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**FLUID
BALANCE**

Reducing sodium intake and other dietary changes can help manage some vestibular symptoms.

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5018 NE 15th Ave.
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Dietary Considerations for Secondary Endolymphatic Hydrops, Ménière's Disease, and Vestibular Migraine

By Vestibular Disorders Association (VeDA) with updates by Dr. Maggie Bloom, PhD

Many people with Ménière's disease (also called primary idiopathic endolymphatic hydrops), secondary endolymphatic hydrops, or migraine-associated dizziness find that certain modifications in diet are helpful in managing their disorder.

INNER EAR FLUID BALANCE

The fluid-filled hearing and balance structures of the inner ear normally function independently of the body's overall fluid/blood system. The fluid that bathes the sensory cells of the inner ear (known as endolymph) maintains a constant volume and contains specific and stable concentrations of sodium, potassium, chloride, and other electrolytes. With injury or disease, the volume and composition of endolymph may fluctuate with changes in the body's fluid/blood.

This fluctuation is thought to cause the symptoms of endolymphatic hydrops or Ménière's disease: pressure or fullness in the ears, tinnitus (ringing in the ears), hearing loss, dizziness, and imbalance. Thus, for people with Ménière's disease or secondary endolymphatic hydrops, maintaining fluid/blood stability is important.

DIETARY GOALS

Dietary strategies for regulating fluid balances involve modifying the amount and fluctuations of certain substances consumed and reducing or eliminating other substances that can adversely affect the inner ear. These dietary strategies may be incorporated into an individualized nutritional plan developed with the help of a physician or dietitian.

GENERAL GUIDELINES

1. Distribute food and fluid intake evenly throughout the day and from day to day. This includes consuming approximately the same amount of food at each meal, not skipping meals, and eating snacks, if needed, at regular intervals. Evenly spacing food and fluid intake helps with inner-ear fluid stability; hypoglycemia (low blood sugar) can trigger



migraine attacks. Having breakfast soon after rising can help stabilize your system for the day.

2. Avoid foods and beverages that have a high salt or sugar content. In general, a diet high in fresh fruits, vegetables, and whole grains and low in canned, processed frozen food, and other processed foods helps control salt and sugar intake. Be careful of drinking fruit juices as they may have a very high sugar content.
3. Drink adequate amounts of fluid daily. Fluids can include water, milk, and low-sugar fruit juices but not coffee, caffeinated tea, alcohol, or soft drinks. If possible, extra fluids should be drunk before and during exercise and in hot weather. It is important to make sure that you drink at least 5 or more glasses of water over the course of the day. You should not have all your fluid intake at one time.
4. Avoid foods and beverages with caffeine.
5. Limit or eliminate alcohol consumption.
6. Do not use tobacco.
7. Check with your Physician or a Natural Health Practitioner before taking extra herbs, vitamins and supplements as they may cause your symptoms to increase.

DIETARY CONSIDERATIONS

- Sodium
- Sugar
- Caffeine
- Supplements
- Alcohol
- Specific Migraine Triggers
- Medications
- Nicotine

SPECIFIC GUIDELINES

Salt and sodium: Sodium intake affects body-fluid levels and their regulation. Salt and sodium are not identical; table salt (sodium chloride) is made up of 40% sodium and 60% chlorine. Sodium occurs naturally in all foods and in drinking water.

The American Heart Association recommends that healthy adults limit their sodium intake to no more than 2,400 mg (milligrams) per day. People

on restricted-sodium diets may be limited to 1,000–2,000 mg of sodium per day, or about one-half to one teaspoon of salt. Each individual's physician will be the best judge of appropriate levels of sodium intake.

Strategies for reducing sodium intake at home:

Some people find that it is difficult to adapt to a reduced-sodium diet because salt is so often used to add flavor to foods. It's important to be selective about meal ingredients and seasonings and look for hidden sodium.

