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DISORDERS

ONE-SIDED

Hypofunction = does not function.
Unilateral = one-sided.

ARTICLE

135

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5018 NE 15th Ave.
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Unilateral Vestibular Hypofunction

By the Vestibular Disorders Association, reviewed by Neil Shepard, PhD

Unilateral Vestibular Hypofunction (UVH) is a condition in which one side of the vestibular system, located in the inner ear, does not function properly. The vestibular system detects head movement, which helps us maintain our balance, stay upright, and have stable vision. When one side of the vestibular system is impaired, the brain receives conflicting signals from the two sides, resulting in symptoms such as dizziness, imbalance, and blurred vision during head movements.

CAUSES

UVH can be caused by a variety of conditions that damage one inner ear or its associated nerve pathways. Common causes include:

- Vestibular neuritis or labyrinthitis – viral or bacterial infections that affect the vestibular nerve or inner ear structures
- Meniere's disease – a chronic condition causing episodes of vertigo, hearing loss, tinnitus, and ear fullness
- Head trauma – injury that damages the inner ear or vestibular nerve
- Ototoxic medications – these are drugs that damage the inner ear, such as antibiotics or chemotherapy drugs
- Tumors – like vestibular schwannomas (acoustic neuromas) affecting the vestibular nerve
- Age-related degeneration – gradual loss of vestibular function as we age

In some cases, the cause is unknown.

For more information, see VeDA's Causes of Dizziness article: https://vestibular.org/article/what-is-vestibular/causes-of-dizziness/.

SYMPTOMS

The symptoms of UVH vary, both in intensity and duration, depending on what is causing it and how quickly the brain adapts.

Common symptoms include:

- Sudden or intense vertigo (a spinning sensation)
- Imbalance or unsteadiness, especially when walking in the dark or on uneven surfaces
- Nausea or motion sensitivity
- Blurred or unstable vision with head movement (called oscillopsia)
- Difficulty concentrating or fatigue due to increased effort to maintain balance

These symptoms may be most severe during the acute phase of the illness and can improve over time through a process called central compensation, in which the brain learns to adapt to the imbalance between the two sides.

For more information, see VeDA's Vestibular Symptoms article https://vestibular.org/article/what-is-vestibular/vestibular-symptoms/.

DIAGNOSIS

UVH is diagnosed by taking a patient's medical history, a physical examination, and vestibular function testing. Common tests include:

- Videonystagmography (VNG) – measures eye movements in response to visual and positional stimuli

- Caloric testing – assesses how each inner ear responds to warm and cool air or water
- Video Head Impulse Test (vHIT) – evaluates the function of each semicircular canal during rapid head movements
- Rotational chair testing – measures how the vestibular system responds to controlled rotation
- Vestibular Evoked Myogenic Potentials (VEMP) – tests the function of the otolith organs

These tests provide information that can help a doctor form a diagnosis and recommend treatment.

See VeDA's Tests for Diagnosing Vestibular Disorders article https://vestibular.org/article/diagnosis-treatment/diagnosis/.

TREATMENT

The primary form of treatment for UVH is vestibular rehabilitation therapy (VRT), which uses targeted exercises to retrain the brain with the goal of improving balance and gaze stability. VRT programs are customized to each individual and may include:

- Gaze stabilization exercises to

reduce blurred vision when you move your head

- Balance training exercises to improve stability
- Habituation exercises to decrease motion sensitivity
- Functional training to help you move around safely

Most people with UVH show significant improvement with consistent participation in a VRT program. Medications may be used short-term to manage nausea or vertigo, but long-term use can delay compensation.

See more information about treatments for vestibular disorders here. https://vestibular.org/article/diagnosis-treatment/treatments/

OUTLOOK

Getting an accuate appropriate diagnosis is the first step toward finding effective treatment, which can help you return to normal activities. However, some may experience lingering imbalance or sensitivity in visually complex environments (like crowded stores or busy streets). Early intervention with vestibular rehabilitation gives the best chance for recovery.

EARLY INTERVENTION WITH VESTIBULAR REHABILITATION GIVES THE BEST CHANCE FOR RECOVERY.

If you are experiencing persistent dizziness, imbalance, or motion sensitivity, consult a healthcare provider trained in vestibular disorders. To find a qualified vestibular specialist near you, visit VeDA's Healthcare Provider Directory https://vestibular.org/healthcare-directory.

Bilateral Vestibular Hypofunction
In contrast to unilateral vestibular hypofunction, bilateral vestibular hypofunction (BVH) involves reduced or absent function on both sides of the vestibular system, which significantly limits the brain's ability to interpret head movement and maintain balance. People with BVH commonly experience chronic unsteadiness, visual blurring with head movement (oscillopsia), and difficulty walking in low-light or uneven environments. Because there is no healthy side to rely on, compensation is more difficult, and recovery tends to be slower. To learn more about BVH, visit VeDA's article, " Bilateral Vestibular Hypofunction": https://vestibular.org/article/diagnosis-treatment/types-of-vestibular-disorders/bilateral-vestibular-hypofunction/?utm_source=chatgpt.com

REFERENES

1. Agrawal, Y., Carey, J. P., Della Santina, C. C., Schubert, M. C., & Minor, L. B. (2009). Disorders of balance and vestibular function in US adults: Data from the National Health and Nutrition Examination Survey, 2001–2004. *Archives of Internal Medicine*, 169(10), 938–944.
2. American Hearing Research Foundation. (n.d.). Vestibular Neuritis and Labyrinthitis. https://www.american-hearing.org/disorders/vestibular-neuritis/
3. Fife, T. D., Colebatch, J. G., Kerber, K. A., Brantberg, K., Strupp, M., & Versino, M. (2017). Practice guidelines for the diagnosis and management of peripheral vestibular hypofunction: An international perspective. *Journal of Vestibular Research*, 27(4), 177–194.
4. Hall, C. D., Herdman, S. J., Whitney, S. L., Cass, S. P., Clendaniel, R. A., Fife, T. D., ... & Woodhouse, S. N. (2016). Vestibular rehabilitation for peripheral vestibular hypofunction: An evidence-based clinical practice guideline. *Journal

of Neurologic Physical Therapy*, 40(2), 124–155.
5. Herdman, S. J., & Clendaniel, R. A. (2020). *Vestibular rehabilitation* (4th ed.). F.A. Davis Company.
6. Lacour, M., Helmchen, C., & Vidal, P. P. (2016). Vestibular compensation: The neuro-otologist's best friend. *Journal of Neurology*, 263(S1), 54–64.
7. OHSU Balance Disorders Center. (n.d.). Vestibular Hypofunction. https://ohns.ucsf.edu/balance-falls/vestibular-hypofunction
8. Sajjadi, H., & Paparella, M. M. (2008). Meniere's disease. *The Lancet*, 372(9636), 406–414.
9. Strupp, M., Dieterich, M., & Brandt, T. (2013). Vestibular neuritis: Clinical presentation, diagnosis, and management. *The Lancet Neurology*, 12(7), 706–715.

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