

DIZZINESS DIZZINESS

DIZZINESS

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Overview

- Definition and what it can mean?
- Medical causes of dizziness?
- Neurologic causes of dizziness?
- Diagnostic testing for dizziness?
- Treatment of dizziness?

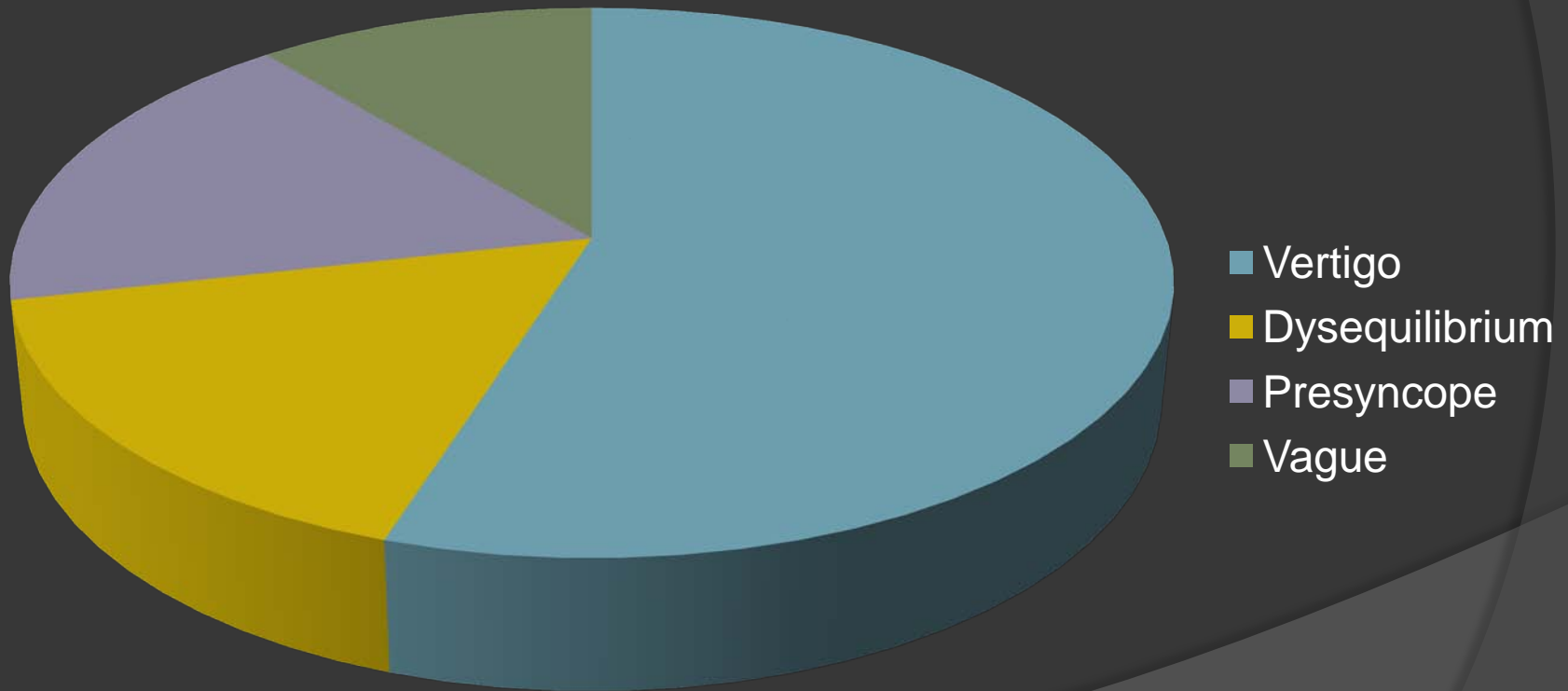
An imprecise term...

- ◎ diz-zy adj \ ' di-zē\
 - ◎ Definition of DIZZY
 - 1: foolish, silly
 - 2:
 - a: having a whirling sensation in the head with a tendency to fall
 - b : mentally confused
 - ◎ synonyms
 - giddy, woozy, vertiginous, airheaded, empty-headed, featherbrained, giddy, light-headed, lightheaded, silly



Types of imbalance reported

% patients



Medical causes of dizziness

- Orthostatic hypotension
- Vertebral-basilar insufficiency
- Rarely carotid insufficiency
- Medications
- Hyper/Hypo-glycemia
- Hyperventilation-Panic attack

