

Hearing Screening in Older Adults

By: Donna McCabe, DNP, APRN-BC, GNP

New York University Rory Meyers College of Nursing

WHY: Hearing impairment is a common but under-reported problem among older adults. It is estimated that 1 in 4 adults over the age of 70 has a hearing impairment. Hearing loss is a very concerning issue as it has recently been found to be independently associated with cognitive decline in older adults (Lin et al., 2013). Hearing loss can also lead to miscommunication, social withdrawal, confusion, depression, and deterioration in functional status. Though the United States Preventative Service Task Force has not found significant evidence to recommend routine hearing screening in older adults, many professional organizations maintain the importance of screening. The American Speech-Language-Hearing Association continues to strongly advocate for screening as it is without risk and may yield positive outcomes. More research related to hearing loss and older adults is needed.

BEST TOOL: The Hearing Handicap Inventory for the Elderly Screening Version (HHIE-S) is a 10-item questionnaire developed to assess how an individual perceives the social and emotional effects of hearing loss. Comprehensive hearing examinations consist of evaluation for hearing loss, a physical impairment, and perceived disability. HHIE-S screens for the perceived disability and is a good place to start for hearing loss screening. The higher the HHIE-S score, the greater the handicapping effect of a hearing impairment. Possible scores range from 0 (no handicap) to 40 (maximum handicap). Referral to an audiologist is recommended for individuals scoring 10 points or higher on the HHIE-S.

TARGET POPULATION: The HHIE-S was designed to be used with non-institutionalized older adults in a variety of clinical and community settings. It is usually administered in a face-to-face interview. However, time constraints or a severe-to-profound hearing loss may preclude a face-to-face interview, in which case the HHIE-S may be administered by having the individual do a paper-and-pencil self-report.

VALIDITY AND RELIABILITY: The HHIE-S has been widely used since the early 1980's. Internal consistency reliability (Cronbach's alpha) was reported as 0.87 in a sample of 162 older adults presenting to a speech and hearing center. Test-retest reliability was reported at 0.84 ($P < .0001$). Sensitivity when compared to audiogram-defined hearing loss has been reported as 63-80% with a specificity of 67-77% (cutoff score ≥ 10). A cutoff score of > 24 yielded 88-98% specificity with a reduced sensitivity (24-42%).

STRENGTHS AND LIMITATIONS: The HHIE-S is available in many languages and may be completed in a few minutes. Although it cannot measure the amount of hearing sensitivity loss as detected by audiometric testing, it is effective at assessing the handicap effect of the hearing impairment on a person's everyday function and may identify individuals more likely to accept intervention. Since answers are self-reported, its use is limited to those individuals who are cognitively intact and can respond verbally or in a written form to the questions.

FOLLOW UP: The HHIE-S should be administered yearly during annual well examinations. Individuals should be referred to a hearing specialist for further assessment if the HHIE-S score is ≥ 10 points.

MORE ON THE TOPIC:

Best practice information on care of older adults: <https://consultgeri.org>.

American Speech-Language-Hearing Association (ASHA). Guidelines for Adult Hearing Screening. Available from www.asha.org/policy. Retrieved June 29, 2018 from <https://www.asha.org/PRPSpecificTopic.aspx?folderid=8589942721§ion=Overview>.

Lin, F. R., Yaffe, K., Xia, J., Xue, Q. L., Harris, T. B., Purchase-Helzner, E., Satterfield, S., Ayonayon, H. N., Ferrucci, L., Simonsick, E. M., and the Health ABC Study Group. (2013). Hearing loss and cognitive decline in older adults. *JAMA Internal Medicine*, 173(4), 293-299.

Milstein, D., & Weinstein, B.E. (2007). Hearing screening for older adults using hearing questionnaires. *Clinical Geriatrics*, 15(5), 21-27.

Newman C. W., Jacobson G. P., Hug G. A., Weinstein B. E., Malinoff, R. L. (1991). Practical method for quantifying hearing aid benefit in older adults. *Journal of American Academy of Audiology*, 2(2), 70-75.

Newman, C.W., & Sandridge, S.A. (2004). Hearing loss is often undiscovered, but screening is easy. *Cleveland Clinic Journal of Medicine*, 71(3), 225-232.

Pacala, J.T., & Yueh, B. (2012). Hearing deficits in the older patient "I didn't notice anything". *JAMA*, 307(11), 1185-1194.

U.S. Preventive Services Task Force. (2012). *Final Recommendation Statement, Hearing Loss in Older Adults: Screening, August 2012*. Retrieved June 29, 2018 from <http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/hearing-loss-in-older-adults-screening>

Ventry, I.M., & Weinstein, B.E. (1983). Identification of elderly people with hearing problems. *ASHA*, 25, 37-42.

Hearing Handicap Inventory for the Elderly Screening Version (HHIE-S)

Instructions: Please check “yes,” “no,” or “sometimes” in response to each of the following items. Do not skip a question if you avoid a situation because of a hearing problem. If you use a hearing aid, please answer the way you hear without the aid.

	Item	Yes (4 pts)	Sometimes (2 pts)	No (0 pts)
E	Does a hearing problem cause you to feel embarrassed when meeting new people?	_____	_____	_____
E	Does a hearing problem cause you to feel frustrated when talking to members of your family?	_____	_____	_____
S	Do you have difficulty hearing when someone speaks in a whisper?	_____	_____	_____
E	Do you feel handicapped by a hearing problem?	_____	_____	_____
S	Does a hearing problem cause you difficulty when visiting friends, relatives, or neighbors?	_____	_____	_____
S	Does a hearing problem cause you to attend religious services less often than you would like?	_____	_____	_____
E	Does a hearing problem cause you to have arguments with family members?	_____	_____	_____
S	Does a hearing problem cause you difficulty when listening to TV or radio?	_____	_____	_____
E	Do you feel that any difficulty with your hearing limits or hampers your personal or social life?	_____	_____	_____
S	Does a hearing problem cause you difficulty when in a restaurant with relatives or friends?	_____	_____	_____
TOTAL SCORE = _____ (sum of the points assigned to each of the items)				

E = Emotional; S = Social

Interpretation of score:

0-8 suggest no hearing handicap

10-24 suggest mild-moderate hearing handicap

26-40 suggest significant hearing handicap

0 to 8 = 13% probability of hearing impairment (no handicap/no referral)

10 to 24 = 50% probability of hearing impairment (mild-moderate handicap/refer)

26 to 40 = 84% probability of hearing impairment (severe handicap/refer)

Refer for additional hearing evaluation if score is ≥ 10 points

Reprinted with permission from Ventry, I.M., & Weinstein, B.E. (1983). Identification of elderly people with hearing problems. *ASHA*, 25, 37-42. Copyright 1983 by American Speech-Language-Hearing Association. All rights reserved.

The Hartford Institute for Geriatric Nursing recognizes Kathleen Demers as the original author of this issue.