



VERTIGO AND DIZZINESS



WHAT IS DIZZINESS AND VERTIGO?



Dizziness can be described in many ways, such as feeling lightheaded, unsteady, giddy, or feeling a floating sensation. Feeling unsteady or dizzy can be caused by many factors most commonly due to inner ear disease, medication usage, injury, infection, and/or neurological disease. Dizziness is treatable, but it is important for your doctor to help you determine the cause so that the correct treatment is implemented.

VERTIGO: An unpleasant sensation of the world rotating, usually associated with nausea and vomiting. Vertigo is a most difficult type of dizziness experienced as an illusion of movement of one's self or the environment. Vertigo is not in itself a disease but it is a symptom caused by different diseases (like fever is not a disease but a symptom of other diseases). Rotatory Vertigo is usually due to an issue with the inner ear (in around 80%) or brain. Your sense of balance is maintained by a complex interaction of the following parts of the nervous system:


The inner ear, which monitors the directions of motion, such as turning, rolling, forward-backward, side-to-side, and up-and-down motions. The eyes, which monitor where the body is in space and also directions of motion. The pressure receptors in the joints of the lower extremities and the spine, which tell what part of the body is down and touching the ground and tell what parts of the body are moving.

The central nervous system (the brain and spinal cord), which processes all the information from all these three systems to maintain balance and equilibrium. The symptoms of vertigo appear when the central nervous system receives conflicting messages from these three systems especially from inner ear.

WHAT CAUSES VERTIGO?

INNER EAR:

- Benign paroxysmal positional vertigo (BPPV): BPPV is the commonest cause of vertigo, responsible for more than 50-60 % of vertigo. Symptoms are repeated, brief periods of Vertigo experienced after a change in head position such as lying down, getting up from bed, turning in bed, looking up, or raising the head or bending forward. It lasts about 30 seconds and ceases when the head is still. Nausea is commonly associated in first few episodes.



BPPV is a disorder arising due to abnormal small calcium crystals being deposited in one of the inner ear canals filled with fluid. This calcium deposition most commonly happens due to calcium metabolic disorder (osteoporosis) but may also happen due to minor head injury. It occurs more common in middle aged/elderly females. It can last for days or weeks. Special "repositioning" exercises by an ENT specialist is usually curative and medicines are usually not required for more than 3-5 days.

