

Phonak

Quick Practice Guideline●

Quick guide to the management of cognitive well-being in adults with hearing loss

This publication discusses the association between hearing loss and cognition and provides guidance to support holistic hearing management of older adults with normal cognitive aging through to dementia.

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Key highlights

- Audibility is integral to effective communication and essential to brain health. To age well, individuals must adapt to and compensate for changes in cognitive abilities which may impact speech understanding, a critical part of communication.
- Social engagement, along with use of some form of hearing technologies may serve a protective function for cognitive health.
- The Lancet Commission identified hearing loss as the largest potentially modifiable risk factor for dementia (Livingston et al., 2017 & 2020).

Considerations for practice

- Hearing care professionals are in a unique position to observe and recognize cognitive as well as functional change in their clients.
- With person-centered skills and management methods, hearing care professionals can help older clients to maintain their functional ability and support them in living an active and socially engaged life.
- Hearing interventions may facilitate improvements in communicative behavior and quality of life.
- Including care partners/family members can provide a better picture of the client's functional disabilities and chances of rehabilitation success.

¹ Sarant, J., Lemke, U., Giroud, N., Scherpiet, S., & Weinstein, B. (2023). Promoting hearing and cognitive health in audiological rehabilitation for the well-being of older adults. *International Journal of Audiology*, DOI: 10.1080/14992027.2023.2260099.

Introduction

Expert guidance is provided in a new publication by experts in Sarant et al., (2023). The following quick guide summarizes key take-aways from this publication and provides useful tools to support recommendations.

Cognitive aging is a natural, lifelong process that occurs in every individual. There are enormous differences between individuals in age-related cognitive changes and this variability demands a holistic client-centered approach to management.

Key messages about brain aging (GSA, 2020; adapted from Institute of Medicine, 2015).

- The brain ages just like other parts of the body.
- Cognitive aging is not a disease. It is a natural lifelong process that occurs in every individual.
- Cognitive aging is different for every individual.
- Some cognitive functions improve with age (e.g., wisdom learned from experience).
- Actions can be taken by individuals to help maintain cognitive health.

With person-centered skills and management methods, hearing care professionals can help their older clients to maintain their functional ability and support them in living an active and socially engaged life to protect their cognitive health.

Cognitive aging, cognitive impairment, and dementia

Cognitive aging involves slow cognitive changes which usually span over decades. Typical cognitive changes include:

- A general slowing in speed of information processing.
- Reduced capacity of working memory.
- Greater effort required for learning new information.
- Difficulties dividing or switching attention when processing parallel or interfering information.

Dementia is an umbrella term for a group of disorders, all of which affect the functioning of the brain. Different types of dementia include Alzheimer's disease, vascular dementia, fronto-temporal lobe dementia, and Lewy-body dementia. Although dementia is common in old age, it is not part of healthy aging. Currently, more than 55 million people live with dementia worldwide, and this number is expected to triple by 2050 (Alzheimer's Association, 2021) due to population aging.

Dementia interferes with the capacity for independence in everyday activities. The changes in cognition associated with dementia involve impairment of several higher order cognitive functions such as memory, learning, language, executive function, complex attention, perceptual-motor and/or social cognition. Symptoms can also include personality changes and behavioral and emotional problems (APA, 2013).

Association between hearing loss and cognitive decline

The recent Lancet Commission reports on dementia identified hearing loss as the largest potentially modifiable risk factor for dementia (Livingston et al., 2020; Livingston et al., 2017). Although not yet understood, there are several mechanistic theories underlying the association between hearing loss (HL) and dementia proposed:

- A common cause or pathological process for both HL and dementia affects the cochlea and auditory pathways as well as the cortex (Baltes & Lindenberger, 1997).
- Increased cognitive load due to HL causes impairment of cognitive function (Baltes & Lindenberger, 1997).
- Reduced environmental stimulation due to HL causes sensory deprivation, leading to cognitive decline (Baltes & Lindenberger, 1997).
- Altered cortical brain activity due to HL causes irreversible molecular degenerative damage in the brain (Griffiths et al., 2020).

It is likely that no one mechanism alone accounts for the link between hearing loss and dementia (Sarant et al., 2023).

Effects of hearing interventions on cognitive outcomes for older adults

Today, there is still controversy about the effects of hearing aid use on cognition. However, systematic reviews and meta-analyses conducted by the Lancet Commission suggested hearing aid use is protective of cognition (Livingston et al., 2020, Livingston et al., 2017).

The World Health Organization guidelines for risk reduction of cognitive decline and dementia still state, due to the poor quality of evidence on this topic to date, that 'there is insufficient evidence to recommend the use of hearing aids to reduce the risk of cognitive decline and/or dementia' (WHO, 2019).

Two recent studies incorporated longitudinal observations, best practice audiological management, controlled hearing interventions, and comprehensive cognitive assessments to provide more insight into the causal relationship between hearing loss and cognition.

