



Travel and Vestibular Disorders: Helpful Strategies to Consider in Planning a Trip

By The Vestibular Disorders Association

The Vestibular Disorders Association (VEDA) receives frequent questions about the effects of travel on a person's vestibular disorder:

- “Will travel increase symptoms?”
- “Should I avoid travel?”
- “What is the best form of travel?”
- “What can I do to minimize discomfort while traveling?”

Travel conditions that may be problematic for a person with a vestibular disorder include those that involve exposure to rapid altitude or pressure changes, certain motion patterns, or disturbing lighting. Travel decisions that accommodate a person's vestibular disorder will depend on the type of vestibular disorder, the method of transportation, and the conditions and planned activities at the destination.

Rapid altitude or pressure changes

Ear problems are the most common medical complaint of air travelers, according to the Association for Research in Otolaryngology—Head and Neck Surgery. Rapid changes in air pressure

during air travel can make it difficult to equalize middle-ear pressure. This problem often occurs as the airplane ascends but is yet more common when the airplane is descending to land, and moving from low atmospheric pressure down to Earth's higher air pressure.

When middle-ear pressure can't be equalized, a painful vacuum effect sucks and stretches the eardrum inward. This can affect hearing because the stretched eardrum cannot vibrate naturally when sound reaches it. For most travelers, this is a temporary and minor annoyance. For others, it can cause longer lasting pain and problems with hearing and equilibrium.

Problems with rapid pressure changes are also associated with ground travel that spans a major elevation change, such as driving over mountain passes. Rapid ascents and descents in elevators can also be problematic, as can water activities that involve deep descents because water pressure increases with depth.

Vestibular disorders associated with sensitivity to pressure changes include perilymph fistula and those that affect

regulation of inner-ear fluid pressure, such as secondary endolymphatic hydrops and Ménière's disease.

Motion patterns

Some forms of transportation such as trains and boats involve repetitive motions such as rocking, swaying, or rotating. Adjusting to this motion—or to the lack of the motion after it has stopped—can be especially difficult for a person with mal de débarquement syndrome or for a person who has developed movement and postural compensation strategies in response to a chronic vestibular disorder (e.g., BPPV, vestibular neuritis, or labyrinthitis). Processing and adjusting to such troublesome motion patterns are further complicated when there is an absence of visual cues that confirm movement relative to a stationary object; for instance, when a person is inside a below-deck cabin on a boat and can no longer see the horizon.

Visual sensitivity

Visual sensitivity can result from many types of vestibular disorders. Compensation for vestibular dysfunction often results in increased reliance on vision as the brain suppresses the signals sent from the vestibular system. Thus, exposure to bright, dim, or flickering light can cause discomfort and disorientation for a person with a vestibular disorder. Such conditions are encountered in most daily activities; however, the fatigue associated with traveling to unfamiliar places can

increase a person's reaction to unanticipated visual disturbances.

Travel restrictions and suggestions

Consult a physician about the general advisability of traveling and to discuss appropriate restrictions and precautionary measures.

Strategies to help with pressure changes

Risks posed by flying vary by vestibular disorder; people with mal de débarquement syndrome or a perilymph fistula are typically cautioned to avoid flying (Table 1).

- Do not fly at all if your sinuses or ears are infected or otherwise blocked because of illness. If you are not ill, the most cautious option is to get a quick physician's exam of your ears to make sure they are clear of excess fluids before taking off, especially if you are actively experiencing symptoms of your disorder.
- Avoid small aircraft, which move more with turbulence and so are more likely to cause motion sickness. Small unpressurized airplanes also pose more risk to the ear from cabin pressure fluctuation and should be completely avoided. In larger aircraft, motion sickness is less common and the main risk to the ear is from cabin pressure fluctuation, especially during take-off and landing.
- Decongestants or antihistamines used prior to beginning air travel and again before the airplane starts to descend may help clear the nasal passages and thus help equalize middle-ear air pressure.

Table. Air travel indications by inner ear dysfunction.

