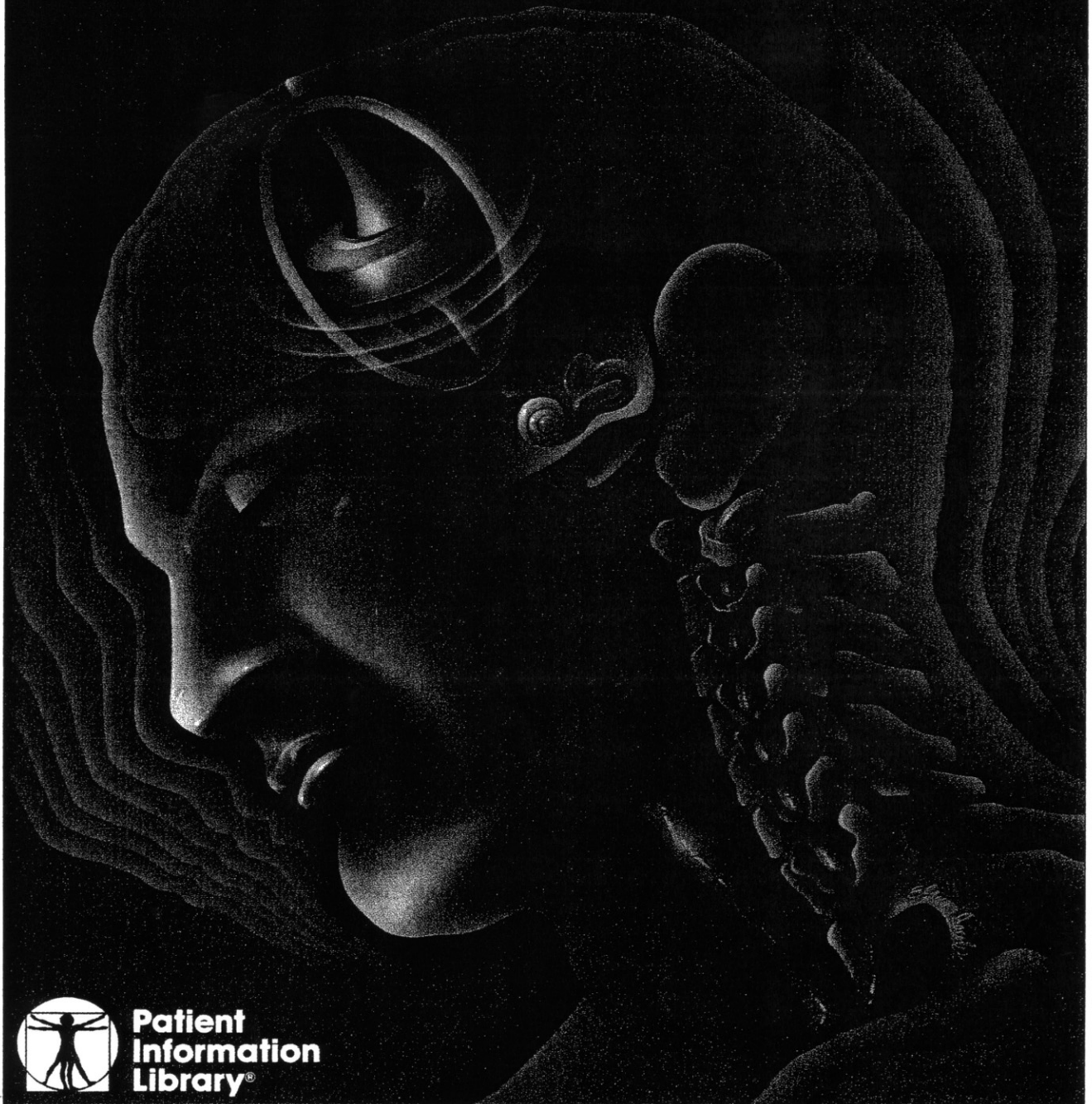


# DIZZINESS OR VERTIGO?

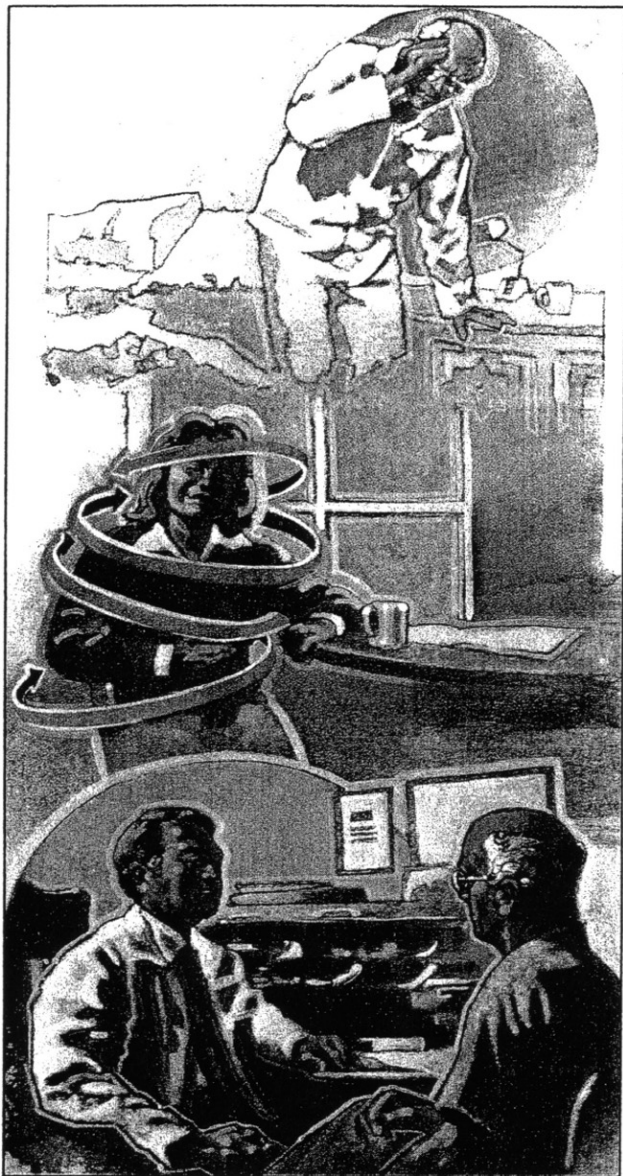
Understanding Balance Problems



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# **UNDERSTANDING BALANCE PROBLEMS**

More than two million people visit their doctor each year complaining of dizziness or vertigo. These different symptoms represent balance problems, which usually are not serious. Your doctor will try to determine which one you are experiencing to see if the problem is in your inner ear or elsewhere.



## **What Is Dizziness?**

Some people describe a balance problem by saying that they feel dizzy, lightheaded, unsteady, or giddy. This feeling of **imbalance or dysequilibrium**, without a sensation of turning or spinning, is seldom due to an inner ear problem.

