Canadian Hard of Hearing Association - Vancouver Branch

Understanding dizziness and balance disorders: how can an audiologist help?

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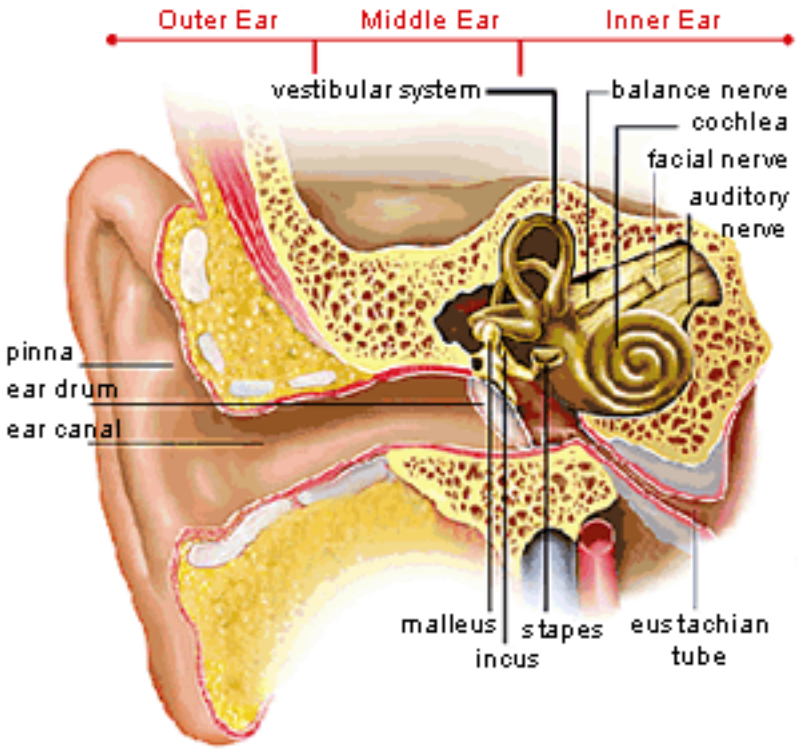
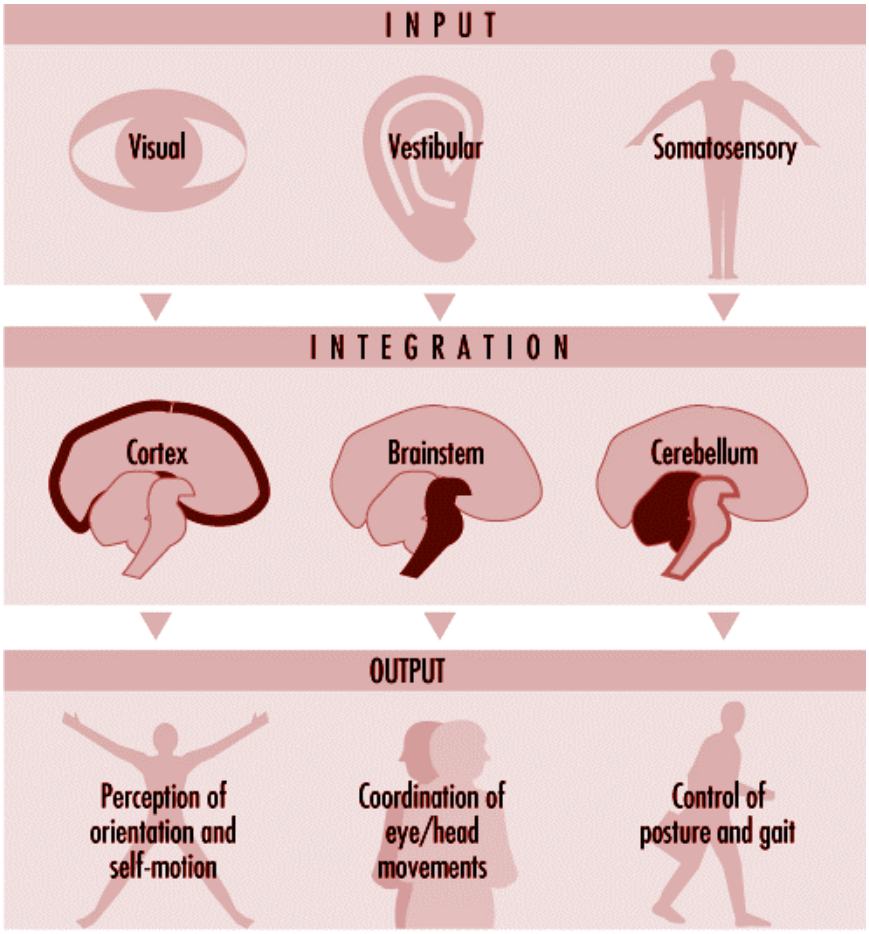
The majority of hard of hearing persons have had contact with an audiologist. The audiologist is the professional who specializes in evaluating, diagnosing and treating people with hearing loss and balance disorders. Therefore, not only the audiologist performs audiological assessments and participates in the rehabilitation of the hearing impaired, but also is the qualified professional to assess and manage vestibular disorders (dizziness, vertigo and balance problems).
The reason for this is primarily anatomical. Encased in the inner ear, right besides the sensory organ for hearing (cochlea), lies the vestibular system. Inside its bony canals, tiny cells are designed to sense rotational head movements, in addition to acceleration on all planes of space.



These amazingly precise sensors, however, do not work alone to keep our body's balance. The vestibular nerve travels up to several "stations" in the brainstem, cerebellum and the cerebral cortex, making important connections with the visual and the somatosensory system. These centres are able to analyze and integrate the three

different pieces of information, as shown in the picture below. They then elaborate and send out orders to coordinate body movements, readjust posture and gait and provide a general sense of orientation in space.



Using an array of tests, the audiologist is able to identify which part of the vestibular system or the central nervous system centres for balance are affected and therefore can recommend suitable therapeutical strategies.

The most widely used and known test is the videonystagmography (VNG). The patient wears goggles that resemble the ones used for skiing and performs tasks such as following lights on a LED bar, moving eyes quickly and accurately. The audiologist also coaches the patient to do some head and body movements including lying down, sitting back up and rolling over to one side and the other. Usually the last part of the VNG test is the water test (caloric test), in which the audiologist irrigates the ear canal with warm and cooler water, all the while observing the patient's eye movements.

In addition to the VNG, the audiologist can perform various other tests in order to more accurately assess each part of the balance system. Some of them are the simple observation of the patient's posture with eyes open and closed, in tandem gait, standing

on a balance foam and walking, while others require computers and refined techniques to be performed.
Despite of this very specific set of tests, many times requiring an expensive arsenal of equipments, the most important part of the vestibular assessment is still the case history. None of the tests findings are meaningful if they cannot be correlated to patient's symptoms and complains. It is the main goal of the audiologist to listen carefully to the patient, select additional questions to be asked and then analyze the test results in light of the patient's history. This will allow for a successful management plan to be outlined.
Tailoring the treatment and management options to each particular patient is proven to be more effective than performing the same maneuver or recommending the same set of exercises to all the patients.
Some patients will need what is called canalith repositioning maneuvers (such as the Epley maneuver) while others will benefit from balance exercises or Tai Chi classes. Several patients may benefit from all of these in a planned sequence. In any case, the most important message is that there is always something that can be done about dizziness and balance disorders. Although you may find yourself dealing with a chronic disorder and expect it to accompany you for the long-term, you can always learn how to improve and maintain your quality of life while doing so.

Thank you, Marilyn Dahl for the opportunity to share this with you all!