

## History Taking in Vertigo Patients

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### Introduction

Dizziness is the most common complaint. Balance of the body is mediated by 3 systems

- i) Visual
- ii) Proprioception
- iii) Vestibular

Imbalance in either of these systems leads to balance disorder which begins with dizziness (Figure 1).

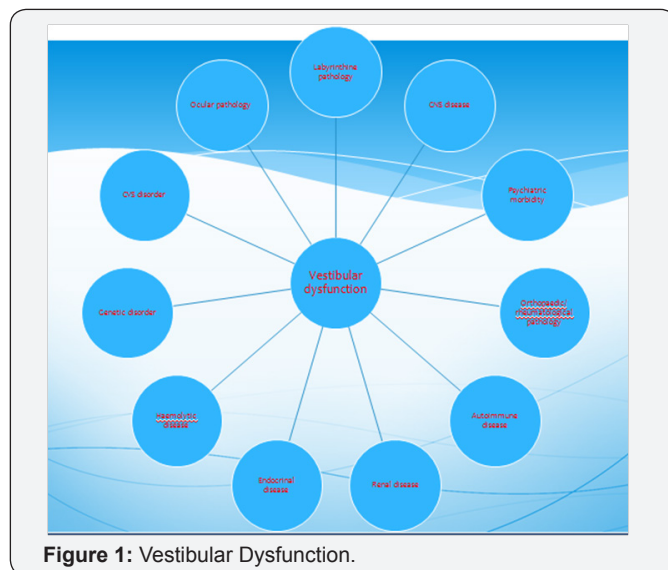


Figure 1: Vestibular Dysfunction.

### How to Evaluate??

- a) Obtain a detailed case history.
- b) It is the most important diagnostic tool to understand the disorder in a broader perspective.
- c) A careful case history obtained is useful in differential diagnosis.
- d) A through case history is the most important factor in determining the cause of vertigo.
- e) It provides qualitative information that can be confirmed with quantitative vestibular testing.

### Describe What You Are Experiencing?

a) This question really addresses the character of the dizziness the patient is experiencing

b) It is helpful to stratify patients into two different categories of dizziness: Vertigo and Non vertigo dizziness.

c) It is important to establish this dichotomy as vertigo is often due to a disorder in the vestibular system, whereas non vertigo may be related to myriad causes including cardiovascular, ocular, or systemic diseases.

d) Begin with open ended questions and allow the patient to respond instead of being biased during history taking vertigo - sensation of movement, often rotary, indicating disorder of the vestibular system

Non-vertiginous dizziness such as: imbalance, lightheadedness, syncope, faintness, and other diseases.

Imbalance may be described as dizziness, however, does not in isolation result from vestibular lesions. Imbalance may be a symptom of cerebellar dysfunction, drug toxicity, extrapyramidal disease (e.g. Parkinson disease), or other non-vestibular disorders.

Light headedness, often described as “floating” dizziness or “wooziness” may result from medications or the multiple sensory deficits syndrome. The multiple sensory deficits syndrome results from “de-afferentation”; often patients are elderly who have visual dysfunction (e.g. macular degeneration), balance difficulty (orthopedic or extrapyramidal disease), hearing loss and peripheral neuropathy. Patients are thus effectively cut off from receiving accurate information about the orientation of the environment which often leads to “dizziness.” Additionally, certain medications may produce a non-vertiginous sense of dizziness described as lightheadedness.

Syncope or presyncope often presents with “faint” feelings of dizziness. This sensation results from global hypoperfusion of the brain. Cerebral hypoperfusion may result from hypotension or arrhythmias. Orthostatic hypotension is a relatively

common type of syncope/presyncope. This typically presents with faint feeling of dizziness after postural change, such as arising from the seated or lying position. Dehydration, certain antihypertensive medications, or autonomic failure may produce orthostatic hypotension. Other medical conditions such as endocrine diseases (especially hypothyroid) may present with non-vertiginous dizziness. Lab tests to include thyroid function and FTA/RPR are often obtained in unexplained cases. Drugs including prescription medications may also result in several types of dizziness. Patients with psychiatric disorders may describe dizziness (Figure 2) (Table 1).

