American College of Physicians - Internal Medicine Meeting 2025
New Orleans, LA

The Dizzy Patient

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Posted Date: February 24, 2025

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Examining The Dizzy Patient

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ACP Annual Meeting, 2025

1

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2

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- Suchita Kishore, MD FACP
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- Reena Bastin, MD

Objectives

- Differentiate Central from Peripheral Nystagmus
- Perform Physical Exam Maneuvers to Differentiate Central from Peripheral Vertigo
- Treat BPPV with the Epley Maneuver

History: Dizzy

- Lightheaded/Presyncope
- Dysequilibrium
- Vertigo (sensation of movement)
- Vague/Dissociative symptoms

History

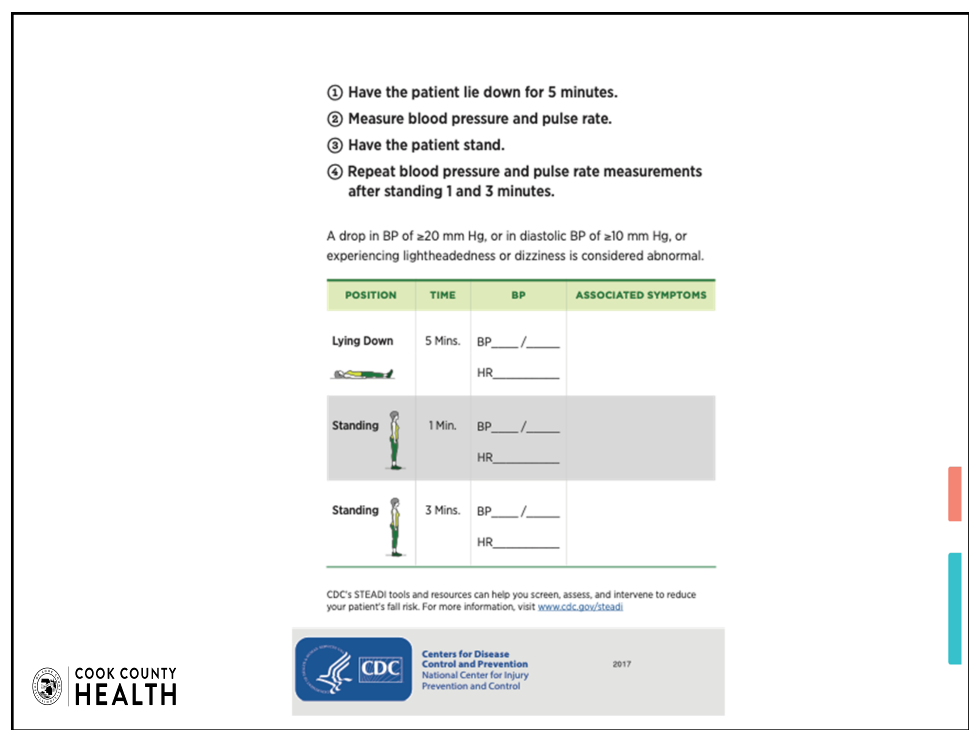
- Better dx specificity when don’t just rely on pt symptom description….
- Timing (onset, frequency, duration)
- Triggers
- Associated Symptoms

Physical Examination

- General Medical Exam
- General Neurologic Exam
- Neuro-otologic Exam

Physical Examination

- Orthostatic Pulse and BP if suggested by history
- External ear exam, otoscopy
- Differentiate CNS from PNS by “the company they keep:
- CNS: bulbar sx (dysarthria, dysphagia), eye findings (diplopia, ptosis, gaze palsy), VF defect, limb ataxia, focal weakness/numbness
- Recall: ataxia does not equal cerebellar lesion! Describes a physical exam finding



① Have the patient lie down for 5 minutes.
② Measure blood pressure and pulse rate.
③ Have the patient stand.
④ Repeat blood pressure and pulse rate measurements after standing 1 and 3 minutes.

A drop in BP of ≥20 mm Hg, or in diastolic BP of ≥10 mm Hg, or experiencing lightheadedness or dizziness is considered abnormal.

POSITION	TIME	BP	ASSOCIATED SYMPTOMS
Lying Down	5 Mins.	BP____/_____ HR_________	
Standing	1 Min.	BP____/_____ HR_________	
Standing	3 Mins.	BP____/_____ HR_________	

CDC's STEADI tools and resources can help you screen, assess, and intervene to reduce your patient's fall risk. For more information, visit www.cdc.gov/steadi

CDC Centers for Disease Control and Prevention National Center for Injury Prevention and Control 2017

