our practice. Think of this part of your marketing plan. Patient retention requires listening to the needs, and addressing the specific concerns, of each individual. As speech-in-noise ability is likely decreased in someone with sensorineural hearing loss, a test assessing the status of the patients’ ability in these situations should be routinely completed.

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**References**


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