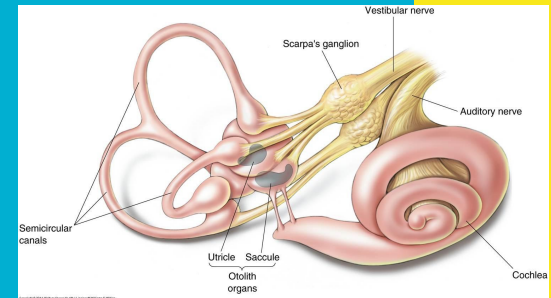


Dizziness: More than BPPV or Meniere's

William J Garvis, MD
Otology, Neurotology & Skull Base
Surgery
Ear, Nose & Throat SpecialtyCare of MN,
PA



American Family Physician

Dizziness: A Diagnostic Approach

Am Fam Physician. 2010 Aug 15;82(4):361-368.

“Dizziness accounts for an **estimated 5 percent of primary care clinic visits.** The patient history can generally classify dizziness into one of four categories: vertigo, disequilibrium, presyncope, or lightheadedness. The main causes of vertigo are benign paroxysmal positional vertigo, Meniere disease, vestibular neuritis, and labyrinthitis.”

Dizziness



Dizziness: It is not the final term

Lightheadedness

Woosiness

Off balance

Unsteadiness

Weakness

Vertiginous

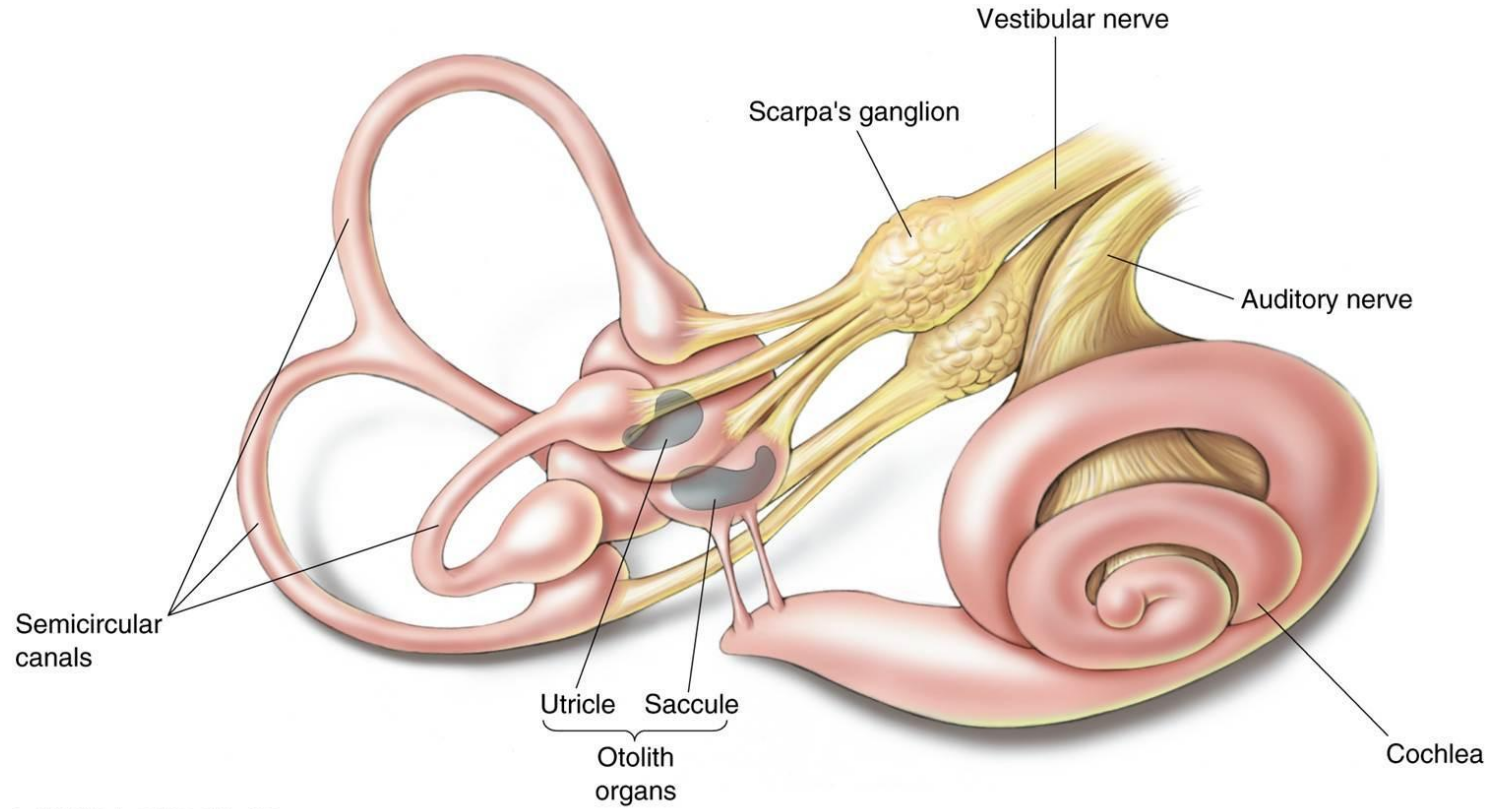
What is Vertigo?