Foods that are naturally low in sodium include fresh fruits and vegetables, unprocessed grains, and most fresh meats, poultry, and fish. Some frozen or canned food items are available without added salt. For those who have been accustomed to using salt, foods may initially taste bland, but introducing herbs and spices can help make them more flavorful and palatable.

Many commercially packaged salt substitutes contain mixtures of herbs and spices. However, such products also often include potassium, which can complicate certain medical conditions (particularly those involving the kidneys), and thus should not be used without first consulting a physician.

Strategies for reducing sodium intake when dining out:

In restaurants, batter-fried foods tend to be salty, as do combination dishes such as soups or pasta with sauce. Selecting plain foods from the menu—such as grilled or roasted entrees, baked potatoes, and salad dressed with oil and vinegar—can reduce salt intake. Most restaurants comply with requests for sauces and dressings to be served on the side or for dishes to be prepared without added salt. It is helpful to substitute a side salad or fresh fruit in place of fries or other salty items. You can also request that they leave off salt when they are cooking vegetable side dishes. Beware of words like “smoked” or “blackened” as these foods are generally high in salt. (See page 3 for tips on selecting a restaurant.)

Looking for hidden sodium: Many kinds of convenience foods, such as frozen dinners, items from restaurant take-out menus, and foods with MSG (monosodium glutamate) contain large amounts of sodium. Foods that are usually very high in sodium include cured meats such as ham and bacon, processed foods such as canned meats and vegetables, and condiments such as soy sauce, ketchup, mustard, pickles, and olives. Canned and dehydrated soups, cereals, cheeses, salad dressings, sauces, chips, and salted nuts may also be high in sodium.





Reading labels for sodium content: It is essential for those on restricted-sodium diets to read labels on packaged food, particularly because some foods with added salt do not taste salty. Foods that list salt as one of the first three ingredients on the label should be avoided. Ingredient lists with the words sodium or soda (which is sodium bicarbonate, or baking soda) or Na (the chemical symbol for sodium) indicate the presence of sodium in food. Compare various brands to see which ones have the least sodium as many times there is a big discrepancy.

The FDA (US Food and Drug Administration) has established definitions for sodium and salt content in food labeling.

- **Sodium-free or salt-free:** less than 5 mg of sodium per serving
- **Very low sodium:** 35 mg or less per serving or 50g of food
- **Low-sodium:** 140 mg or less per serving or 50g of food
- **Light in sodium:** sodium is reduced by at least 50 percent
- **Reduced/less sodium:** at least 25 percent less sodium
- **Lightly salted:** 50 percent less sodium than normally added
- **Unsalted, without added salt, or no salt added:** no salt added during processing

Sugar: Meals or snacks with a high sugar content can cause fluctuations in the volume of body fluids, which may increase vestibular symptoms. For the purpose of minimizing such fluctuations, foods with complex sugars (such as those found in legumes, whole grains, potatoes, and vegetables) are better choices than foods with a high concentration of simple sugars (such as table sugar, brown sugar, honey, maple syrup and corn syrup). Tips for lowering overall sugar consumption include cutting the amount of sugar in recipes in half, substituting fresh fruit for sweetened baked goods, and possibly the use of sugar substitutes. Sprinkling a few currants or berries can help to sweeten up dish.



Reading labels for sugar content: On packaged-food labels, ingredients that end in ose are sugars (for example, dextrose, fructose, and sucrose). Corn syrup, honey, molasses, sorbitol, and mannitol are also sugars. If one of the first three ingredients listed on the label is a sugar, the sugar content of that product will be high, but it is always good to check the actual sugar amount (listed in grams) to be sure as sometimes there may only be three or four ingredients total.

Sugar substitutes: A physician can provide the best advice about whether sugar substitutes are appropriate to use in reducing sugar intake. For use in foods, the FDA has approved four sugar substitutes: saccharin (Sweet'N Low), aspartame (Equal), acesulfame-K (Sweet One), and sucralose (Splenda). The chemical composition of some sugar substitutes, however, may include sodium (for example, sodium saccharide); some substitutes, including aspartame and sucralose, are not always suitable for use in cooking or baking. Additionally, there is some indication that sugar substitutes can influence metabolic syndrome imbalances.