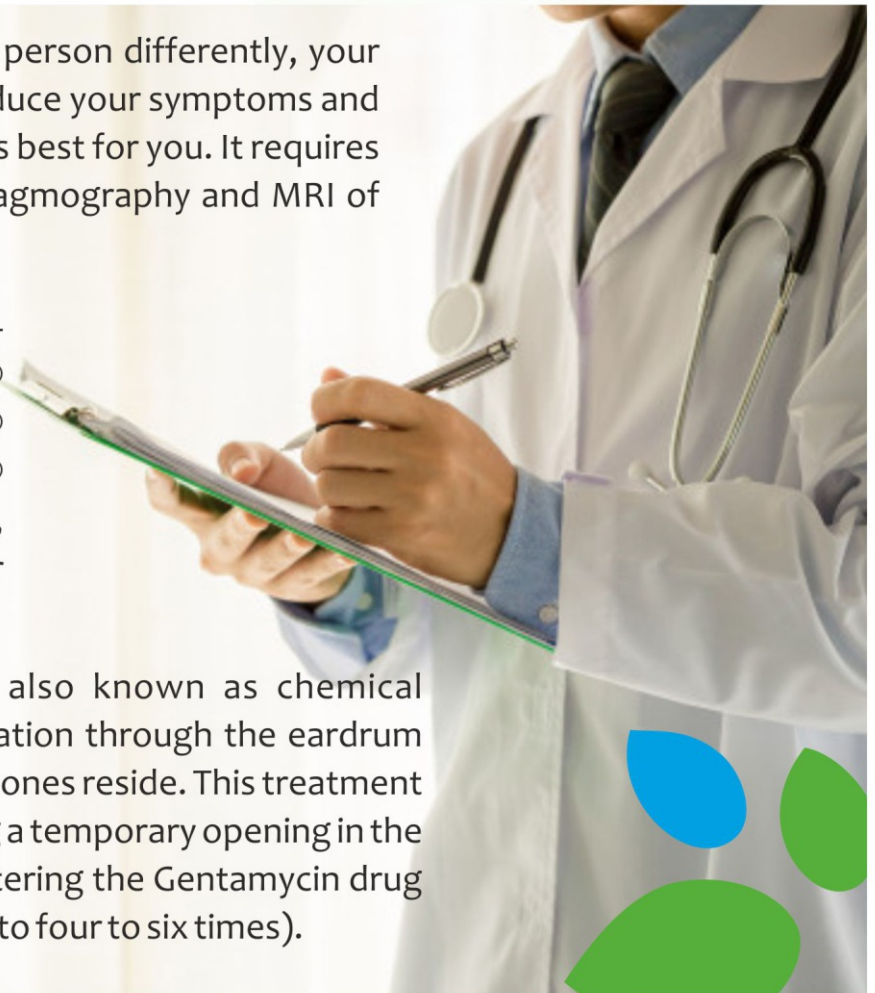
- Meniere's disease is second common cause of Vertigo originating in the inner ear resulting from increase of pressure in the fluids of the inner ear. There is excess inner ear fluid accumulation either due to excess production or inadequate absorption. The cause of such changes in fluid pressure is not exactly known, but is usually due to sedentary lifestyle and stress. In most cases only one ear is involved, but both ears may be affected in about 15 percent of patients. Ménière's disease typically starts between the ages of 30 and 50 years.

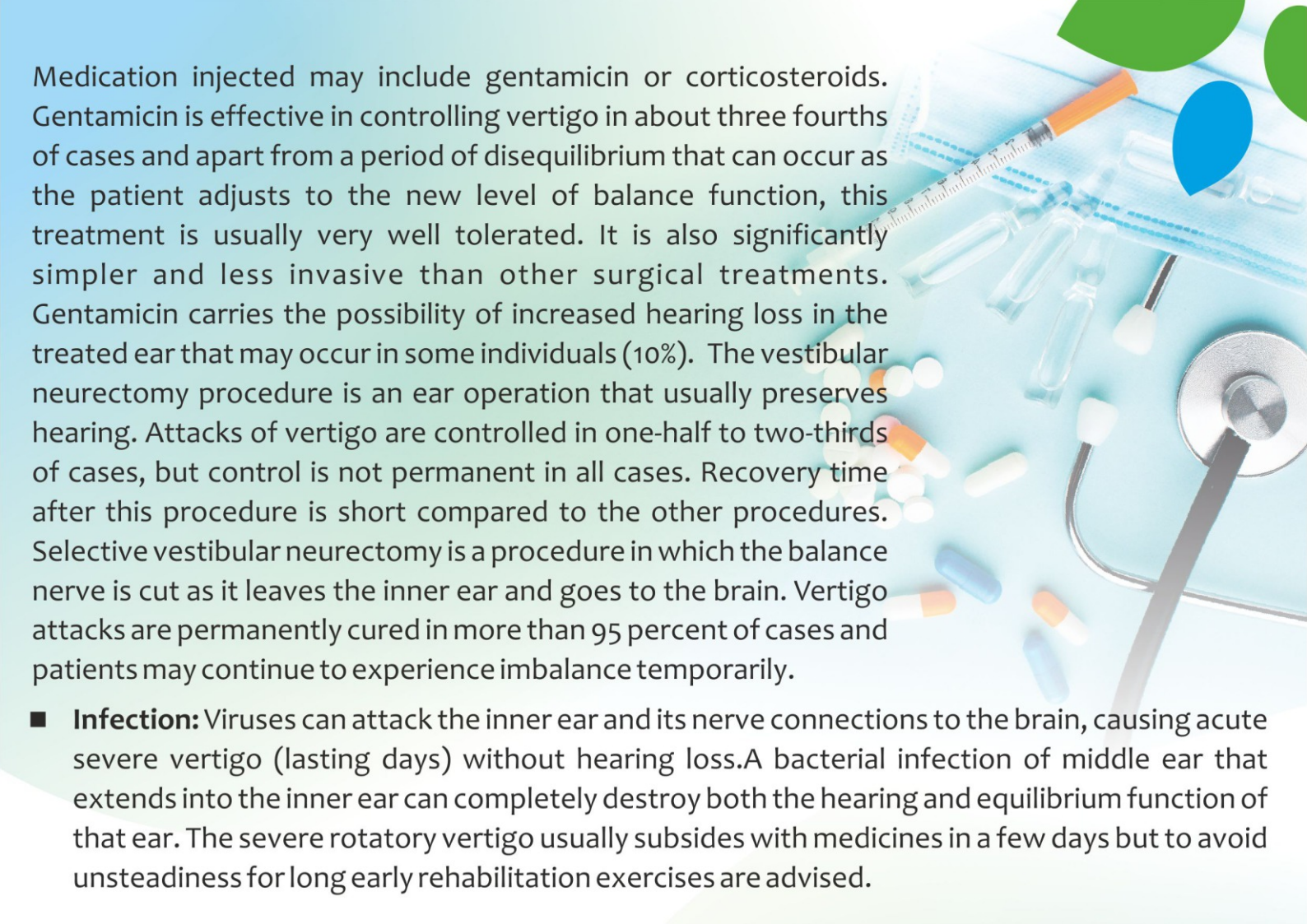
In Ménière's disease patient gets attacks of severe episodic vertigo (spinning sensation) lasting for 15 minutes to few hours associated with perspiration and nausea, and tinnitus (a roaring, buzzing, or ringing noise) in the ear and a sensation of fullness/block in the affected ear. It initially comes every 3-6 months but over the time it becomes more frequent and may increase up to 2-3 times a week over next few years. Initially there may not be deafness, but with each episode of vertigo there is progressive loss of hearing. As the vertigo is severe and repetitive, the patient becomes anxious to drive vehicle or go out alone and it severely impairs the quality of life.