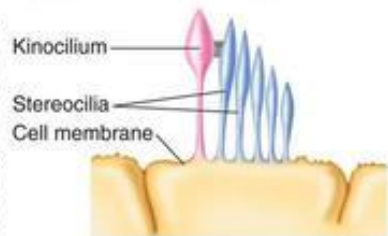


Latin: *verter*--to turn

It is a sensation of **spinning**, or **whirling**, either of the individual or of the environment

It does **NOT** imply giddiness, lightheadedness, imbalance or presyncope

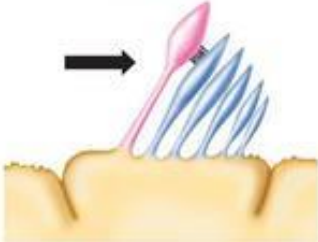
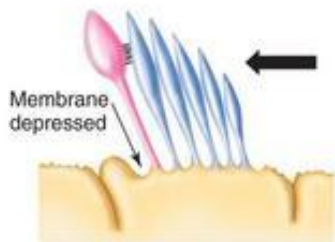




(a)

(b)

At rest



Action potential
frequency increased

(c)

Stimulated

(d)

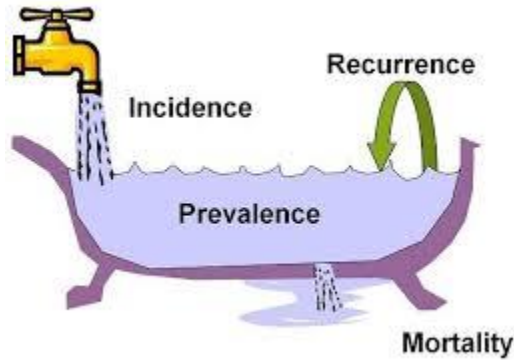
Inhibited

Action potential
frequency decreased

(a): Courtesy of Dean E. Hillman

Epidemiology of Vertigo

Neuhauser, H.K., Lempert, T. Vertigo: Epidemiologic aspects (2009) Seminars in Neurology, 29 (5), pp. 473-481



12 month incidence 1.4%

12 month prevalence 4.9%

Lifetime prevalence 7.4%

Etiologies

Otologic (50%)

BPPV

Vestibular neuritis/Viral
labyrinthitis

Meniere's Disease

SSCCD

PLF

Acoustic tumor

PPPD

Neurologic (30%)

Vestibular Migraine

VBI

Cervical Vertigo

Low CSF Pressure

Others (20%)

Hypoglycemia, BP,
arrhythmia, medication,
B12 deficiency, anxiety,
psychiatric

What do we see in practice based upon frequency

1. BPPV
2. Vestibular migraine
3. Vestibular neuronitis/viral labyrinthitis
4. Meniere's disease
5. Retrocochlear tumors (i.e. acoustic neuromas)
6. Fistulae

BPPV

Episodic vertigo

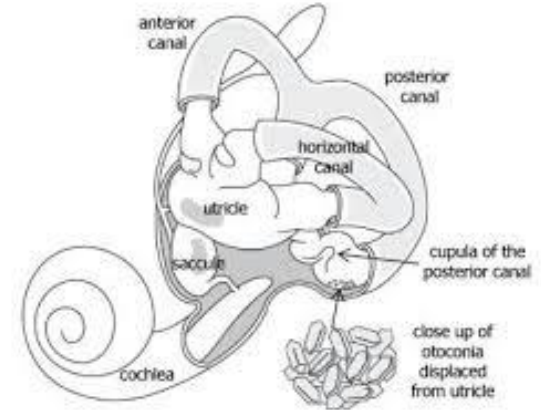
Triggered by head movements with typically a few sec lag

