



1. When someone turns his/her head to the right while looking straight ahead at visual target...
 - a. Which hair cells are excited, the hair cells in right semi-circular canal or left semi-circular canal?
 - b. In which direction (right or left) would reflexive eye movements occur to allow eyes to stay fixated on target?
 - c. Would the same reaction occur if a patient had unilateral loss of input to vestibular nuclei on left side?

A. Hair cells on right SCC are excited.
B. Reflexive eye movements to the left would allow eyes to stay fixated on visual target with head movement to left.
C. Yes.
2. Do the SCC or otolith organs sense linear accelerations and static head orientation in respect to gravity?
 - a. **The otolith organs sense linear accelerations (saccule vertical and utricle horizontal) and static head orientation in respect to gravity.**
 - b. **The SCC sense velocity and the direction of rotational movement.**
3. What three aspects of dizziness should guide patient history interview?
 - a. **Tempo, symptoms, circumstances of dizziness. If you have not already done so, check out Supplemental Document 2 for quick reference chart.**

4. What type of dizziness could patient with peripheral neuropathy be classified as? (need hint? Choose from vertigo, presyncope, disequilibrium, motion sickness, or non-specific)

a. Disequilibrium

5. If patient presenting to clinic with dizziness demonstrated a 4 line difference between static reading of Snellen eye chart and reading with passive head rotations (Dynamic visual acuity test), would you suspect vestibular cause of dizziness or non vestibular cause?

a. Vestibular cause. Any more than a 2-line difference on Dynamic visual acuity test is abnormal. Typically 3-4 line difference indicates unilateral vestibular loss.

6. Which of the following are possible etiologies of unilateral peripheral vestibular hypofunction? BPPV, vestibular neuritis, MCA stroke, Meniere's disease, Multiple Sclerosis, acoustic neuroma, perilyphatic fistula, Parkinson's disease.

a. BPPV, vestibular neuritis, Meniere's disease, and acoustic neuroma, and perilyphatic fistula are all possible etiologies of UPVH.

7. You are teaching your patient how to perform VOR1x viewing exercises to improve their gaze stabilization. What should your instructions be? The patient experiences mild vertigo after performing 10 seconds of the exercise, what should you advise the patient to discontinue the exercise before 30 second exercise duration?

a. Instruct the patient to look at a small stationary object (such as the eraser of a pencil) held out in their hand 3 ft in front of their head. They should rotate their head left and right to the point where their gaze instability or symptoms occur. Once they have finished treatment duration (30 seconds in this case) they should perform exercise moving head up and down. Patient should perform at least 2x a day.

b. The patient should be encouraged to complete the exercise as long as their symptoms stay mild to moderate and they do not linger longer than 15 minutes after treatment. Inform patient that it is normal to sometimes exercise worse symptoms before they improve as part of vestibular system adaptation process.