Condition	Air travel recommendation
Perilymph fistula	Avoid if possible because of potential for worsening hearing or dizziness
Secondary endolymphatic hydrops	Should be avoided if possible
Mal de débarquement syndrome	Should be avoided but is possible. Aim for short flights if necessary with stop over between travel segments.
Eustachian tube malfunction	May cause ear pain
Benign paroxysmal positional vertigo (BPPV)	Is not a major risk, although it has the potential for temporary dizziness, especially if seats are reclining.
Labyrinthitis or vestibular neuritis	OK
Bilateral vestibular loss	OK
Acoustic neuroma	OK
Ménière's disease	Has potential for temporary dizziness related to pressure fluctuations
Central vertigo	Usually OK
Perforation in the ear drum	OK. In fact, a perforated ear is likely to have less trouble than a normal ear.

Adapted from T. C. Hain from www.hearinganddizziness.com (accessed April 30, 2010).

Most decongestants and antihistamines can be purchased without a prescription. However, people who are pregnant or have certain health conditions, such as high blood pressure, heart disease, or excessive nervousness are advised to consult a physician before using such medications.

- When traveling in an airplane, pay attention to pressure changes that might require you to “pop” your ears (open the Eustachian tube). This means staying awake while the plane is descending so you can actively open the Eustachian tube by yawning, swallowing, or chewing gum. Yawning frequently during descent is very effective; swallowing water from a bottle is also helpful—always prepare for this need by carrying bottled water with you.
- Consider using EarPlanes, an over-the-counter ear plug designed to help reduce the pressure difference between the middle ear and ear canal. These ear plugs also have the added benefit of serving as noise suppressors.
- Prior to boarding a train for a long-distance trip, ask the ticketing agent to print a list of the elevations at each station along your route. Pay attention to that list as you travel so you remain awake and mindful of elevation changes that may require some of the strategies mentioned above for equalizing middle-ear pressure.
- When booking a hotel room, ask if the hotel is a high-rise building. If it

is, choose a room on a lower level so you aren’t subjected to uncomfortable elevator rides to and from your room.

- Consider booking vacations in locations that have terrain and weather conditions suitable to your comfort level. For example, if your symptoms worsen in excessively warm or humid climates or if you are prone to motion sickness in a car on curvy roads, avoid destinations with these conditions.
- Avoid vacation activities that involve rapid pressure changes, such as scuba diving and diving deeply into a pool.

Strategies to help with motion patterns

- When flying, try to get a seat over the wing, which is a more stable area than the nose or tail.
- If you are traveling long distances in a train that makes occasional stops at intermediate stations, take a few minutes to disembark from the train to walk up and down the platform. This way, your body can adjust or “check in” to the sensation of functioning on solid ground. Similarly, when driving a long distance by car, make frequent stops to get out and walk.
- When flying, try to get a seat over the wing, which is a more stable area than the nose or tail.
- In passenger trains with seating on two levels, sit on the lower level, where there is less sway (rocking motion).
- When traveling by boat, prevent or minimize seasickness by remaining

on deck and focusing on the horizon (rather than staying in a below-deck cabin). This helps coordinate sensory information about balance because it provides visual confirmation that the boat is moving with respect to the fixed horizon.

- Similarly, when traveling by train or automobile, avoid activities such as reading or working on a computer. Focus your vision outside of the car, at the moving scenery. When possible, sit in the front seat, facing in the direction of travel.
- If you struggle with mal de débarquement, after the end of any activity involving constant movement (such as a car, train, or boat ride), take a walk while focusing on the horizon.
- If you have experienced mal de débarquement and your symptoms have resolved, you might prevent a recurrence by avoiding the activity that caused the initial onset.
- Ask your physician if motion sickness medication would be appropriate to use while traveling.

Strategies to help with sensitivity to light and sound

- If you have a balance problem and are traveling to an unfamiliar place, pack items that will help you manage uncomfortable light and sound disturbances. These might include sunglasses, a hat with a visor, a flashlight, and ear plugs.

- Standing in long lines and walking through airport terminals or train stations can be tiring for a person with a balance disorder because large, open, echo-filled spaces are disorienting. You might find it helpful to use a cane or hold onto the extended handle of a suitcase.
- Some automobiles have curved windshields that have distortion at the lower corners. This is merely annoying for most people, but it is often disorienting for those with the visual sensitivity that can occur with a vestibular disorder. If your travel plans include renting a car, prior to signing the rental agreement, insist on sitting in the front seat of the proposed vehicle so you can test the comfort of the windshield's optics.

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