Because Ménière's disease affects each person differently, your doctor will suggest strategies to help reduce your symptoms and will help you choose the treatment that is best for you. It requires special tests like audiometry, videonystagmography and MRI of ear and brain.

Treatment may include low salt diet, anti-vertigo medications e.g., Vertin® (betahistine generic), Stugeron® (cinnarizine generic) or Stemetil® (prochlorperazine generic), intratympanic gentamycin injections or surgery.

Intratympanic gentamycin injections also known as chemical labyrinthotomy, involve injecting medication through the eardrum into the middle ear space where the ear bones reside. This treatment is done by ENT doctor and include making a temporary opening in the eardrum under microscope and administering the Gentamycin drug weekly once for several times (usually up to four to six times).





Medication injected may include gentamicin or corticosteroids. Gentamicin is effective in controlling vertigo in about three fourths of cases and apart from a period of disequilibrium that can occur as the patient adjusts to the new level of balance function, this treatment is usually very well tolerated. It is also significantly simpler and less invasive than other surgical treatments. Gentamicin carries the possibility of increased hearing loss in the treated ear that may occur in some individuals (10%). The vestibular neurectomy procedure is an ear operation that usually preserves hearing. Attacks of vertigo are controlled in one-half to two-thirds of cases, but control is not permanent in all cases. Recovery time after this procedure is short compared to the other procedures. Selective vestibular neurectomy is a procedure in which the balance nerve is cut as it leaves the inner ear and goes to the brain. Vertigo attacks are permanently cured in more than 95 percent of cases and patients may continue to experience imbalance temporarily.