Case 1- OH

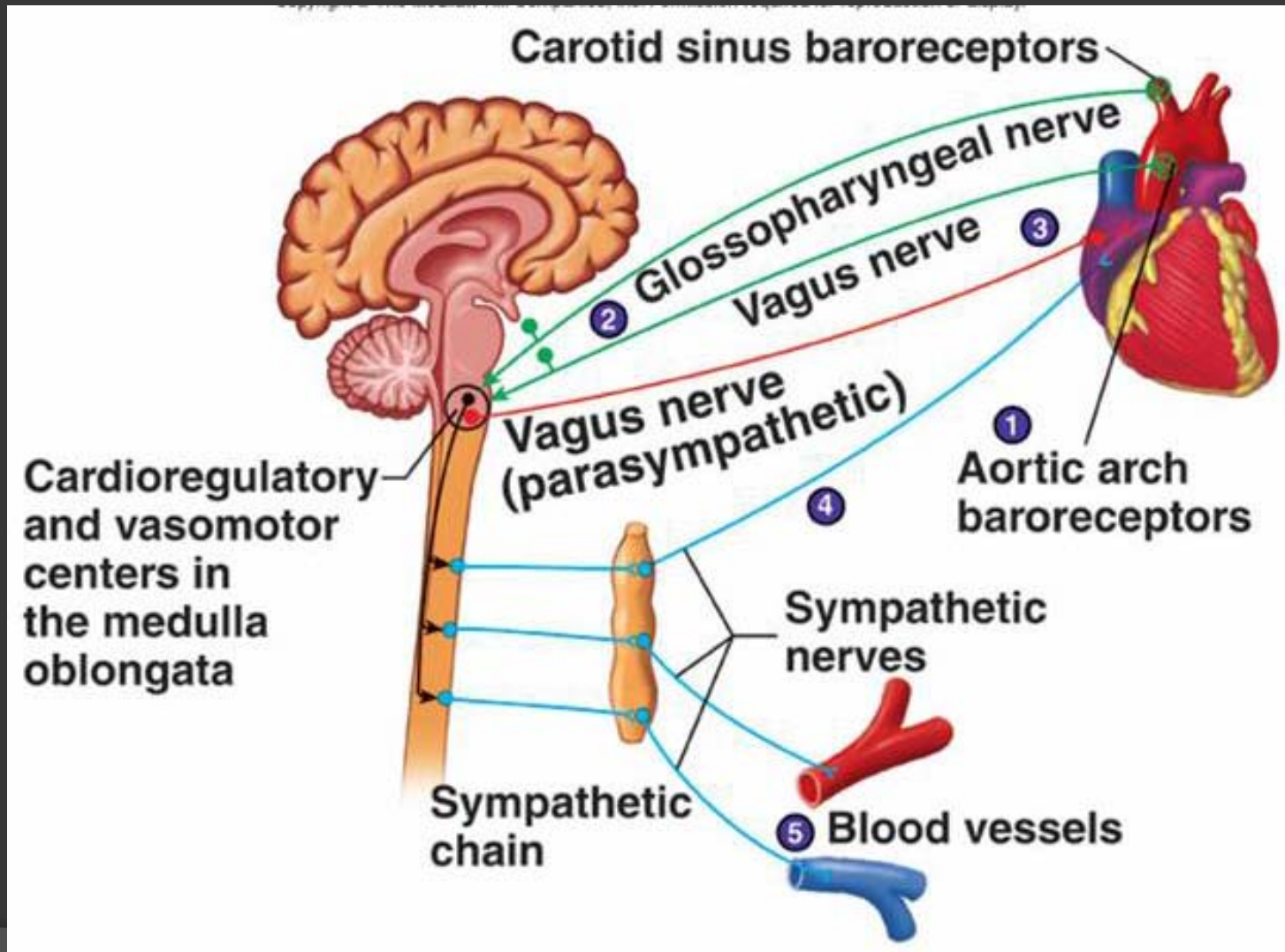
- 74 yo woman with mild dementia
- Several episodes of falls
- Sitting BP 130/70, P 72
- Standing BP 95/50, P 120
- Labs- BUN 32, creatinine 1.1
- UA c/w UTI
- Diagnosis: Dehydration
- Treatment: IVF and encourage PO fluids

Case 2- OH

- 64 yo man with diabetes
- Several episodes of falls
- Sitting BP 130/70, P 72
- Standing BP 95/50, P 72
- Labs- glucose 232, HgbA1c 12.1
- Diagnosis: Autonomic dysfunction/
impaired cardiovagal response
- Treatment: control diabetes, waist high
compression garments, midodrine?

Orthostatic hypotension video

Baro-receptor reflex



Case 3- OH

- 42 yo man with HIV
- Several episodes of falls
- Sitting BP 130/70, P 72
- Standing BP 74/50, P 144
- Labs- all normal except for CD4 57 and high viral titer of HIV
- Diagnosis: POTS
- Treatment: HAART, Florinef, midodrine, B-blocker