## **What Is Vertigo?**

Few people describe their balance problem by using the word vertigo, which comes from the Latin verb "to turn." They often say that they or their surroundings are turning or spinning. Vertigo is usually due to an inner ear problem.

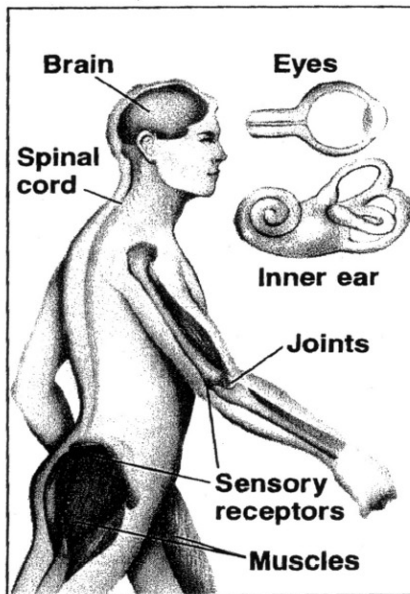
## **Medical Evaluation**

A careful history of your symptoms is most helpful in finding the origin of your problem. Often, a physical exam reveals no obvious cause since the inner ear and brain cannot be seen directly. Testing is often necessary to make a diagnosis and begin treatment whenever possible.

This booklet is not intended as a substitute for professional medical care. Only your doctor can diagnose and treat a medical problem.