Vertigo/nystagmus last 30 sec-2 minutes

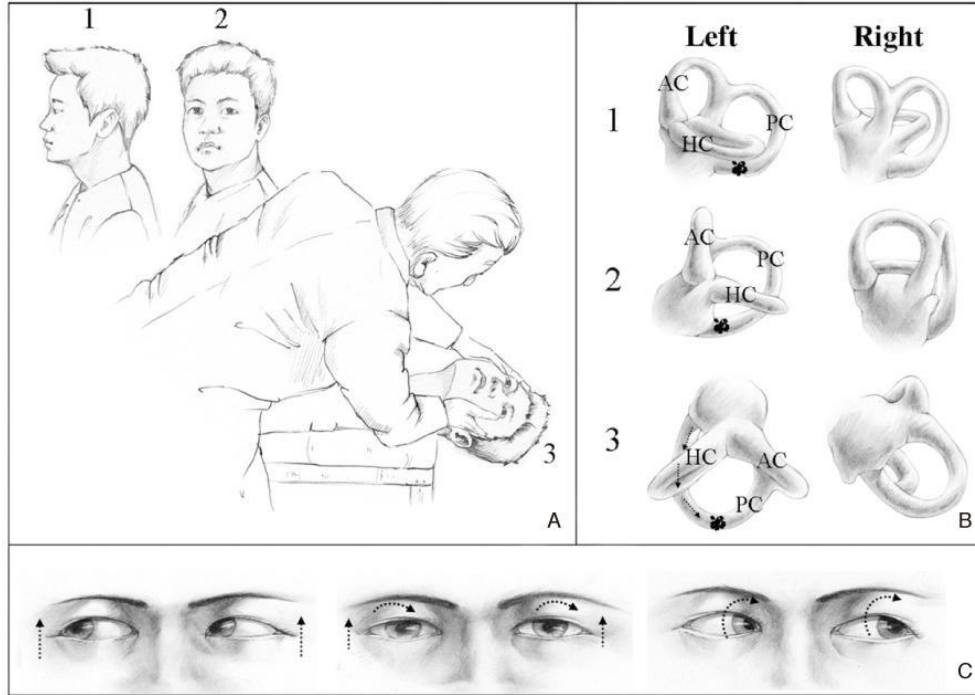
Identified by Dix Hallpike test

Most easily treated

No evidence that medications help



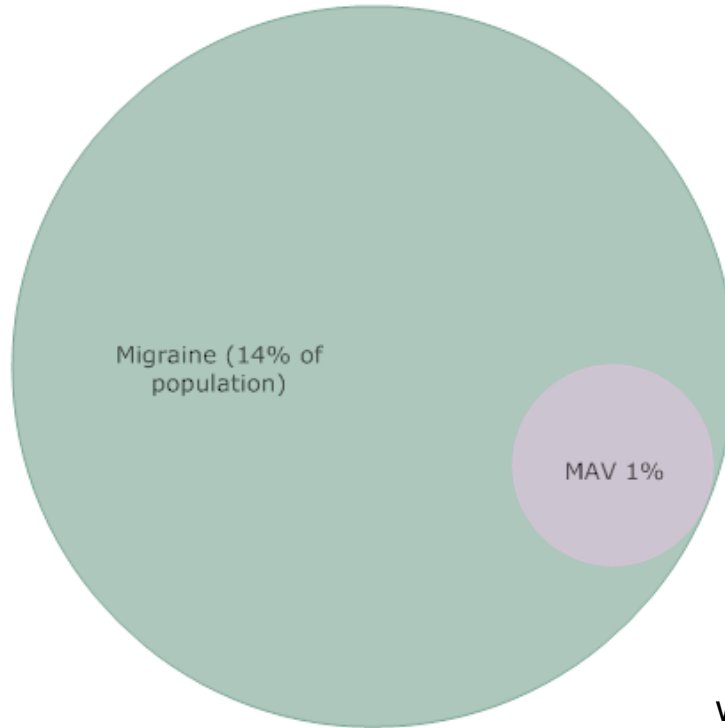
BPPV



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Vestibular Migraine



Vestibular Migraine

2nd most common cause of vertigo

Most often missed as diagnosis--chameleon

Vertigo, motion intolerance, diminished visual focus

Photo- and phono-sensitivity, spatial disorientation

Spontaneous vertigo with duration seconds to days, loss of balance, ataxia

Notable food and environmental triggers

Managed with pharmacotherapy, lifestyle modifications and vestibular therapy



Vestibular Migraine

Symptom	Migraine Associated Vertigo	Meniere Disease
Vertigo	May last >24 h	Lasts <24 h
Sensorineural hearing loss	Very uncommon; often low frequency; rarely progressive; fluctuates	Progressive; usually unilateral; fluctuates
