



## Travel and Vestibular Disorders

### Helpful Strategies to Consider in Planning a Trip

The Vestibular Disorders Association (VEDA) receives frequent inquiries 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 (e.g., train, boat, airplane, automobile), and the conditions and planned activities at the destination.

#### **Rapid altitude or pressure change**

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 for some people to equalize middle-ear pressure. This problem often occurs as the airplane ascends but is more common

when the airplane is descending to land—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 (by car or train) 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, including secondary endolymphatic hydrops and Ménière's disease.

#### **Motion patterns**

Some forms of transportation (e.g., 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 the movement relative to a stationary object (such as when a person is inside a below-deck cabin on a boat).

### **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**

People who are sensitive to pressure changes and motion problems should consult a physician about the advisability

of traveling. The physician can review any appropriate restrictions and recommend precautionary measures. Possible strategies include those described in the following sections.

#### Strategies to help with pressure changes

- Decongestants (e.g., Sudafed) or nasal sprays—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. Most decongestants and sprays can be purchased without a prescription. However, people with certain health conditions, such as high blood pressure, heart disease, and excessive nervousness, and women who are pregnant, are advised to consult a physician before using such medications.
- Do not ride in an unpressurized aircraft.
- 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.
- 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

- 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.

- 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 these large, open, echo-filled spaces are disorienting. In this circumstance, 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 persons, but it is often disorienting for those with 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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