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# ANATOMY OF BALANCE



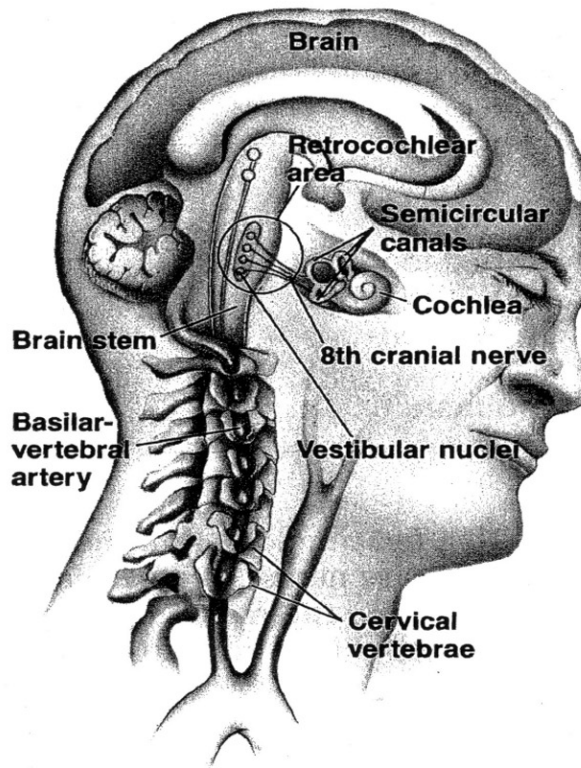
Your sense of balance is maintained by a complex interaction of the inner ear, the central nervous system (the brain and spinal cord), eyes, joints, sensory receptors, and muscles.

## What goes wrong?

If a problem with any part of the balance system occurs, either dizziness or vertigo may result, depending on whether the problem is in the inner ear (peripheral) or elsewhere (central).

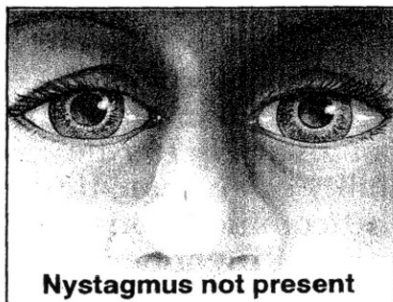
### Dizziness— A Central Problem

Dizziness or disequilibrium is often associated with a central problem and can result from not enough blood and oxygen getting to the brain. This insufficiency may be due either to narrowing of the vessels that supply blood to the brain (**arteriosclerosis**), pinching of blood vessels in the neck (**cervical osteoarthritis**), or as a result of disorders such as **diabetes** or **anemia**. In these cases, dizziness generally occurs when getting up from a sitting or reclining position or when turning the head suddenly.



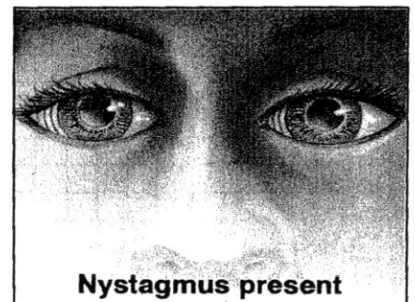
### Vertigo— A Peripheral Problem

Vertigo is usually due to an inner ear problem. There are many conditions that can affect the balance function of the inner ear. Usually, one ear is affected more than the other, creating an imbalance. Vertigo may be associated with nausea, ear fullness, ringing in the ears and hearing loss (**Ménière's syndrome**), viral infections (**Labyrinthitis**), **Eustachian Tube Blockage**, or changes in the balance portion of the inner ear only (**Benign Positional Vertigo**).



### Nystagmus

People with true vertigo often have involuntary rapid or jerky eye movements, called nystagmus, which may be spontaneous or caused from changing positions.



# **MEDICAL EVALUATION**

Because there are many possible causes of vertigo and dizziness, it is necessary for a doctor to perform a medical evaluation to establish a diagnosis whenever possible. This workup includes a medical history and a physical examination. Routine and special diagnostic tests may also be necessary.

**Medical history.** During the evaluation, your doctor may ask about your general health, medical problems, drug use, recent injuries, recurrent symptoms, and related ear or central nervous system complaints.

**ENT examination.** A complete ear, nose, throat, and otoneurologic examination is necessary to rule out any obvious and treatable problems.

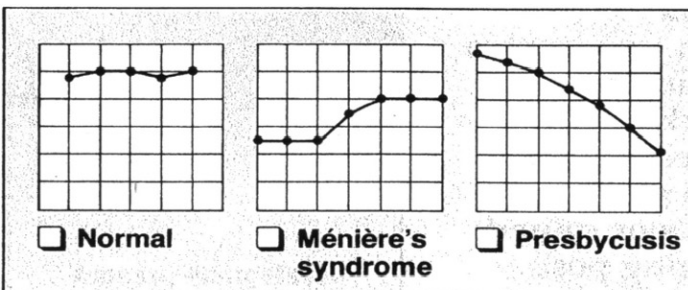
**Laboratory tests.** Diagnostic blood studies, and sometimes an EKG (a test of heart function), may be needed to determine if there is a cardiovascular or other type of problem.