Tinnitus	Unilateral or bilateral; rarely obtrusive	Unilateral or bilateral; often of significant intensity
Photophobia	Often present; may or may not be associated with dizziness	Never present unless a concurrent history of migraine exists

What do we see in practice based upon frequency

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Vestibular Neuritis/Neuronitis/Labyrinthitis

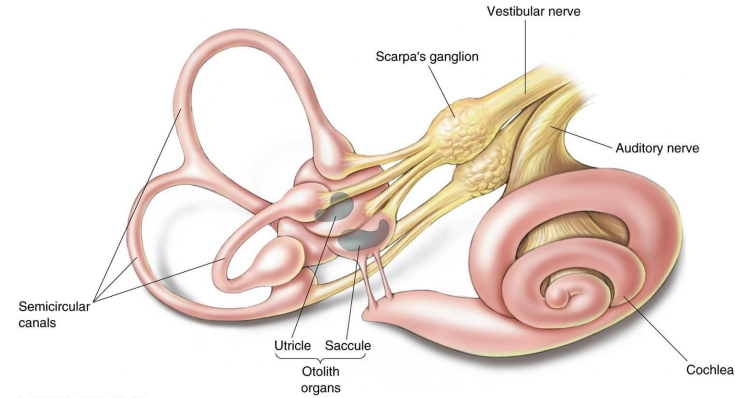
Neuritis--inflammation of nerve

Neuronitis--inflammation/damage to sensory

neurons at vestibular (Scarpa's) ganglion

Labyrinthitis--inflammation of labyrinth resulting

in vertigo and hearing-related changes



Vestibular Neuritis/Neuronitis/Labyrinthitis

3rd most common cause of vertigo

7% of all cases of vertigo

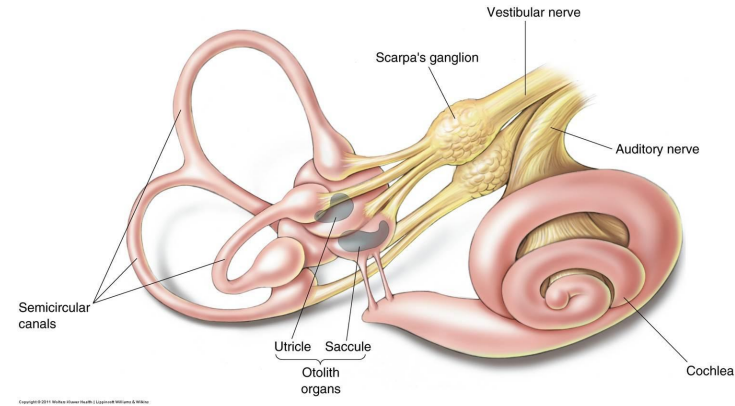
Sudden onset of severe, incapacitating vertigo,
accompanied by unsteadiness, N/V

