

ENT SURGICAL CONSULTANTS

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MENIERE'S DISEASE (11/08)

SOURCES OF INFORMATION

- *Meniere's Disease; What You Need To Know*. PJ Haybach. \$24.95, Available through the Amazon Books or Vestibular Disorders Association, PO Box 4467, Portland, OR 92708 <http://www.vestibular.org/>
- *American Academy of Otolaryngology-Head & Neck Surgery* website: <http://www.entnet.org/healthinfo/balance/meniere.cfm>
- *Menieres.org*. Coping support website for Meniere's Disease: <http://www.menieres.org/>
- *Meniere's Page*. The Department of Otolaryngology Washington University School of Medicine St. Louis, MO, Hearing and Balance Center website: <http://depts.washington.edu/coursejo/>
- *National Institute on Deafness and Other Communication Disorders (NIDCD)*, National Institutes of Health, Bethesda, MD <http://www.nidcd.nih.gov/health/balance/meniere.asp>

TREATMENT OF ACUTE SPELLS

- Sedative medication (*Valium, Ativan*, etc.).
- Anti-nausea and anti-vomiting medication (*Tigan, Phenergan, Compazine*, etc.).
- Rest.

MEDICAL PREVENTIVE TREATMENT

- Stress management.
- Exercise.
- Avoidance of caffeine, tobacco and alcohol.
- Low-sodium diet 1500-2000 mg/day.
- Lipoflavins and vitamins (*Lipo-Flavonoid Plus™*) available over the counter (OTC).
- Diuretic medications (*Dyazide™*) once or twice daily.
- Fluid intake
- Vestibular or labyrinthine exercises.
- Allergy treatment.
- Treatment with local overpressure with the Meniett Low Pressure Pulse Generator (www.Meniett.com) Medtronic Xomed (800) 874-5797. Non-destructive, non-invasive, safe, portable, simple.

Stress Management

While no one believes that stress causes Meniere's Disease, most people with the disease recognize a relationship between stressful events and the recurrence of their symptoms. Many patients believe that stress is a factor in how well they can prevent recurrent attacks and cope with the disruption caused by Meniere's Disease. Not knowing when the next attack of vertigo may occur is a significant stress all by itself. For these reasons, patients with Meniere's Disease are advised to manage their stress as much as possible. Professional counseling may be helpful in this regard.

Low-Sodium Diet

The value of a low-sodium diet in treating Meniere's Disease has been known since 1931, and many patients notice they develop vertigo after eating salty foods. The FDA recommends an intake of no more than 2,400 mg of sodium per day, yet most people consume 3,000 to 4,000 mg a day. People can safely get by with a 240 mg/day sodium diet. Experts do not agree about the ideal level of sodium for individuals with Meniere's Disease— some say 1,800 mg/day, others say 1,500 mg/day. Either diet level takes effort to be successful.

Diuretic Therapy

Diuretics (water pills) reduce the body's total sodium count and, with it, the amount of water in the body. Because fluids shift from compartment to compartment, loss of salt and water into the urine will shrink the amount of fluid in the body generally as well as in the inner ear. This approach makes sense because people with Meniere's Disease have too much fluid in the inner ear. However, some individuals do not tolerate diuretics well and others do not appear to benefit from them. Diuretics cause the kidneys to increase the amount of sodium, chloride, potassium, and other chemicals in the urine. These chemicals are called electrolytes because they are electrically charged. A side effect of the sodium and other electrolyte removal is a passive increase in the amount of water in the urine. This type of treatment is known as diuresis. There are several classes of diuretic agents. The most widely used type for Meniere's Disease is the thiazide class, which includes hydrochlorothiazide (HCTZ). This is often combined with another, potassium-sparing agent, triamterene, in a drug called Dyazide™. Dyazide™ is probably the most frequently prescribed diuretic for Meniere's Disease because it is safe, effective, and does not require taking extra potassium. Dyazide™ is a combination of triamterene (37.5 mg) and hydrochlorothiazide (25 mg).

Fluid Intake

Adequate fluid intake, particularly water, is vital for proper kidney function, and may be equally important for proper inner ear function. The part of the inner ear that forms the endolymph contains cells that have the same structure and function as the distal tubule cells of the kidney. In fact, many drugs that affect kidney function can also affect fluid regulation in the inner ear. Thus, adequate water intake may be as important to inner ear function as it is to kidney function. For individuals who take diuretics, adequate water intake is especially important. There has to be enough fluid flow to remove the extra salt excreted as a result of diuretic treatment. Diuretics cannot work if the volume of water in the body is low.

SURGICAL TREATMENT

If medical therapy fails, surgical treatment may be indicated. Two distinct strategies have been employed. One approach is directed toward increasing the absorption of endolymph (the fluid in the hearing and balance canals of the inner ear), since there is an excess of endolymph in patients with Meniere's Disease. The other approach aims at decreasing the inner ear's vestibular balance function in order to reduce symptoms of vertigo.

Endolymphatic sac surgery

In principle, endolymphatic sac surgery is a non-destructive, surgical manipulation of the endolymphatic sac aimed at increasing fluid drainage from the inner ear. The effectiveness of this approach varies.

Vestibular nerve section

This surgical technique decreases vestibular function to control symptoms of vertigo, either by denervation or destruction of the affected ear. It is a more serious and costly operation, which includes the risk of meningitis and a leak of spinal fluid. In 95% of cases, control of vertigo is achieved. Hearing is preserved in over 90% of cases.

Chemical labyrinthectomy

This treatment has recently become widely used because of its associated low cost and low risk. For unilateral cases, intratympanic gentamicin reduces vertigo by decreasing residual balance function on the affected side, but with a 30% risk of hearing loss. For bilateral cases, intramuscular streptomycin has been used. All destructive procedures result in decreased vestibular function on the treated side, which many patients consider a fair exchange once central compensation has stabilized their balance function.

Labyrinthectomy

In cases where hearing can be sacrificed or is already lost, surgical removal of the labyrinth (the balance organs of the inner ear) has a 95% success rate in eliminating major vertigo attacks. After this surgery is performed, the hearing and balance functions of the operated ear are completely and permanently destroyed. The unoperated ear will provide hearing and balance, as long as the disease or other conditions do not affect it.