## **Routine Hearing Tests**

Vertigo may be associated with a hearing loss. Routine hearing tests, usually performed by an audiologist, are necessary to evaluate the hearing function of the inner ear. By studying the results of these tests, your doctor can determine whether or not special hearing and other diagnostic studies may be required.

## **Hearing Pattern Examples**



## **Special Hearing Tests**

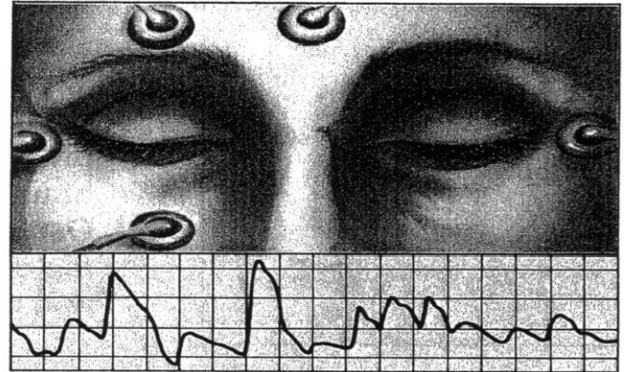
Additional hearing tests allow your doctor to determine whether your hearing loss is in the cochlear or retrocochlear area of the inner ear. These tests can also help to rule out the possibility of an **acoustic neuroma**, an uncommon non-malignant tumor of the inner ear nerve (the eighth cranial nerve).

## **FURTHER DIAGNOSTIC TESTS**

Your doctor may suggest further testing to help pinpoint your balance problems. These tests do not always establish a diagnosis, but the results of these studies can serve as a baseline your doctor can use for future reference. If your symptoms persist, your doctor may repeat these studies.

### **Electronystagmography (ENG)**

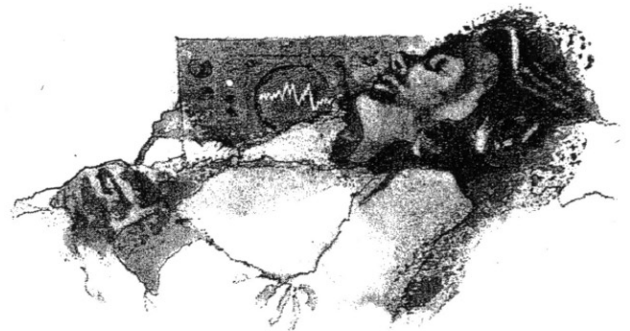
evaluates the balance function of the inner ear. The pattern of nystagmus helps to determine the origin of the problem. By irrigating cool and then warm water (or air) in the ear canal, the balance function of each ear can be measured separately. ENG determines if the dizziness produced during testing is similar to your symptoms.



ENG Recording of Nystagmus

### **Auditory Brainstem Response (ABR)**

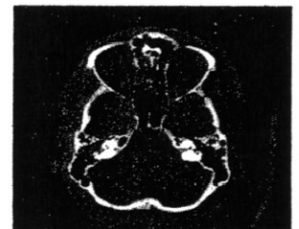
test measures the speed of electrical impulses traveling along the acoustic nerve from the inner ear to the brain. Delayed nerve conduction may be due to an acoustic neuroma.



**MRI** (magnetic resonance imaging) or **CT scan** (computerized tomography) may be ordered to obtain special views of the inner ear and brain. Any growth, such as a possible acoustic neuroma, may be detected with these diagnostic tests.



MRI



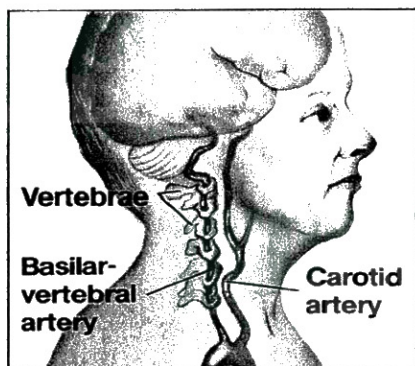
CT scan

**A neurologic consultation** by a specialist in disorders of the central nervous system (**neurologist**) may also be needed. The purpose of this examination is to evaluate your nervous system and to rule out any problems or disorders that may be causing your symptoms.