Unilateral horizontal nystagmus

Symptoms exacerbated with head movements

Usually resolves in a few days to weeks

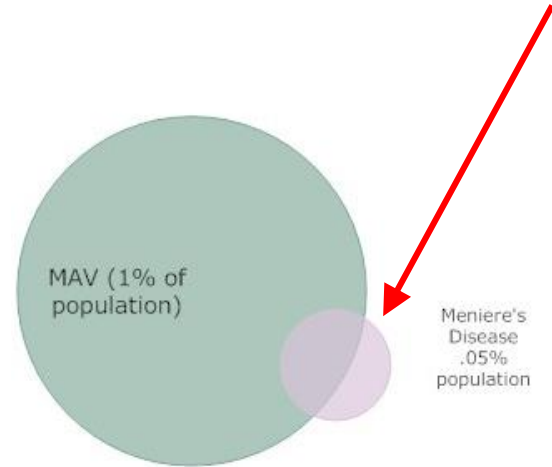
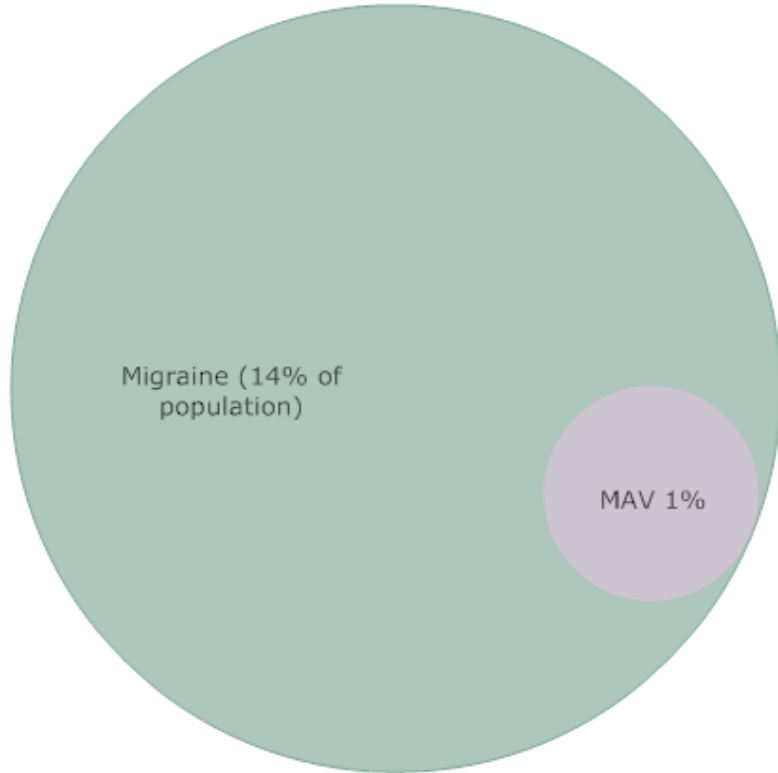
Tx symptomatically



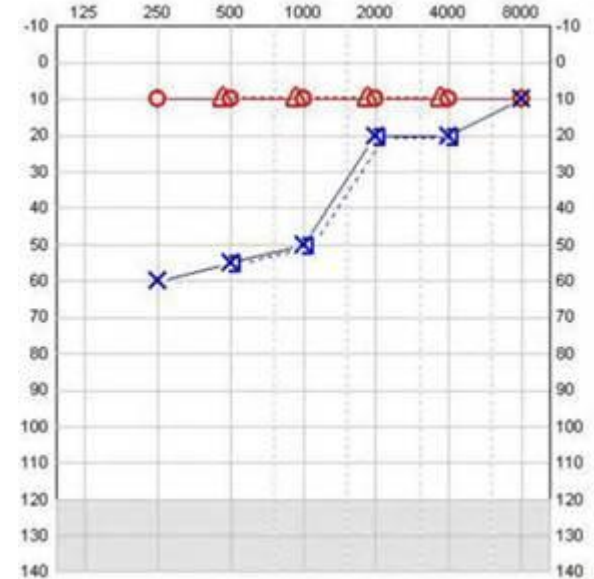
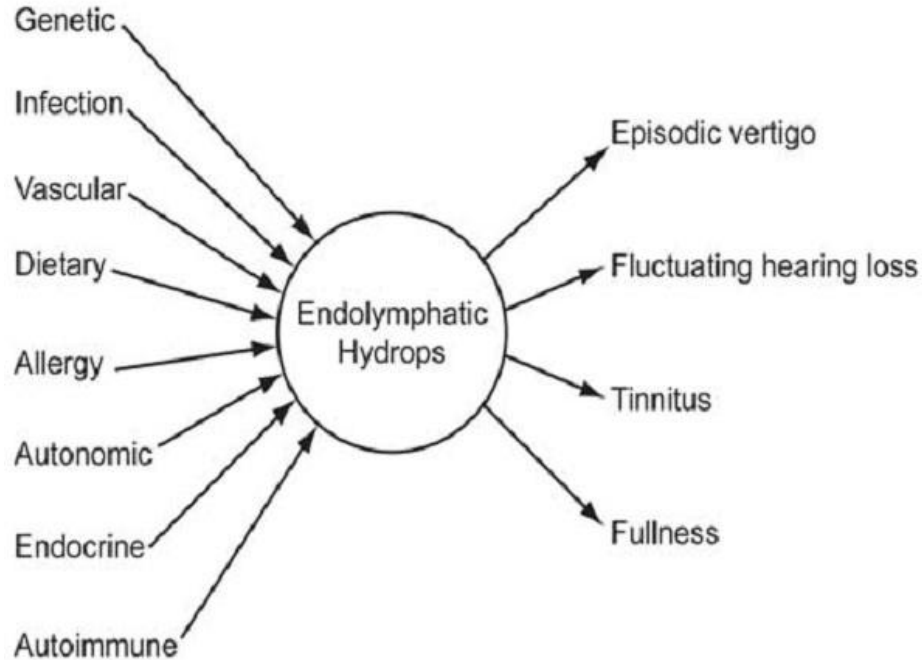
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Meniere's Disease/Syndrome