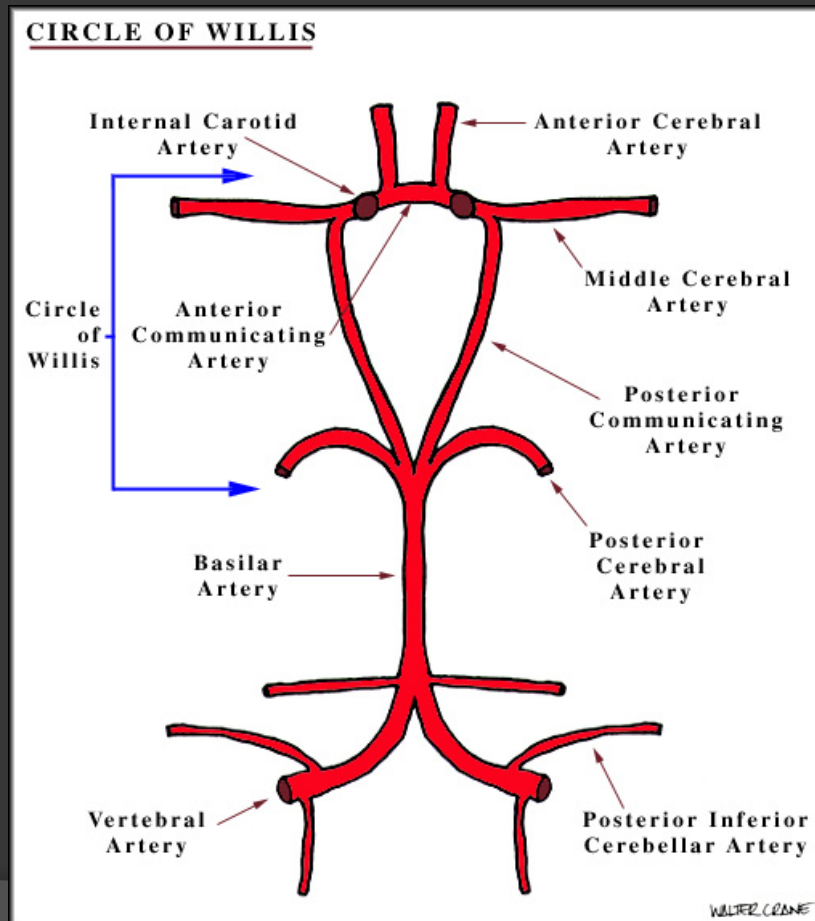
Vertebrobasilar insufficiency

- Typically, patients will have posterior fossa neurologic deficits
 - Cranial nerve dysfunction
 - Cerebellar signs
 - Visual field loss
- Treatment
 - Anticoagulation?
 - Endovascular intervention?
 - Maintain elevated blood pressures



Carotid insufficiency?

- Rare, given the Circle of Willis



Medications...



Cardiac medications

Alpha blockers (e.g., doxazosin [Cardura], terazosin)

Alpha/beta blockers (e.g., carvedilol [Coreg], labetalol)

Angiotensin-converting enzyme inhibitors

Beta blockers

Clonidine (Catapres)

Dipyridamole (Persantine)

Diuretics (e.g., furosemide [Lasix])

Hydralazine

Methyldopa

Nitrates (e.g., nitroglycerin paste, sublingual nitroglycerin)

Reserpine

Central nervous system medications

Antipsychotics (e.g., chlorpromazine, clozapine [Clozaril], thioridazine)

Opioids

Parkinsonian drugs (e.g., bromocriptine [Parlodel], levodopa/carbidopa [Sinemet])

Skeletal muscle relaxants (e.g., baclofen [Lioresal], cyclobenzaprine [Flexeril], methocarbamol [Robaxin], tizanidine [Zanaflex])

Tricyclic antidepressants (e.g., amitriptyline, doxepin, trazodone)

Urologic medications

Phosphodiesterase type 5 inhibitors (e.g., sildenafil [Viagra])



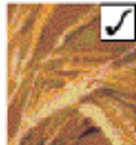

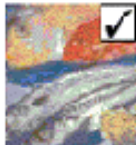

Urinary anticholinergics (e.g., oxybutynin [Ditropan])

Hypoglycemia?

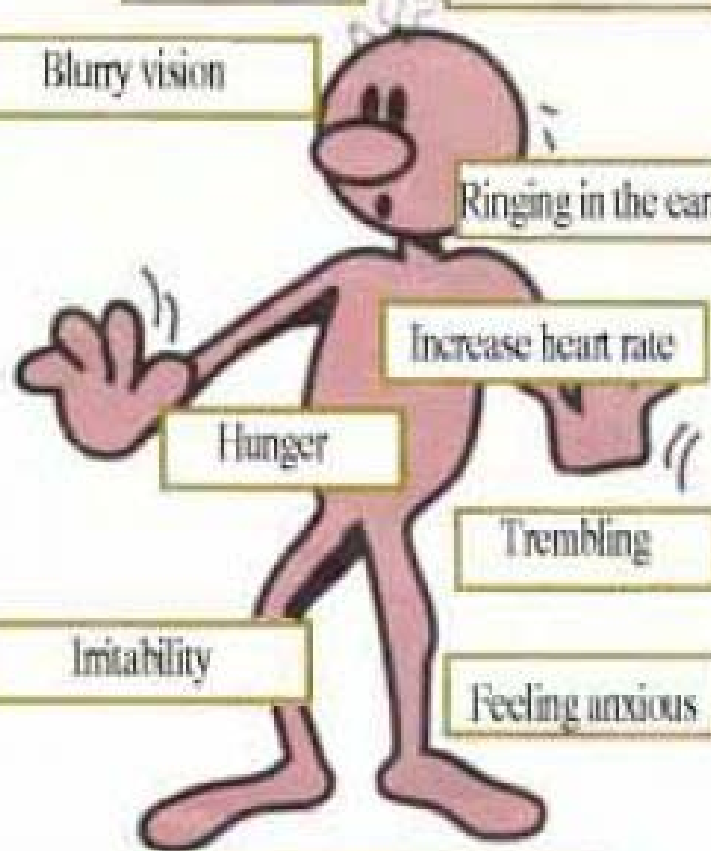
"Among the Best Lay Medical Books in Public Libraries...
A simple, accessible explanation of what it is,
and how to cope with it."
—*American Library Journal*

The Do's and Don'ts of HYPOGLYCEMIA

AN EVERYDAY GUIDE TO LOW BLOOD SUGAR
TOO OFTEN MISUNDERSTOOD AND MISDIAGNOSED!