- The **ACHIEVE** (Aging and Cognitive Health Evaluation in Elders) randomized controlled trial found that in older adults at increased risk for cognitive decline, hearing intervention slowed down loss of thinking and memory abilities by 48% over 3 years (Lin et al., 2023).
- The **ENHANCE** (Evaluation of Hearing Aids and Cognitive Effects) prospective cohort study found that comparatively, cognition at 3-year follow-up remained stable overall for hearing aid users but declined for the non-hearing aid user group (Sarant et al., 2023).

How to recognize cognitive decline that is not part of the normal aging process

With an aging population, an increasing number of clients will present with cognitive impairment. It is important to be able to recognize warning signs and early symptoms of cognitive impairment and to differentiate these from normal cognitive aging.

Recommendations include:

- Active listening and observation to identify cognitive problems that are not part of normal aging.
- Combining observations with taking notes.
- Explicitly asking about and then following up with client/family on any reported concerns (e.g., "During the past 12 months, have you experienced confusion or memory loss that is happening more often or is getting worse?").
- Using the client's own words to avoid misinterpretation.
- Asking for specific examples or situations.
- Providing clear and straightforward recommendations.

Proactive and person-centered hearing care including families and significant others

A proactive approach rather than a reactive approach could help to prevent many of the negative consequences of hearing loss in later life. Person-centered interventions should be aimed at optimizing functional ability, mitigating residual disability, and maximizing engagement and social participation (Clare et al., 2019).

Family members or significant others should be included to provide a better picture of the client's functional disabilities

and chances of rehabilitation success. This includes educating, sharing information, instructing on technology use, asking for their opinion of a hearing problem and any other changes they have observed in their interactions with the client.

Useful tools to include family members in client care:

- **Phonak Family-Centered Hearing Care Position Statement** to find strategies on how to include family and be inclusive of their needs (Singh et al., 2016).
- **Family-Centered Care** counseling tools to find counseling tools for working with family. [Hearing Aid Counseling Tools for Family-Centered Care](#)
- **Family-Oriented Communication Assessment and Solutions (FOCAS)** to get input from both the client and their family for the goal-setting process (Crowhen & Turnbull, 2018)

Hearing management: A multifaceted approach

Communication can be cognitively demanding for older adults with sensory loss and cognitive issues, and the management of these individuals can pose challenges.

A multi-faceted approach includes:

- Social prescribing and the use of hearing technologies to contribute to cognitive reserve.
- Alternative technologic strategies or non-technology driven alternatives to meet auditory and cognitive needs (Pichora-Fuller, Dupuis, Reed & Lemke, 2013).
- Setting realistic management goals/expectations which should include promoting safety at home (e.g., audibility of smoke alarm, doorbell).

Useful tools to incorporate a multi-faceted approach:

- **Phonak technology** to improve communication abilities.
 - [Phonak hearing devices and solutions](#)
 - [Phonak hearing aids](#)
 - [Roger™ wireless microphones](#)
- **HearingSuccess.com portal** to find online and digital auditory skills training tools to improve auditory skills through structured, repetitive listening exercises (<https://hearingsuccess.com/>).

- **Active Communication Education (ACE) program** to develop specific behavioral skills that improve the client's communication (Hickson et al., 2007).

Client-centered management goals for people with cognitive decline

Audibility is integral to effective communication, and cognitive impairment can impact the management goals for people with hearing loss.

Recommendations for client-centered management goals include:

- Monitoring hearing status regularly and revisiting hearing intervention goals as cognitive capacity changes, either with normal cognitive aging or cognitive decline as distinct from normal aging.
- Always emphasizing the interplay between psychosocial factors, individual factors, the social context, and how we communicate.
- Individualizing care focusing on the strengths, needs, and lifestyle of clients, from the perspective of the client and their significant other/partner (Dawes et al., 2021).
- Promoting effective and empathetic communication and adapting how you communicate according to the clients' needs.

For a case study that highlights the importance of recognizing and managing incipient sensory impairment and maximizing the client's ability to function despite a potential neuro-cognitive impairment, see the full publication.

Environmental manipulation training and communication strategies

Communication skills training for clients with sensory loss and cognitive impairment and their communication partner is integral to amplification success (Hickson, Worrall & Scarinci, 2007).

Examples of environmental manipulation include providing strategies to optimize the physical environment and supporting engagement in meaningful activities.

Aside from environmental manipulation, communication strategies can improve communication for those with hearing loss and cognitive impairment. These strategies include:

- Minimizing environmental distractions.
- Reducing background noise
- Maintaining eye contact to promote focus of attention.

- Using actions when speaking to illustrate the meaning of spoken information.
- Using short and simple sentences.
- Being positive, flexible, and encouraging.

Conclusion

This quick practice guide provides expert guidance in providing a holistic approach in addressing hearing loss and cognition in older adults to assist with maintaining functional ability that enables well-being from mid-life through to older age.

According to the full publication, hearing care professionals should be knowledgeable in:

- Effectively communicating the association between hearing loss and cognitive decline.
- Noticing individual changes in cognition and hearing care needs over time.
- Providing individualized hearing solutions.
- Auditory rehabilitation and person-centered care.

With the rising prevalence of dementia and other age-related diseases, it is increasingly important to develop a network of inter-disciplinary professionals to refer to and with whom to collaborate on holistic client rehabilitation management.

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