Meniere's Disease/Syndrome



Meniere's Disease/Syndrome

Episodic vertigo, aural fullness, tinnitus, hearing loss

Spells last 20 min-hours (not shorter or longer than day)

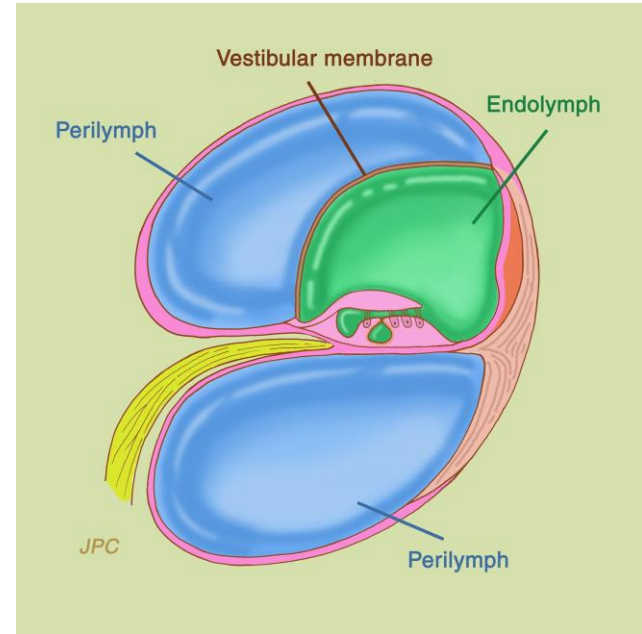
Audiologic findings of fluctuant low-mid freq SNHL