 ✓	EASILY TREAT AND CONTROL YOUR BLOOD SUGAR SYMPTOMS THROUGH SIMPLE DIET AND LIFESTYLE CHANGES	 ✗
 ✓		 ✗
 ✓		 ✗

ROBERTA RUGGIERO
President and Founder of
The Hypoglycemia Support Foundation, Inc.



Headache

Sweatiness

Blurry vision

Ringing in the ears

Increase heart rate

Hunger

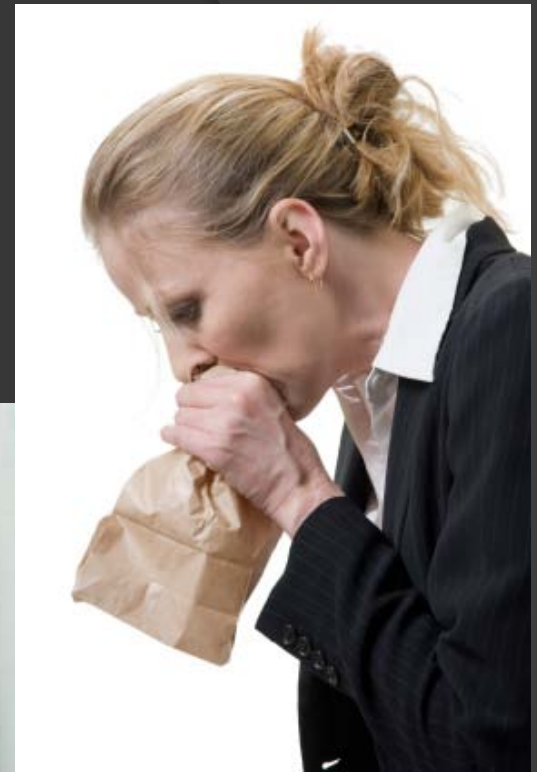
Trembling

Irritability

Feeling anxious

Weakness or tiredness

Hyperventilation-Panic?



Neurologic causes of dizziness

Dizziness can mean...

SYMPTOM:

- ⦿ Lightheadedness or presyncope
- ⦿ Vertigo
- ⦿ Unsteadiness
- ⦿ Imbalance
- ⦿ Gait difficulty
- ⦿ Bumping into objects

CAUSE:

- ⦿ Cardiac or vasovagal
- ⦿ Vestibular
- ⦿ Cerebellar
- ⦿ Neuropathy
- ⦿ Parkinsonism
- ⦿ Visual loss

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Already discussed

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CAUSE:

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- ◉ Unsteadiness
- ◉ Imbalance
- ◉ Gait difficulty
- ◉ Bumping into objects

- ◉ Vestibular
- ◉ Cerebellar
- ◉ Neuropathy
- ◉ Parkinsonism
- ◉ Visual loss

Cerebellar dizziness video

Dizziness can mean...

SYMPTOM:

CAUSE:

⦿ Vertigo

⦿ Vestibular

⦿ Imbalance

⦿ Neuropathy

⦿ Gait difficulty

⦿ Parkinsonism

⦿ Bumping into
objects

⦿ Visual loss

Parkinsonism video

Parkinsonism

- ⦿ Parkinson's disease
- ⦿ Dementia with Lewy Bodies (DLB)
- ⦿ Normal Pressure Hydrocephalus (NPH)
- ⦿ Vascular Parkinsonism
- ⦿ Corticobasilar degeneration (CBD)
- ⦿ Progressive Supranuclear Palsy (PSP)
- ⦿ Drug induced
 - Antiemetics, antipsychotics

Dizziness can mean...

SYMPTOM:

CAUSE:

⦿ Vertigo

⦿ Vestibular

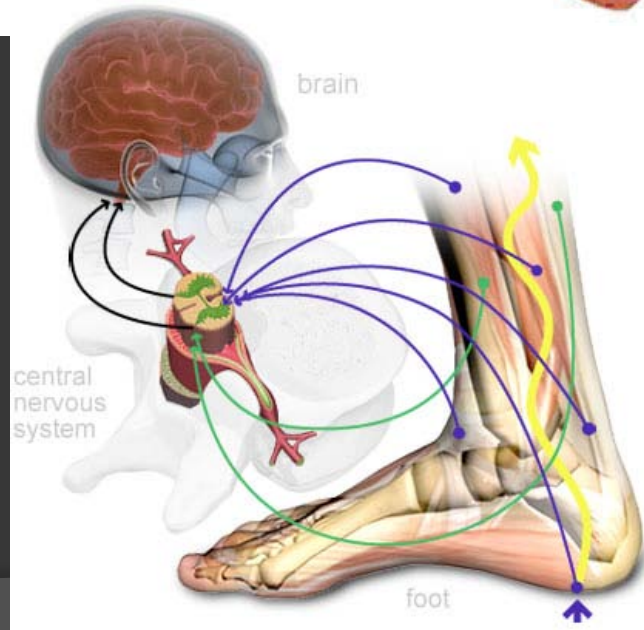
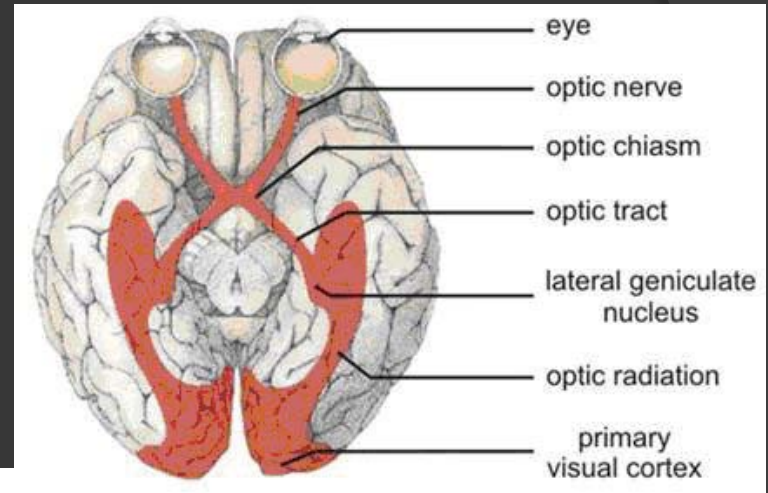
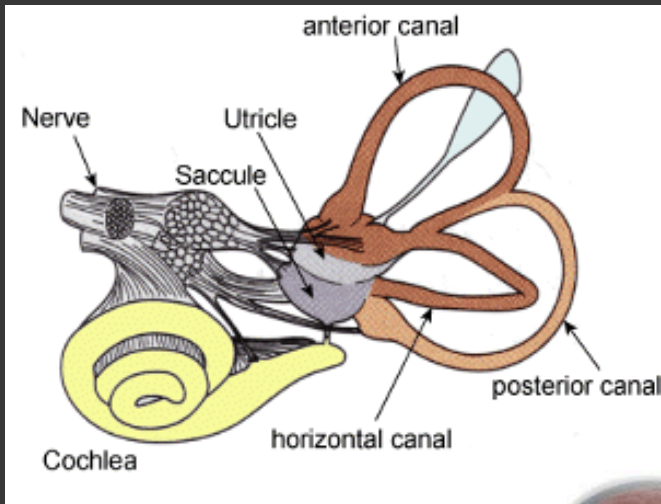
⦿ Imbalance

⦿ Neuropathy

⦿ Bumping into
objects

⦿ Visual loss

Understanding Balance



Central vs. Peripheral lesions

Characteristics of central and peripheral vertigo

Characteristic	Central	Peripheral
Onset	Slow	Sudden
Frequency	Constant, progressive	Episodic, recurrent
Duration	Weeks to months	Seconds to minutes
Changes in head position triggers?	No, symptoms may worsen but are not triggered by motion	Yes, symptoms triggered by motion and alleviated by being motionless
Nystagmus	Vertical	Horizontal
Associated symptoms	Neurologic or visual deficits	Tinnitus, nausea
Fatigable	No	Yes