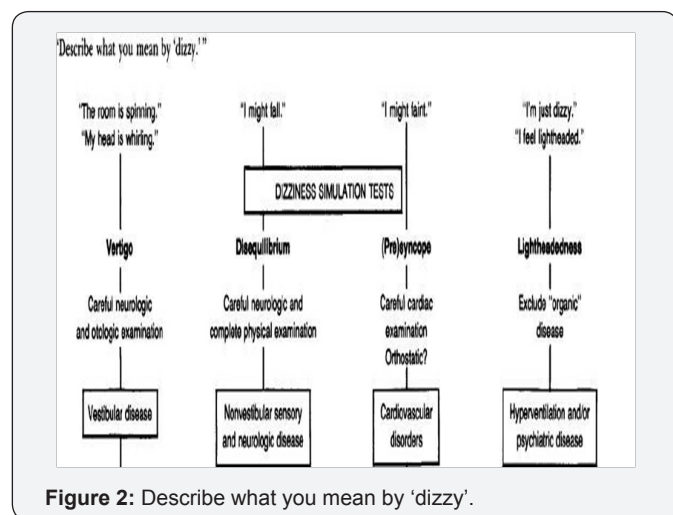


Figure 2: Describe what you mean by 'dizzy'.

Table 1

Feature	Peripheral	Central
Nystagmus	Horizontal and Torsional	Purely vertical or horizontal or torsional
	Inhibited by fixation	Not inhibited by fixation
	Doesn't change with gaze	Direction changing with gaze
Otologic symptoms	Hearing loss or tinnitus common	Uncommon
Latency after provocation	Longer (>15 seconds)	Short
Fatigability	Yes	No
Duration	Variable	Long
Neurologic symptoms	No	Yes
Loss of consciousness	No	Possible

**How long does the dizziness last??**

- a. Fleeting: Dizziness lasting less than a second probably is the result of disequilibrium due to an imbalance in peripheral vestibular inputs.
- b. Short-lasting: Vertigo lasting between a few seconds and a few minutes is usually due to a peripheral vestibular dysfunction
- c. Intermediate: Vertigo lasting between 20 minutes and several hours can occur as a result of either central or peripheral

vestibular disorders.

d. Long Lasting: An isolated attack of vertigo lasting longer than a 2 to 3 hours and usually a day or days usually results from a unilateral complete permanent injury to the peripheral vestibular system

e. Continuous: Continuous vertigo is a relatively uncommon but serious problem. Although the brain compensates for vertigo arising from the inner ear or vestibular nerve over several weeks, vertigo from central dysfunction can persist longer (Table 2).

Table 2

Short Seconds to Minutes	Intermediate 20 Minutes to 2 Hours	Long Lasting Over 24 Hours
BPPV	Meniere's disease	Labyrinthitis
Perilymphatic fistula	Migraine	Temporal bone trauma
SSCD	Metabolic	Stroke
Vascular insufficiency	Syphilis	Multiple sclerosis
Chiari malformation	Panic attacks	Iatrogenic
Iatrogenic	TIA	Autoimmune inner ear disease
	Iatrogenic	

**How often do you have attacks of vertigo?**

The number attacks is usually inversely proportional to the length of time each attack lasts.

- a) Single
- b) Constant
- c) Multiple
  - i. Seconds
  - ii. Hours
  - iii. Days (Table 3).

Table 3

Single	Multiple
Stroke	Meniere's Disease
Labyrinthitis	Migraines
Neuronitis	Chronic attacks
Multiple sclerosis	BPPV
Trauma	SSCD
Iatrogenic	Vascular insufficiency
TIA	

**Is there anything you can do that will cause you to feel dizzy? (precipitating factors)**

Although vertigo intensity may vary between individual episodes, there are often similar circumstances surrounding the onset of attacks. Individual triggers are helpful in both short and

long duration vertigo.

These are three types

- a) Short duration
- b) Long duration
- c) Intermediate duration (Table 4).