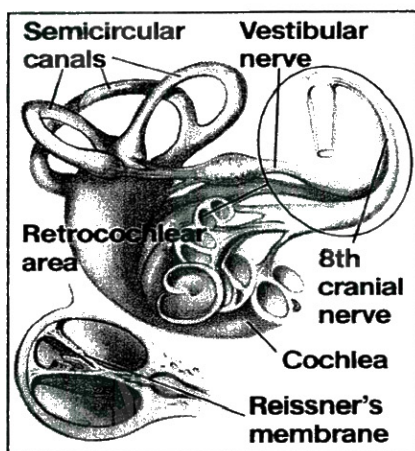
# POSSIBLE CAUSES OF DIZZINESS AND VERTIGO

The results of your tests may or may not reveal a specific problem. In fact, some tests may have to be repeated at a later date. However, even if these tests do not allow your doctor to make a diagnosis, they may help to rule out many possible disorders, some of which are listed below.



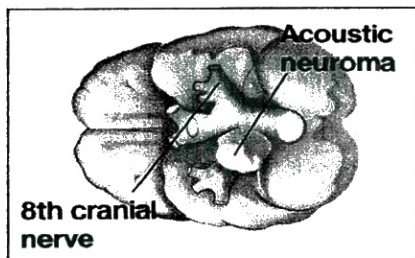
## Dizziness (Central) Problems

- Arteriosclerosis** is a common cause of dizziness, due to narrowing of the vessels that supply blood and oxygen to the inner ear and brain.
- Osteoarthritis** may cause dizziness. The narrowing of the vertebral spaces restricts blood and oxygen supply to the inner ear and brain.



## Vertigo (Inner Ear, Peripheral) Problems

- Labyrinthitis** is often due to a viral infection. Tinnitus and hearing loss are usually absent.
- Eustachian tube blockage** often follows colds or allergies. Tinnitus and hearing loss are temporary.
- Ménière's syndrome** affects the balance and hearing portions of the inner ear, causing fullness, hearing loss, tinnitus, and intermittent vertigo.
- Benign positional vertigo** involves the balance portion of the inner ear only. Tinnitus and hearing loss are usually absent.



## Acoustic Neuroma

- Symptoms and signs of this uncommon, non-malignant tumor of the eighth cranial nerve may include dizziness or vertigo, tinnitus, and hearing loss. Diagnosis is usually confirmed by an ABR test, MRI, or CT scan.

## Other Causes of Dizziness and Vertigo

This list of conditions is not inclusive. Other conditions, such as diabetes, anemia, heart disease, some neurological disorders, and other uncommon problems, may need to be considered. Your doctor will discuss the results of your evaluation as well as your diagnosis and treatment plan with you.

## **TIPS AND FOLLOW-UP CARE**

When changing positions quickly, older people sometimes experience dizziness due to circulatory problems. Here are some tips which may contribute to your comfort and safety. Your doctor may have other advice for you, so be sure to check before following these suggestions.



**Change your position slowly, especially when going from a lying down or sitting to a standing position.**



**Look up or down slowly, and only for short periods of time, whenever possible.**



**Turn your head slowly to either side and move your entire body as you do so whenever possible.**

**Driving and climbing.** If you are subject to dizziness or vertigo, do not drive until your doctor feels it is safe to do so. Similarly, avoid climbing ladders or putting yourself into any situation in which height could or would be dangerous or make you uncomfortable.



**Drugs and medications.** Certain drugs and medications are well-known for producing the side effects of dizziness or vertigo. Be sure to tell your doctor about any prescription or over-the-counter medications that you are taking.



**Follow-up care.** Most cases of vertigo and dizziness are not serious; they respond to treatment and generally improve with time. Surgery is rarely necessary but may be considered in some cases. Follow-up visits and repeat testing are important if your symptoms persist or change in any way. Notify your doctor if you experience increased headaches, change in vision, slurring of speech, motor or sensory weakness, or any loss of consciousness.



## **FINDING THE ANSWER**

In many cases, the diagnosis of balance problems can be made by a complete medical evaluation, including a thorough medical history, physical examination, and diagnostic tests when necessary. Often, medications and time minimize or eliminate the symptoms of dizziness or vertigo.



  
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