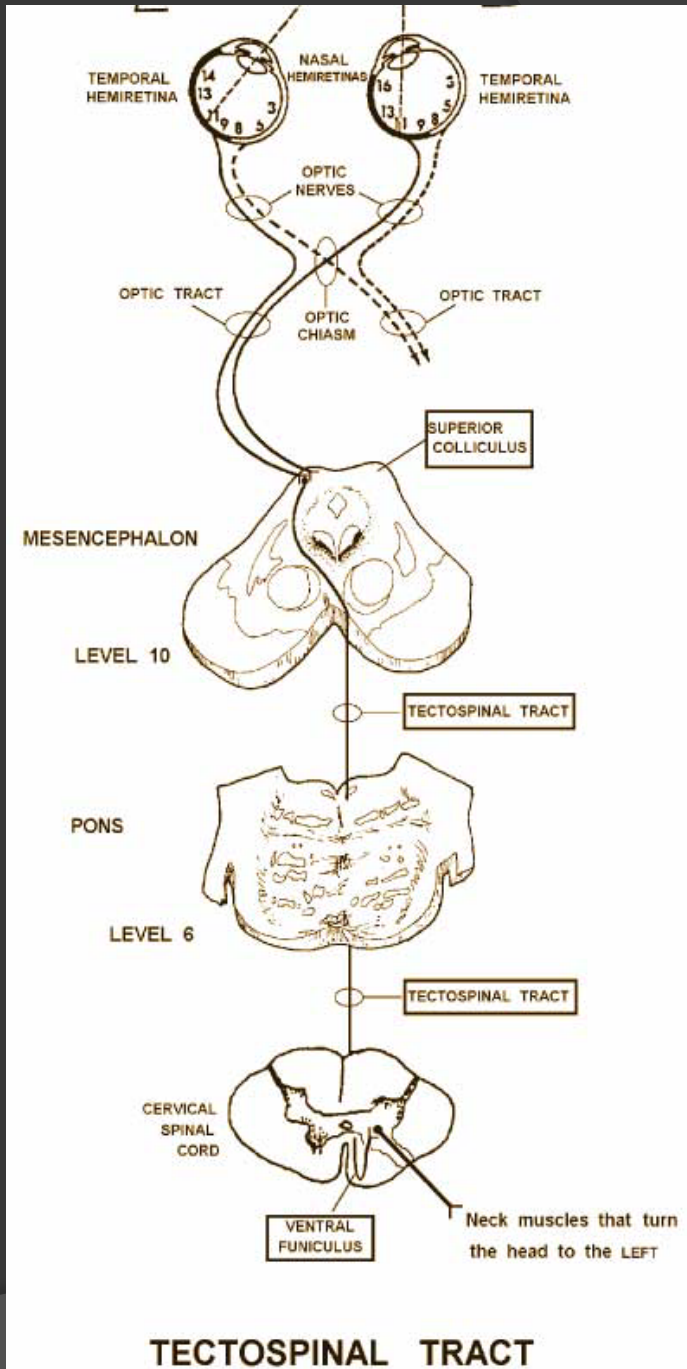
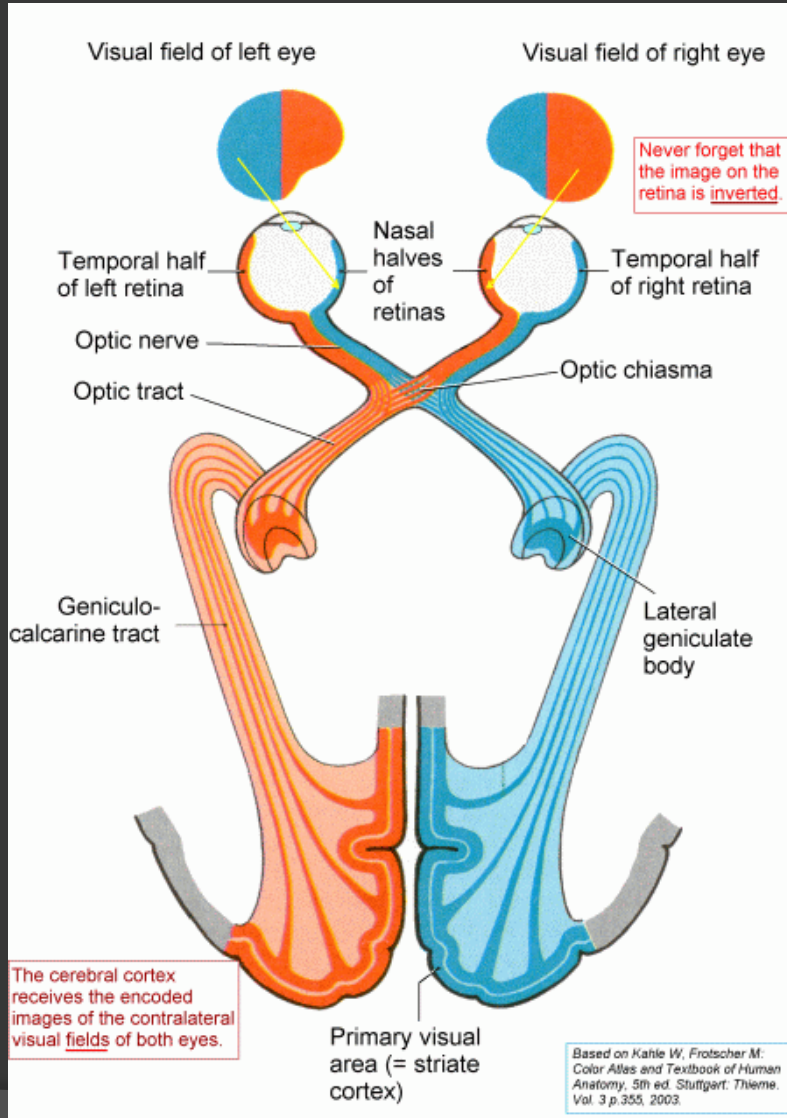
Dorsal column system dysfunction

- Dorsal columns of spinal cord
- Large, myelinated, peripheral sensory neuropathy
- Loss of proprioception and vibration
- Common causes:
 - Peripheral neuropathy
 - Vitamin B12 deficiency
 - Tabes dorsalis
 - Other myelopathy