**Table 4**

Provoking factor	Suggestive cause
Altered head position	BPPV
Rapid ascents	Orthostatic hypotension
Neck extension	Vertebrobasilar insufficiency
Stress	Psychiatric
	Meniere's disease
	Migraine headaches
Salt diet	Meniere's disease
Headaches	Migraine
Changes in ear pressure	Perilymphatic fistula
	Superior SCC dehiscence
	Chronic ear surgery with OCR
Loud noise	Chronic ear surgery with OCR
	Superior SCC dehiscence

**What other symptoms do you get around the time of vertigo attacks (associated symptoms)?**

Concomitant symptoms including hearing loss, pain, or neurological symptoms may also help establish the diagnosis of dizziness or vertigo.

**Do you have any other medical problems?**

Other medical conditions may cause vertigo through direct or indirect injury to the vestibular system. It is important to determine if medical problems are contributing to or causing the patients dizziness.

**Differential diagnosis based on concomitant symptoms (Table 5).**

**Table 5**

Concomitant symptoms	Suggestive cause
Aural fullness	Meniere's disease
	Acoustic neuroma
Facial weakness	Tumor
	Otologic disease (OM,OE)
Pain	Otologic disease (OM,OE)
	Migraine
Otorrhea	Otologic disease (OM,OE)
Neurological abnormalities	Tumor
	CVA
	Vertebrobasilar insufficiency

Headache	Migraine
	Meniere's disease
	Tumor
Hearing loss or tinnitus	Meniere's disease
	acoustic neuroma
	Iatrogenic
	cholesteatomas
	labyrinthitis
	perilymphatic fistula
	stroke involving AICA
Phonophobia or photophobia	Migraine
Tinnitus	Labyrinthitis
	Meniere's disease
	Acoustic neuroma
Medical History	Likely cause of vertigo
Cardiovascular	Vertebrobasilar insufficiency
Peripheral vascular disease	Stroke
Psychiatric disease	Nonvertigo dizziness
Anxiety	
Panic attacks	
Depression	
Motion sickness	Migraines
Hearing Loss	Otological vertigo

**What medications are you currently taking?**

- a) Nearly 23% of all medicines list dizziness as a possible side effect. Adverse reactions are more common in the elderly for 3 reasons:
- b) The elderly are prescribed more medications increasing by sheer volume the likelihood to have dizziness as a side effect.
- c) Reduced renal and hepatic clearance promotes increased and prolonged systemic concentrations.
- d) Reduced vascular reflexes reduce promote increased orthostatic symptoms (Table 6).

**Table 6**

Drug	Names
Antianxiety	Valium, Xanax
Antihistamines	Benadryl
Diuretics	Lasix, diuril, spinonolactone, basix
Antihypersensitive medications	Diltiazem, Verapamil, Nifedipime metoprolol, Toprol, Atenolol, Catapres, Clonidine
Calcium channel blockers	
Beta- blockers	

Others	
Antiseizure medication	Dilantin, Tergretol
Antidepressant	Prozac, Zoloft, Elavil
Chemotherapeutics	Cisplatin, carboplatin, mechlorethamine
Antibiotics	Gentamycin, Streptomycin, vancomycin, Amikacin
Anti-inflammatory	NASAIDs, aspirin

**Other Significant Questions**

**Metabolic disorders**

Such as uncontrolled diabetes, renal failure, hepatic failure and altered ion homostasis can induce a constant feeling of dizziness. Any abnormality in blood or serum levels can drastically alter the central nervous system’s ability to function properly. The result can often be continuous dizziness which will persist until the metabolic disorder is treated.

**Psychological disorders**

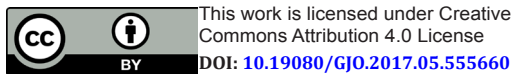
Psychologic disorders including hyperventilation syndrome account for the most common cause of dizziness among younger patients. Whereas symptoms typically revolve around times of heightened apprehension or anxiety, continuous symptoms are common in these patients due to continuous hyperventilation and altered CO2 concentrations.

**Family history**

The patients should be asked about family history of otologic and neurologic dysfunction vestibular dysfunction with a familial predisposition includes Meniere’s disease, BPPV, otosclerosis, migraines, seizures and neural degenerative diseases.

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