- **Infection:** Viruses can attack the inner ear and its nerve connections to the brain, causing acute severe vertigo (lasting days) without hearing loss. A bacterial infection of middle ear that extends into the inner ear can completely destroy both the hearing and equilibrium function of that ear. The severe rotatory vertigo usually subsides with medicines in a few days but to avoid unsteadiness for long early rehabilitation exercises are advised.
- **Injury:** A skull fracture that damages the inner ear produces a profound and incapacitating vertigo with nausea and hearing loss. The dizziness will last for several weeks and slowly improve as the other (normal) side takes over. BPPV commonly occurs after head injury.

NEUROLOGICAL DISEASES:

- **Migraine:** Some individuals with a prior classical migraine headache history can experience vertigo attacks similar to Meniere's disease. Usually there is an accompanying headache, but can also occur without the headache. The inner ear is very sensitive to minor alterations of blood flow and vertigo can happen due to poor circulation to it alone or along with the adjoining region of brain like in transient stroke.
- **Circulation:** If your brain does not get enough blood flow, you feel unsteady. This could be caused by Migraine or hardening of the arteries by high levels of blood fats (cholesterol), and it is commonly seen in patients who have high blood pressure and diabetes. It is sometimes seen in patients with inadequate cardiac (heart) function, hypoglycemia (low blood sugar), or anemia (low iron).



- **Brain disorders:** A number of diseases of the brain can affect balance, such as multiple sclerosis, syphilis, tumors, etc. These are uncommon causes but more serious, and your doctor may perform certain tests to evaluate these.
- Certain drugs also decrease the blood flow to the brain, especially stimulants such as nicotine and caffeine. Excess salt in the diet also leads to poor circulation. Sometimes circulation is impaired by spasms in the arteries caused by emotional stress, anxiety, and tension.
- **Anxiety:** Anxiety can be a cause of dizziness and lightheadedness. Unconscious overbreathing (hyperventilation) can be experienced as overt panic, or just mild dizziness with tingling in the hands, feet, or face. Instruction on correct breathing technique may be required.

WHEN SHOULD I SEEK MEDICAL ATTENTION?

- Consult your doctor if you have never experienced dizziness before, experience a difference in symptoms you have had in the past, suspect that medication is causing your symptoms, or experience hearing loss.
- Call in emergency, if you experience, dizziness after a head injury, Fever over 101°F, or very stiff neck, Convulsions or ongoing vomiting, a severe headache, weakness or inability to move an arm or leg, change in vision or speech, or fainting and/or loss of consciousness.

HOW WILL MY DIZZINESS BE TREATED?

The doctor will ask you to describe your dizziness and answer questions about your general health. Along with these questions, your doctor will examine your ears, nose, and throat. Some routine tests will be performed to check your blood pressure and hearing and balance function. Possible additional tests may include a MRI scan of your head, special tests of eye motion used to stimulate the inner ear (VNG -videonystagmography), and in some cases, blood tests or a cardiology (heart) evaluation. Your doctor will determine the best treatment based on your symptoms and the cause of them. Treatments may include medications, special balance exercises and rarely surgery.



PREVENTION TIPS

- Regular physical movements like Yoga, exercise or walk/run as per your choice.
- Minimize stress and eliminate or decrease use of products that impair circulation, e.g., tobacco, alcohol and caffeine.
- Avoid weakness of bones by making sure to include foods rich in calcium and consciously expose oneself to morning sunlight.
- Treat infections, including ear infections, colds, flu, sinus congestion, and other respiratory infections.
- If your dizziness is caused by medicines, take them exactly as directed.
- Drink enough fluids to keep your urine clear or pale yellow. This is especially important in very hot weather. In the elderly, it is also important in cold weather.
- During acute episode of vertigo, avoid rapid changes in position and avoid rapid head motion (especially turning or twisting) and in the morning, first slowly sit up on the side of the bed. When this seems okay, stand slowly while holding onto something until you know your balance is fine. If dizziness continues to be a problem, have someone stay with you for a day or two. Do this until you feel you are well enough to stay alone. Have the person call your caregiver if he or she notices changes in you that are concerning.
- Do not drive or use heavy machinery if you feel dizzy.