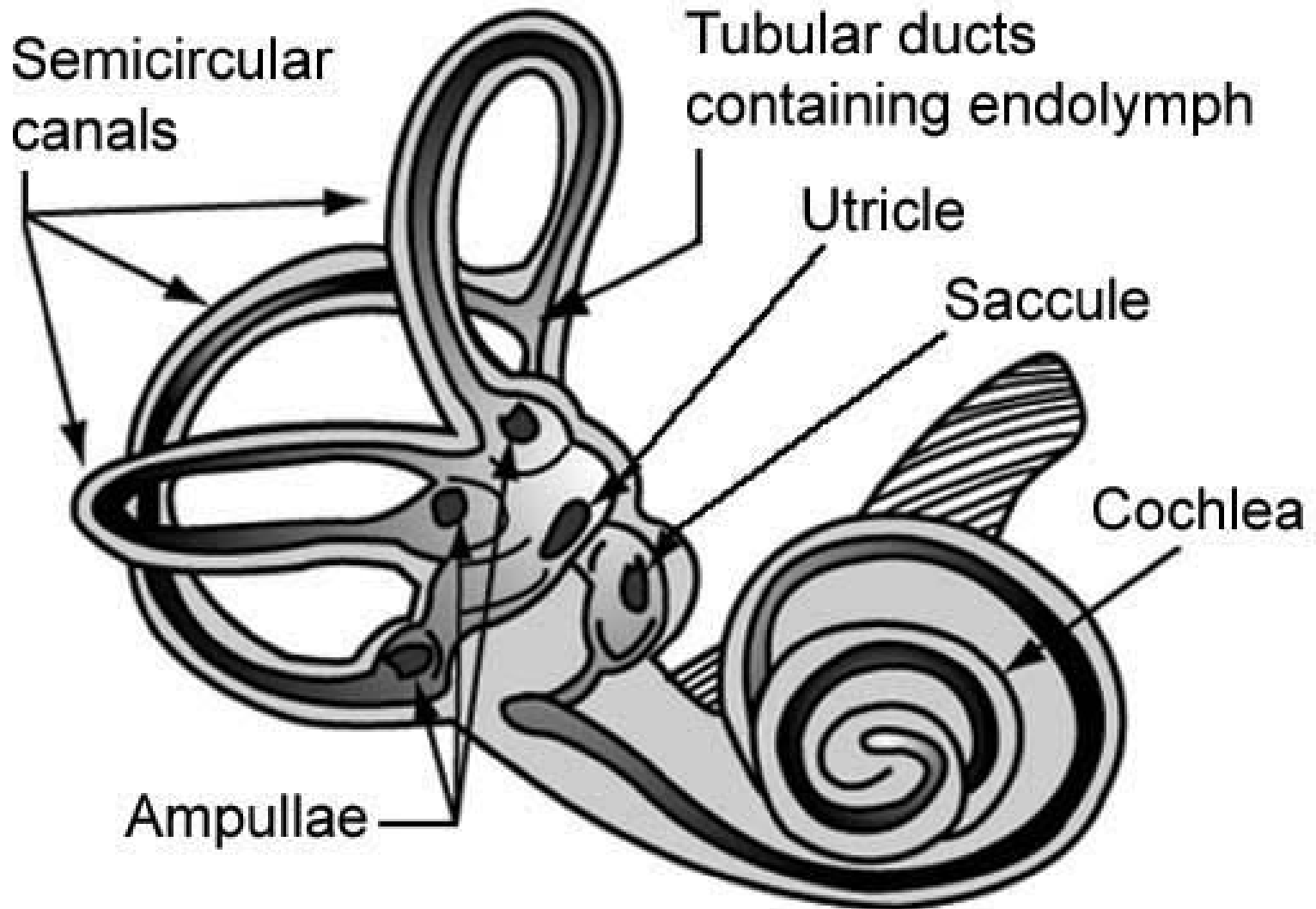
Steppage gait video

Visual system








Romberg video

Vestibular system



Dix-Hallpike maneuver video

Treatment options

- OH  ○ Hydrate, salt, midodrine, florienef
- Vascular insufficiency  ○ Vascular intervention, raise BP
- Parkinsonism  ○ Sinemet, DA agonists, PT
- Cerebellar  ○ PT
- Psychogenic or panic  ○ SSRIs, CBT