Thought to be related to endolymphatic hydrops

Diagnosis of exclusion

Managed with low sodium diet, dietary changes, diuretics, Valium

Steroids, gentamicin injections, ELS surgery, inner ear over pressurization



www.earsite.com

What do we see in practice based upon frequency

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Retrocochlear tumors

Hearing loss, hearing distortion

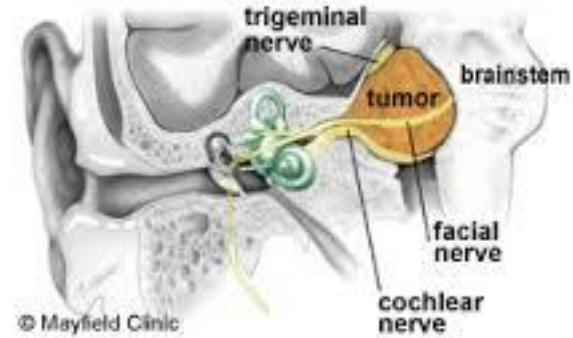
Balance disorder, unsteadiness, vertigo

Tinnitus

Facial numbness

Diagnosis with MRI

Managed with observation, surgery and/or SRS



acoustic neuroma



What do we see in practice based upon frequency

1. BPPV
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6. **Fistulae**

Superior Semicircular Canal Dehiscence

Ear sensitive to sound and pressure

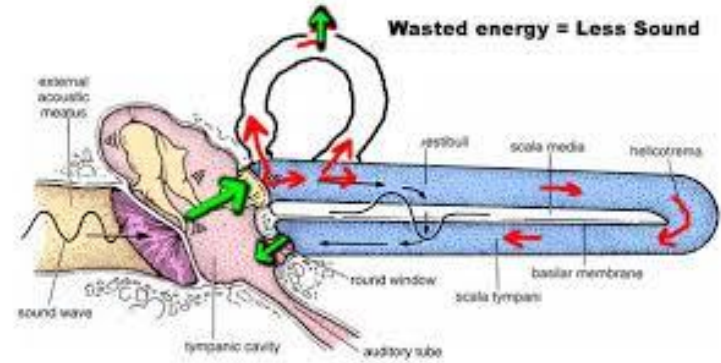
Vertigo and oscillopsia

Autophony, apparent CHL, hear eyeballs move

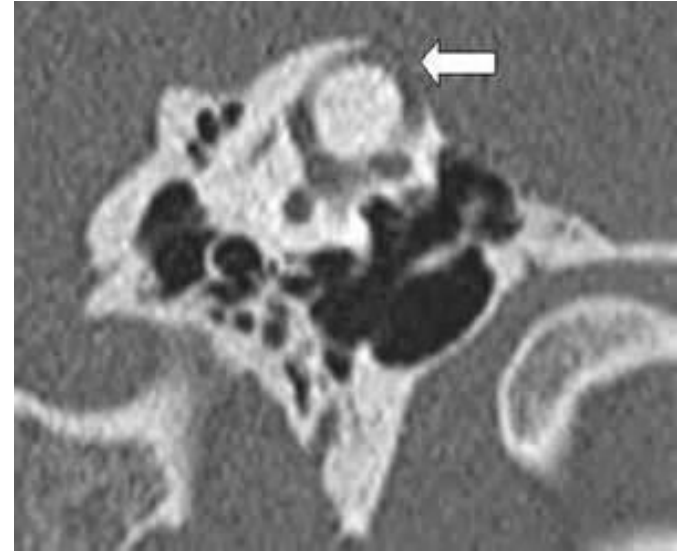
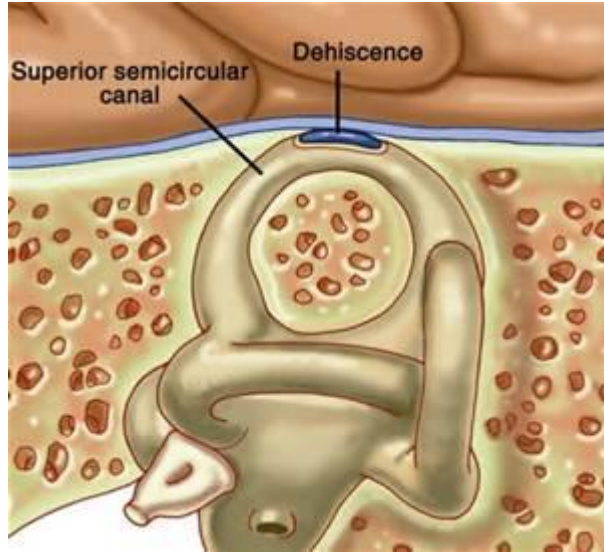
Developmental and perhaps related to BMI

Diagnosed with audiometry, VEMP testing and TB CT

Managed with surgical repair



Superior Semicircular Canal Dehiscence



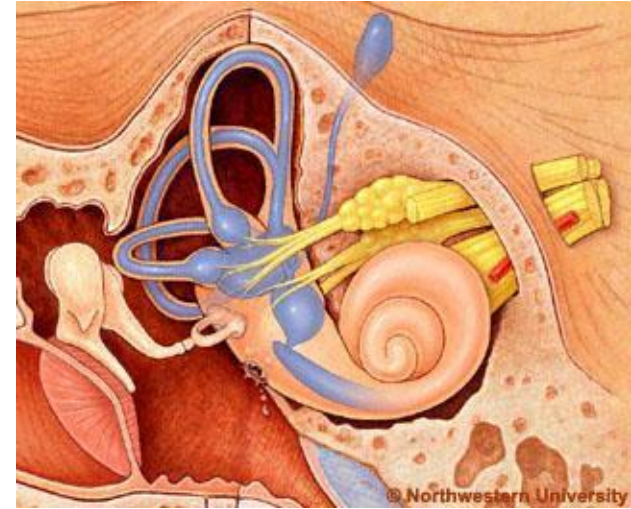
Perilymphatic Fistula

Abnormal connection between inner ear perilymph
and middle ear (often thru thin membranes which
can rupture--RWM and OW/ stapes)

