

Dizziness and Syncope (Dr. Merchut)

1. Clinical clues in the diagnosis of dizziness versus vertigo

Dizziness is not only a very common symptom, but one of the most challenging to figure out and treat. A detailed history is the most helpful approach, as is true for Neurology in general. Observers, friends or family, may be able to provide helpful information about the "dizzy spell," particularly if the patient is unable to explain the symptoms well.

Dizziness needs to be distinguished from **vertigo**, which is a sense of motion, spinning, or the body being pushed or pulled. Vertigo may be very intense and disabling, as in **acute labyrinthitis**, where there may be nausea, vomiting, and inability to stand or walk. Vertigo may also be more subtle, like the peculiar sensation when riding up or down in an elevator or airplane. Chronic vertigo may accompany hearing loss and tinnitus from degeneration or noise damage of the eighth cranial nerve or inner ear. When vertigo is provoked by positional changes, such as sitting or standing up, or turning the head, **benign positional vertigo** is likely. This is particularly common in older patients or after head trauma. Recurrent, subacute attacks of vertigo, deafness and tinnitus suggests **Ménière's disease**. (For further discussion, see "Visual, Auditory and Vestibular Systems.") Isolated, episodic vertigo, independent of head movements, is rarely a manifestation of a vertebrobasilar TIA (transient ischemic attack). In such a TIA, vertigo is typically accompanied by other symptoms, such as diplopia, blindness, dysarthria, or ataxia.

Dizziness is the sensation of lightheadedness. It may be mild or more severe as in presyncope or a "near faint." In the latter, patients often report a dimming of vision (as cerebral blood flow decreases), sweatiness or tachycardia and the sense of an impending fall or faint unless they lie down. Dizziness consistently provoked by standing strongly suggests **orthostatic hypotension**. In the patient who does lose consciousness, these prodromal symptoms favor **syncope** over a **seizure**. If no one witnesses the tonic-clonic movements of a generalized seizure, the patient may report its subsequent effects, including sore muscles and lacerations of the lips or tongue. In elderly patients with poor bladder control, incontinence may occur after syncope or a seizure. Aside from absence (petit mal) seizures in children, generalized seizures are followed by a **post-ictal phase**, lasting several minutes. Post-ictally, the patient is lethargic, confused, often irritable, and unable to recall what happened. Fainting patients often recall their presyncopal symptoms, are not confused (unless a severe head injury occurred), and quickly return back to their baseline mental status.

The causes of **syncope** are numerous, yet the clinical setting may help provide the etiology. Fainting usually refers to **vasovagal syncope**, and often follows painful, frightening or emotional experiences. Less common, vagally-mediated syncopal spells in men include carotid sinus syncope, attributed to wearing a tight collar, and micturition syncope. When syncope occurs independently of patient activity, cardiac arrhythmias or heart block should be considered, particularly in patients with cardiac disease or risk factors.

2. Diagnostic testing in patients with dizziness or syncope

Simple bedside tests are often most helpful here. The **supine and upright blood pressure and pulse** should be taken. A persistent systolic pressure drop of 20 mm Hg or more after standing for 3 minutes occurs with orthostatic hypotension. If a compensatory increase in pulse is present, intravascular hypovolemia is suggested. Lack of a compensatory pulse increase suggests a neurological problem with the autonomic system. The bedside neurological examination can provide further evidence for related peripheral neuropathies or extrapyramidal disorders, like Parkinson's disease or multiple system atrophy, where autonomic dysfunction occurs. While at the bedside, **checking the blood pressure in both arms** can help exclude dizziness or vertigo from a subclavian steal syndrome. **Cardiac auscultation** may reveal findings supportive of a cardiac cause of dizziness or syncope, such as a murmur from aortic stenosis, or an irregular rhythm. Further testing with cardiac electrophysiological monitoring or tilt-table testing may be needed. Patients may report vertigo or a sense of motion when turning over, or getting on or off the exam table in clinic. Positional vertigo can be easily tested with the bedside **Dix-Hallpike maneuver** (see "Visual, Auditory and Vestibular Systems"). As the patient's head is passively turned to one side and supported 30 to 45 degrees below the plane of the exam table, they are asked to look toward that side. Rotatory nystagmus is produced in patients with positional vertigo. Signs or symptoms involving other cranial nerves, the brain stem or cerebellum in patients with dizziness or vertigo may prompt CT or MRI imaging of the brain. In a patient with seizures, routine EEG testing may turn out normal, and prolonged video-EEG recording may be necessary in those having unusual episodes or not improving with anticonvulsant therapy.

3. Treatment of dizziness or syncope

Specific treatment varies according to the multiple causes of dizziness or syncope. Often in elderly dizzy patients, no single cause stands out, but multiple issues may contribute to dizziness, such as polypharmacy, inner ear disorders, visual impairments, and arthritic limitations to the spine, hips or knees. Practical measures should always be undertaken to lessen symptoms, including adequate hydration, elimination or substitution of select medications, and assistive devices for ambulation.