Epley maneuver video #1

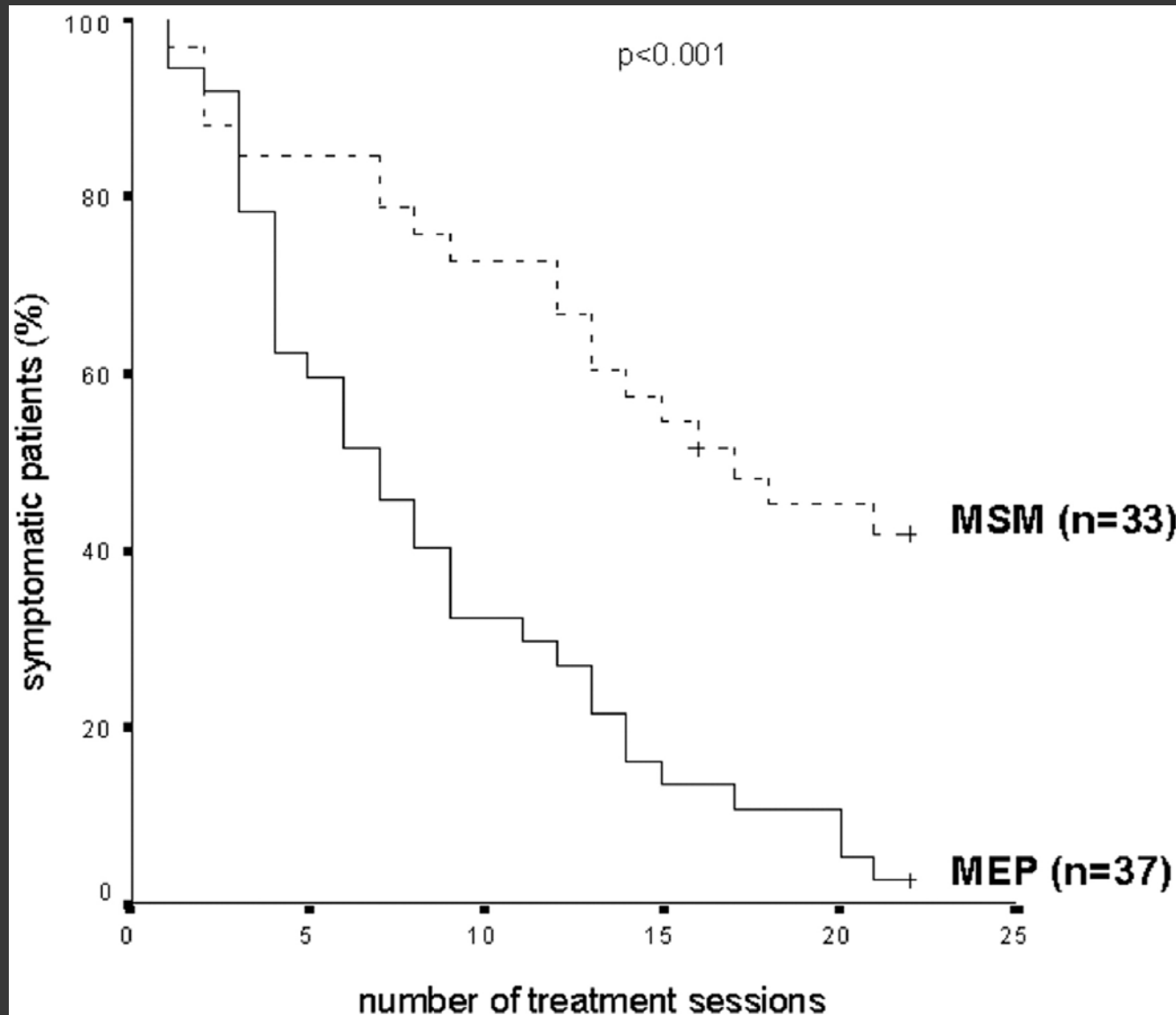
-Physician assisted

Epley maneuver video #2

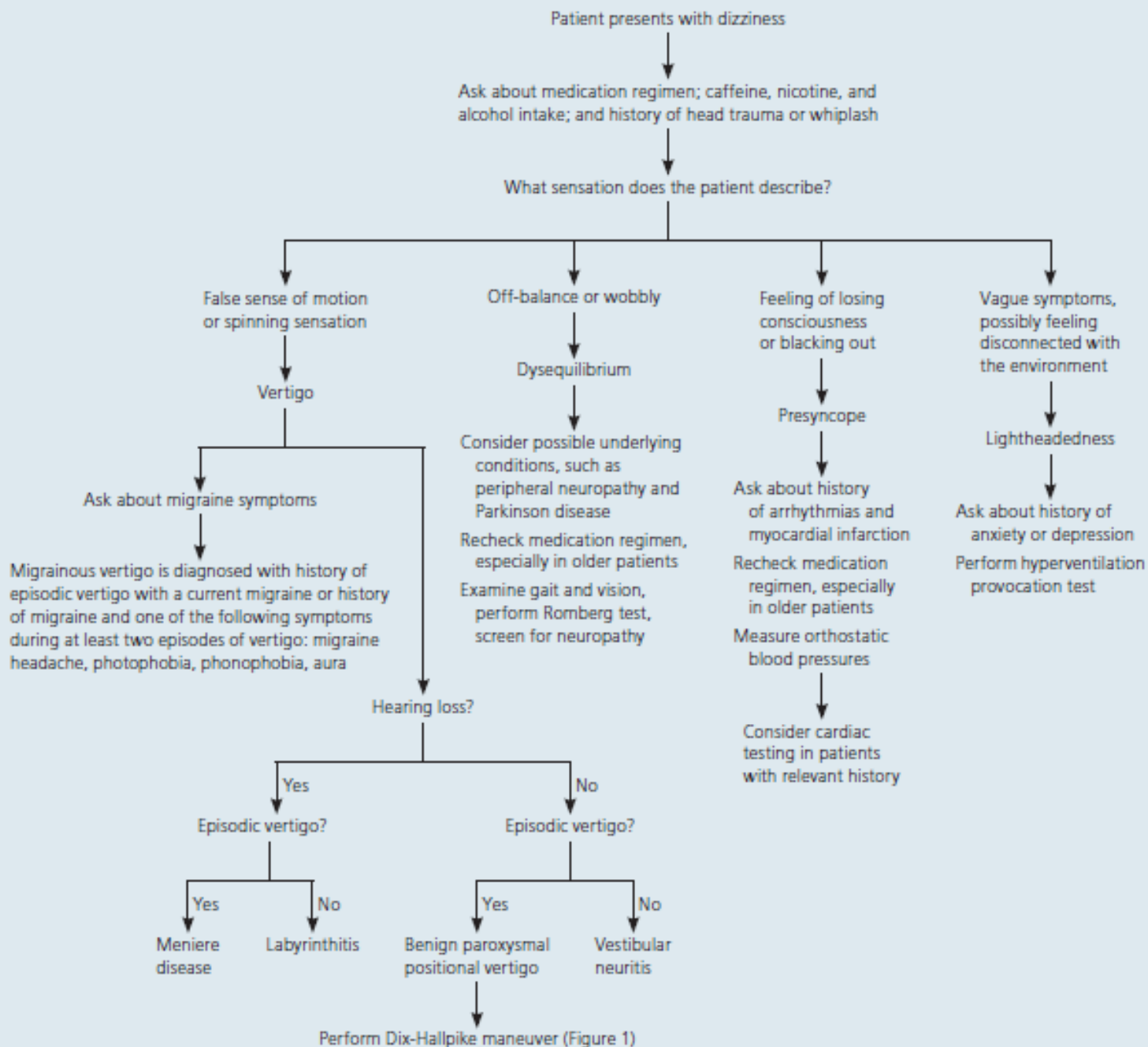
-in home exercise

Brandt-Daroff maneuver video -in home exercise

Kaplan-Meier table showing resolution of symptoms after 1 week of self-treatment (22 treatment sessions)



Approach to the Patient with Dizziness



Questions