OTHER DIETARY SUBSTANCES

Caffeine is a stimulant that can make tinnitus louder and increase other symptoms. The diuretic properties of caffeine also cause excessive urinary loss of body fluids. Foods and beverages that often contain caffeine include chocolate, coffee, soft drinks, and tea.

Some **supplements**, like licorice root, can interfere with blood pressure and fluid control. Not all supplements are equal in quality or manufacturing process, so it is best to check with your Physician or Natural Health Practitioner to find out which supplements are appropriate.

Alcohol can directly and adversely affect the inner ear by changing the volume and composition of its fluid.

Avoiding **migraine triggers** may help control migraine-associated dizziness. Migraine triggers



include foods that contain the amino acid tyramine. Examples include red wine, chicken liver, smoked meats, sour cream, yogurt, pickled herring, chocolate, bananas, citrus fruits, figs, ripened cheeses (such as cheddar, Stilton, Brie, and Camembert), nuts, and peanut butter. Other migraine triggers include foods containing large amounts of MSG, nitrite/nitrate-preserved foods (such as hot dogs and pepperoni), and yeast. Not all people with migraines are affected by these triggers.



NON-DIETARY SUBSTANCES

Some **medications** contain substances that can increase symptoms of vestibular disorders. For example, aspirin can increase tinnitus, and nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen can interfere with the body's fluid-control mechanism, causing water retention or electrolyte imbalance. Some medications contain caffeine. **Antacids** may have significant amounts of sodium. If product ingredients are not readable on the package label, a pharmacist can provide information.

Nicotine (found in tobacco products and some cease-smoking aids) can increase symptoms, because it decreases the blood supply to the inner ear by constricting blood vessels; it also causes a short-term increase in blood pressure. In addition, nicotine is a migraine trigger.

Dining Out

Crowded, busy social settings such as restaurants may be very difficult to navigate if you have a chronic vestibular disorder. By making some adaptations, you may still be able to meet friends and eat in relative comfort. However, even with the best planning, you may become dizzy or disoriented. It will be easier on you and your dining companions if you explain your problem and suggest ways you can be helped before you actually need assistance.

Selecting a restaurant

- Pick a restaurant with small separate rooms.
- No matter where you go, avoid rush hours.
- Avoid loud background music.
- Seek carpeted floors that reduce conversational noise and vibrations caused by waiters moving nearby.
- Avoid visually distracting shiny, checkered floors and surfaces, as well as ceiling fans and busy wallpaper.
- If the restaurant has a website, download a menu in advance and plan the meal to avoid visual strain and confusion.

Lighting

- Fluorescent lights may cause visual difficulty; sit away from and with your back to the light.
- Be aware that many restaurants control lights with a central rheostat, which can be visually disorienting.
- Ask that flickering candles be removed.

Seating hints

- Seat yourself in the corner of a restaurant, avoiding the bustling middle.
- Sit away from kitchens, cash registers, and bars.
- Sit in chairs rather than benches to reduce motion caused by others seated next to you. Booths may help block noise and activity.
- To reduce the amount of head turning required to converse, choose a round table or sit at the head.

ADDITIONAL RESOURCES

Some helpful documents available from VeDA:

- Ménière's Disease—What You Need to Know
- Secondary Endolymphatic Hydrops
- Migraine-Related Dizziness: An Updated Understanding

More information about food content may be found through the American Heart Association (www.americanheart.org) and the US Food and Drug Administration (www.fda.gov). Many of the guidelines presented in this article are commonly recommended to people with Ménière's disease, endolymphatic hydrops, or vestibular migraine. A physician or dietitian may incorporate some of these principles into an individualized treatment plan.



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VESTIBULAR DISORDERS ASSOCIATION
5018 NE 15th Ave. Portland, OR 97211
1-800-837-8428 info@vestibular.org vestibular.org

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