



Five Things Physicians and Patients Should Question

1 **Don't order specialized audiometric and vestibular neurodiagnostic tests in an attempt to screen for peripheral vestibular disease.**

The diagnosis of the dizzy patient should be guided by the presenting symptoms and office examination. Tests such as ABR (auditory brainstem response), ECOG (electrocochleography), ENG/VNG (electronystagmography/ videonystagmography), VEMP (vestibular evoked myogenic potential), vHIT (video head impulse test), CDP (computerized dynamic posturography) and RCT (rotational chair testing) should only be ordered if clinically indicated. In general, advanced balance tests should be ordered and interpreted by otolaryngologists with specialized training in the diagnosis and treatment of vestibular disorders (otologists/neurotologists). Clinical indications for testing can include: side localization and stage of progression for Meniere's disease, assessment of central compensation for acute vestibular loss and confirmation of superior semicircular canal dehiscence syndrome. Specialized tests are rarely indicated in the management of benign paroxysmal positional vertigo.

2 **Don't perform computed tomography or blood work in the evaluation of a patient with sudden sensorineural hearing loss (SSNHL) given its presumed viral etiology.**

Blood work which typically would consist of a CBC, differential and electrolytes along with an autoimmune panel are often normal and would not change initial clinical management if abnormal. The CT scan which is done to rule out central causes is not sensitive enough to pick up most cases of retrocochlear pathology. MRI scans should be considered instead. If verified to be sensorineural with audiometric testing, urgent treatment with steroid therapy can be initiated. There is no role for antiviral treatment, thrombolytics or vasoactive substances.

3 **Don't perform auditory brainstem responses (ABR) in patients with asymmetrical hearing loss. Asymmetrical hearing loss is defined as bone conduction threshold difference of:**

- 20 dB threshold difference at a single frequency
- 15 dB threshold difference at 2 frequencies
- 10 dB threshold difference at 3 frequencies

If there is no obvious cause of the asymmetry such as unilateral trauma or unilateral noise exposure like gun blasts, a MRI should be ordered. MRI scans are superior in sensitivity for detecting retrocochlear pathologies such as vestibular schwannoma when compared to ABR testing.

4 **Don't use oral antibiotics as a first line treatment for patients with painless ear drainage associated with a tympanic membrane perforation or tympanostomy tube unless there is evidence of developing cellulitis in the external ear canal skin and pinna.**

First line therapy constitutes a short course of topical antibiotic/steroid drops. The potential ototoxicity of any topical medication entering the middle ear space should be considered in selecting an appropriate agent. Where available, fluoroquinolone combination preparations (e.g., ciprofloxacin and dexamethasone) should be used as a first choice and caution should be exercised in using topical aminoglycosides. Microdebridement and further assessment should be considered in the following circumstances: (a) failure to respond after a 7 day course, or (b) where follow up does not permit a clear view of a normal tympanic membrane allowing the exclusion of more sinister middle ear disease such as cholesteatoma.

5 **Don't perform particle repositioning maneuvers (Epley or Semont) without a clinical diagnosis of posterior semicircular canal benign paroxysmal positional vertigo in the affected ear.**

Posterior semicircular canal benign paroxysmal positional vertigo should be diagnosed and confirmed with a positive Dix-Hallpike test, and only then should a particle repositioning maneuver be performed. If a patient with positional vertigo has a Dix-Hallpike test that is repeatedly negative or results in atypical nystagmus, less common BPPV variants or central positional vertigo should be considered.

How the list was created

This list was created by the Otology & Neurotology subspecialty group of the Canadian Society of Otolaryngology – Head & Neck Surgery. Members of the group, representing the national leaders within the subspecialty were asked to create a list of recommendations for unnecessary tests that were seen to be commonly ordered or unnecessary interventions that were commonly performed. These unnecessary tests and interventions are often invasive and incur risk to patients and unwarranted costs to our public health care system. The evidence was then reviewed to further refine the recommendations. The final version of the list was then circulated and approved by the members of the group.

Sources

- 1** Furman JM, Cass SP, Whitney SL. Vestibular disorders. 3rd ed. New York: Oxford University Press; 2010. Chapter 4, Vestibular laboratory testing; p. 30-40.
Johnson JT, Rosen CA. Bailey's head and neck surgery: otolaryngology. 5th ed. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2013. Chapter 165, Clinical evaluation of the patient with vertigo; p. 2673-700.
- 2** Stachler RJ, Chandrasekhar SS, Archer SM, et al. Clinical practice guideline: sudden hearing loss. Otolaryngol Head Neck Surg. 2012 Mar;146(3 Suppl):S1-35. (PMID: 22383545).
- 3** Bozorg Grayeli A, Refass A, Smail M, et al. Diagnostic value of auditory brainstem responses in cerebellopontine angle tumours. Acta Otolaryngol. 2008 Oct;128(10):1096-100. (PMID: 18607985)
Fortnum H, O'Neill C, Taylor R, et al. The role of magnetic resonance imaging in the identification of suspected acoustic neuroma: a systematic review of clinical and cost effectiveness and natural history. Health Technol Assess. 2009 Mar;13(18):iii-iv, ix-xi, 1-154. (PMID: 19358774).
Koors PD, Thacker LR, Coelho DH. ABR in the diagnosis of vestibular schwannomas: a meta-analysis. Am J Otolaryngol. 2013 May-Jun;34(3):195-204. (PMID: 23332407).
- 4** Dohar J, Giles W, Roland P, et al. Topical ciprofloxacin/dexamethasone superior to oral amoxicillin/clavulanic acid in acute otitis media with otorrhea through tympanostomy tubes. Pediatrics. 2006 Sep;118(3):e561-9. Epub 2006 Jul 31. (PMID: 16880248).
Hannley MT, Denny JC 3rd, Holzer SS. Use of ototopical antibiotics in treating 3 common ear diseases. Otolaryngol Head Neck Surg. 2000 Jun;122(6):934-40. (PMID: 10828818).
Roland PS, Stewart MG, Hannley M, et al. Consensus panel on role of potentially ototoxic antibiotics for topical middle ear use: Introduction, methodology, and recommendations. Otolaryngol Head Neck Surg. 2004 Mar;130(3 Suppl):S51-6. (PMID: 15054363).
World Health Organization. Chronic suppurative otitis media Burden of illness and management options. Geneva, Switzerland: WHO; 2004.
- 5** Hilton MP, Pinder DK. The Epley (canalith repositioning) manoeuvre for benign paroxysmal positional vertigo. Cochrane Database Syst Rev. 2014 Dec 8;12:CD003162. (PMID: 25485940).

About Choosing Wisely Canada

Choosing Wisely Canada is a campaign to help clinicians and patients engage in conversations about unnecessary tests and treatments and help physicians and patients make smart and effective choices to ensure high-quality care.

For more information on Choosing Wisely Canada or to see other lists of Things Physicians and Patients Should Question, visit www.choosingwiselycanada.org. Join the conversation on Twitter @ChooseWiselyCA.

About The Canadian Society of Otolaryngology-Head & Neck Surgery

The Canadian Society of Otolaryngology-Head & Neck Surgery (CSOHNS) is a proud partner of the Choosing Wisely Canada campaign. CSOHNS is an association that helps to serve the Canadian Otolaryngology-Head & Neck Surgery community. It is composed exclusively of otolaryngologists-head & neck surgeons and those training in the specialty. CSOHNS is dedicated to improving patient care through the support of education, the promotion of research, the dissemination of information, the scientific advancement of the Society, and the maintenance of high professional and ethical standards.