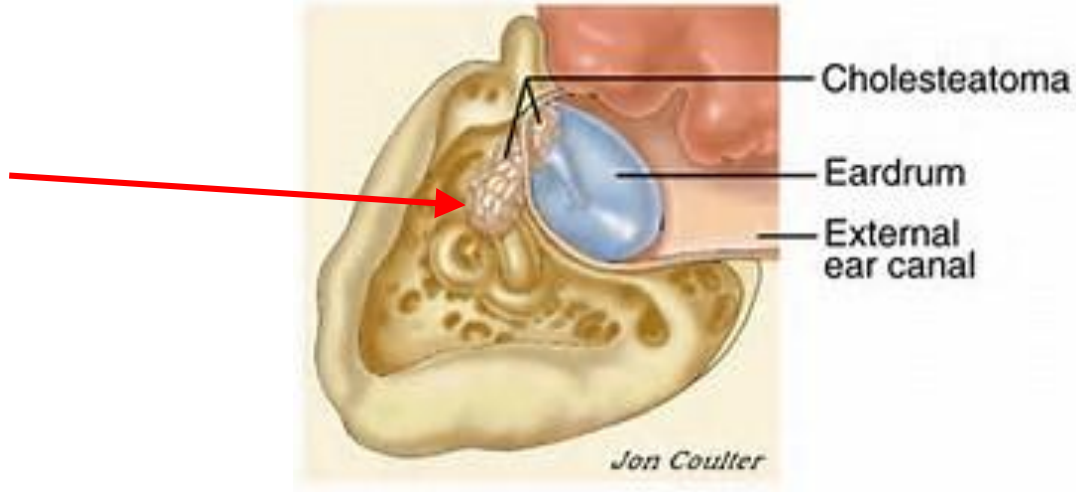
Similar issues as with SSCCD

More often seen with erosion of lateral SCC with cholesteatomas, but can be related to trauma or idiopathic

Identified with fistula test



Perilymphatic Fistula



So Now What?

Questions

1. Is there true vertigo?
2. Is it a first-event or long-standing recurrent vertigo?
3. Is it spontaneous or positional?
4. What is the duration of each spell?
5. What are associated symptoms?

Examination



Exam

Interpretation

Status

Alert and oriented?

Gait

May lean toward side of lesion

Romberg

Primarily proprioceptive

Tandem

Sway correlates more with front foot

F-N-F

Dysmetria--cerebellar dysfunction

Exam

Interpretation

Sm Pursuit

Abnl indicates brain/cerebellar disease

FL:Nystag

Observe for spontaneous or gaze-evoked nystagmus

FL:Post HS

Nystagmus indicates vestib. asymmetry

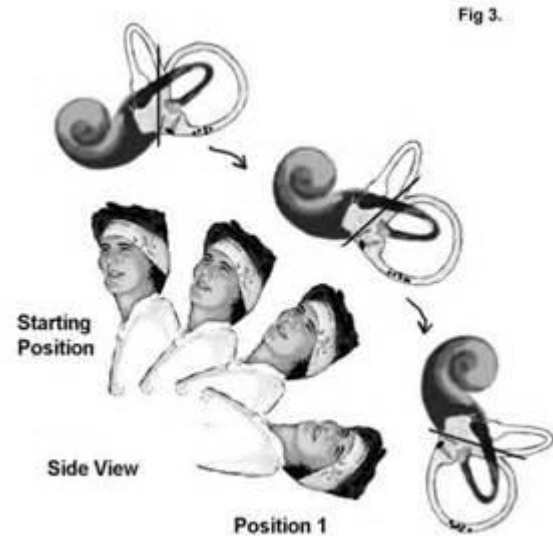
FL:HIT

Examines ipsilateral ear function

Dix-Hallpike Maneuver



www.ptpaul.com



www.emedicine.medscape.com

Fistula Test



Siegle Speculum

www.emedicine.medscape.com

Pearls of Treatment

R/O central causation--do a thorough neurologic exam

Listen to the pt--they'll tell you nearly everything to reduce differential

Inquire about provocative measures

Be aware of vestibular migraine as a diagnosis

Don't assume it's BPPV, vestibular neuritis or Meniere's

Pearls of Treatment

Be comfortable asking for neurology or ENT/neurotology assistance

Make sure pt is not at risk for falls or injury

If you need to treat acute vertigo, use **Valium**, not Antivert

Vestibular therapy is often an integral component to therapy

Dizziness: More than BPPV or Meniere's

Thanks for your attention