Canadian Coalition for
Adult Hearing Health

Coalition Canadienne pour la
Santé Auditive des Adultes

Hearing Health for Adults

This document provides the evidence and further details behind the recommendations in the one-page checklist for physicians.

Making hearing health a priority during brief visits has several potential benefits for physicians and their patients:

- Removing barriers to communication during the health care visit resulting in greater effectiveness and efficiency of the appointment and overall better health outcomes.
- Improving accuracy of clinical assessments that rely on oral communication, such as dementia and depression

Levels of evidence:
The suggested actions are labelled according to the GRADE level of evidence framework (https://bestpractice.bmj.com/info/toolkit/learn-ebm/what-is-grade/). Strong evidence indicates that multiple studies show the same effect. Weak evidence indicates evidence from only a few studies, or the results are mixed.

Level of evidence/ Action	Summary of evidence
Strong evidence for the following actions:	
Emergent: Requires ENT consultation within 24 hours	
Sudden hearing loss	Sudden hearing loss (SHL) is a rapid-onset hearing loss occurring over a 72-hour period. SHL can be conductive, sensorineural, or mixed in nature. Prompt identification and management of a sudden sensorineural hearing loss (SSNHL) is important because it may improve hearing recovery and quality of life. The American Academy of Otolaryngology guideline for sudden hearing loss guides clinicians on how to identify, assess, and treat patients with SHL with a focus on SSNHL. The guideline strongly recommends that clinicians should distinguish sensorineural hearing loss from conductive hearing loss when a patient first presents with SHL and complete or refer to a clinician who can obtain audiometry as soon as possible to confirm the diagnosis of SSNHL. Visit http://www.entnet.org/SHLCPG for more information.

Routine: Refer for audiology consultation	
Complaints by patient or family of hearing loss or communication difficulties	A patient indicating they think they have hearing loss is the single most significant predictor of actual hearing loss and should be investigated further.[1] Significant others (spouse, friend, close family) may recognize signs of hearing loss before a patient does.[2] Their concerns warrant further hearing testing.
Tinnitus	Tinnitus has a wide range of possible causes; any bothersome or unilateral tinnitus should be evaluated to determine whether medical intervention is needed, or whether management options such as cognitive-behavioural therapy, sound therapy, or hearing aids would help alleviate the suffering. Audiologists can perform a thorough assessment and are qualified to identify red flag conditions related to tinnitus that would warrant further medical investigation.
Mental health issues such as depression/anxiety/social isolation, particularly in older adults	Older adults with hearing loss experience feelings of loneliness and significantly greater depressive symptoms. They may feel stressed in their relationships because of the negative feelings such as frustration, impatience, anger, pity, or guilt that their communication partners experience when interacting with them.[3,4,5,6,7,8,9] The mental, social, and emotional consequences of untreated hearing loss is reported a strong underlying factor in reduced life satisfaction and can negatively impact the health-related quality of life in emotional and social coping.[10,11,12,13] The symptoms of hearing loss, depression, and social isolation can overlap, so it is important for differential diagnosis to consider each of these factors when a patient presents with the relevant symptoms.[14]
Symptoms of cognitive decline/dementia	A strong association has been found between untreated hearing loss and cognitive decline (e.g., Lancet commission).[15] A causative mechanism for this association has not yet been established and there is only tentative evidence that hearing aids offer some reduction in dementia risk. However, a hearing assessment should be conducted when dementia or cognitive decline is suspected. The symptoms of hearing loss can mimic or exaggerate cognitive decline and should be ruled out or treated to ensure a valid cognitive assessment.[16,17]
History of falls or vertigo	Researchers at the Johns Hopkins School of Medicine and the National Institute of Aging showed that hearing loss increases the risk of falls for older people, by a significant amount.[18]
Noise exposure	Acoustic trauma is a leading cause of preventable sensorineural hearing loss. There is evidence suggesting noise-induced hearing loss leads to decreased speech perception noise, tinnitus and vestibular dysfunction.[19]

Risk factors such as family history, immunodeficiency disease, type 2 diabetes, chronic kidney disease, viral infection	All these factors are associated with an increased risk of hearing loss. Any patient presenting with one of these conditions should be assessed by an audiologist. COVID-19 infections are associated with post-viral hearing loss, tinnitus, and vestibular symptoms.
Ototoxic medications	Many common medications have known effects on hearing, tinnitus, and balance. If a patient reports a change in hearing, tinnitus, or balance subsequent to a medication change, check for potential ototoxic effects. Look here for further details on ototoxic monitoring: American Academy of Audiology Position Statement and Clinical Practice Guidelines Ototoxicity Monitoring
Counsel your patients about hearing health care	
Discuss what might happen at the audiology appointment	The audiologist will conduct a thorough assessment of the patient's hearing and can determine whether additional medical intervention is necessary. The audiologist will discuss rehabilitation options, including hearing aids, communication strategies, tinnitus management, and balance assessment and management. If hearing aids or other assistive listening devices are recommended, the audiologist and client will work together to decide the best technology for the client's hearing and lifestyle.
Health risks associated with untreated hearing loss	Untreated hearing loss is strongly linked to social isolation and loneliness,[20] which both increase risk for poor health outcomes and mortality. Better hearing and communication will help keep people connected with social support to reduce the health consequences of isolation. Untreated hearing loss is associated with an increased risk of falls[18] and cognitive decline.[15] Treating hearing loss with hearing aids may lead to improvements in all these areas.
Weak evidence for the following actions:	
Consider Screening Tools for your clinic	
Questionnaires	Implementing hearing screening programs targeting older adults will increase rates of hearing loss detection and number of patients receiving hearing loss intervention.[21] The Hearing Handicap Inventory for the Elderly (Screening) (HHIE-S) is a recommended tool for use by physicians or other

	HCP. The questionnaire is available in many languages and can be completed in a little more than two minutes.
Screening Technology (e.g., apps)	There are several fast, easy and reliable techniques for hearing screening. Here are apps that can either be downloaded, mostly for free, to a tablet or smartphone. For example, Hearing Test, Shoebox, hearZA, uHear, NSRT Online Hearing Screening, and Medel Online Hearing Tests. All patients who do not pass the in-office screening should be referred to audiology for a complete assessment.
Other audiology referral criteria	
All patients age 65+ years	The Preventive Care Checklist, endorsed by The College of Family Physicians of Canada, recommends performing hearing screening on all adults age ≥ 65 yrs, based on the increasing prevalence of age-related hearing loss in this group. If the physician does not have the means to perform the screening, patients can be referred to audiology as part of their routine care.
Concerns about hearing-related safety in the home	Untreated hearing loss adversely impacts the safety of people living alone (i.e., reduced environmental awareness to alarms and alerting sounds, increase in balance problems and falls, association with dementia.) Assistive listening and alerting devices are crucial to maintaining independence. For seniors in particular, this can mean more years of aging in place.
Strong evidence against the following actions:	
Tuning fork tests	Significant variability exists in the reported test accuracy measurements of TFTs for clinical screening, surgical candidacy assessments, and estimation of hearing loss severity.[22]

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