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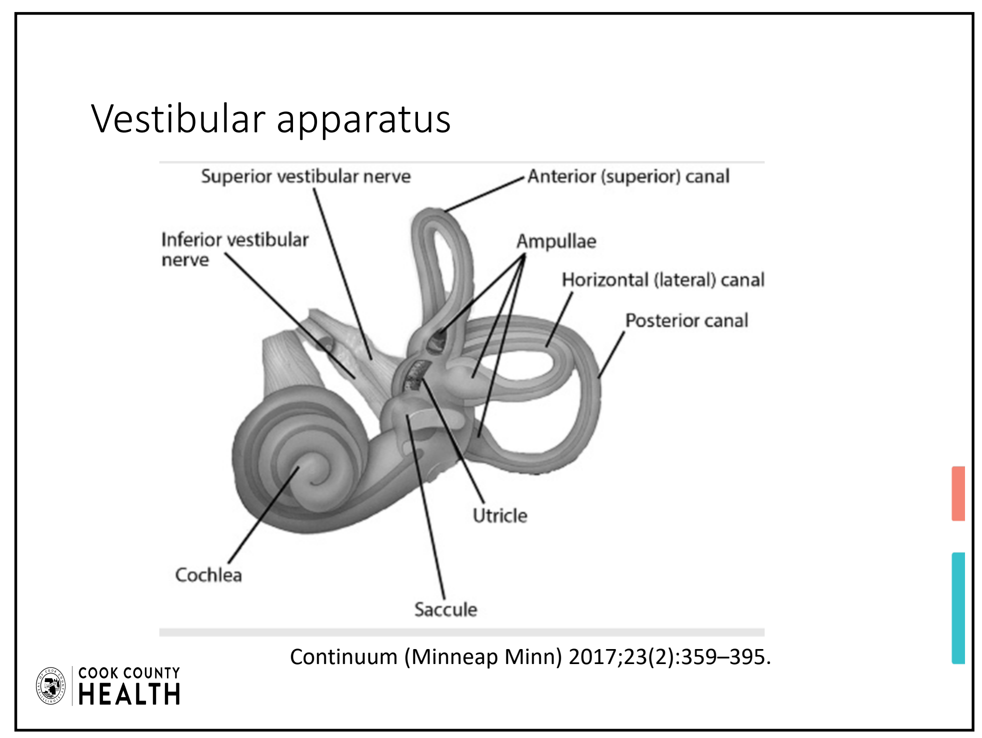
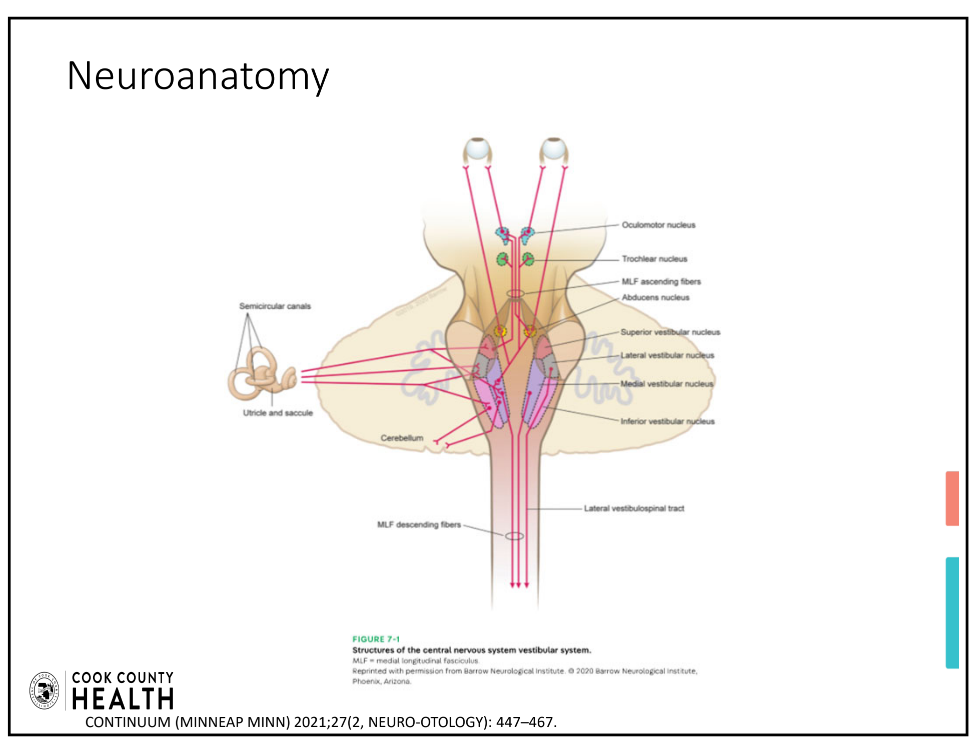
Neuro exam High Yield

- Eye movements, Nystagmus
- Coordination of limbs
- Gait, stance
- Romberg
- Eyes closed tandem Romberg



11



12

Acute Vestibular Syndrome

- A sudden onset of continuous vertigo, lasting >24 hours, associated with nausea, head motion intolerance and imbalance
- Mostly peripheral, ~10% central causes
- HINTS test more sensitive than MRI
- HINTS: Head Impulse Test, Nystagmus and Test of Skew. (ALL 3 must point to peripheral cause to be confident not CNS etiology)

Head Impulse Test

Figure 2

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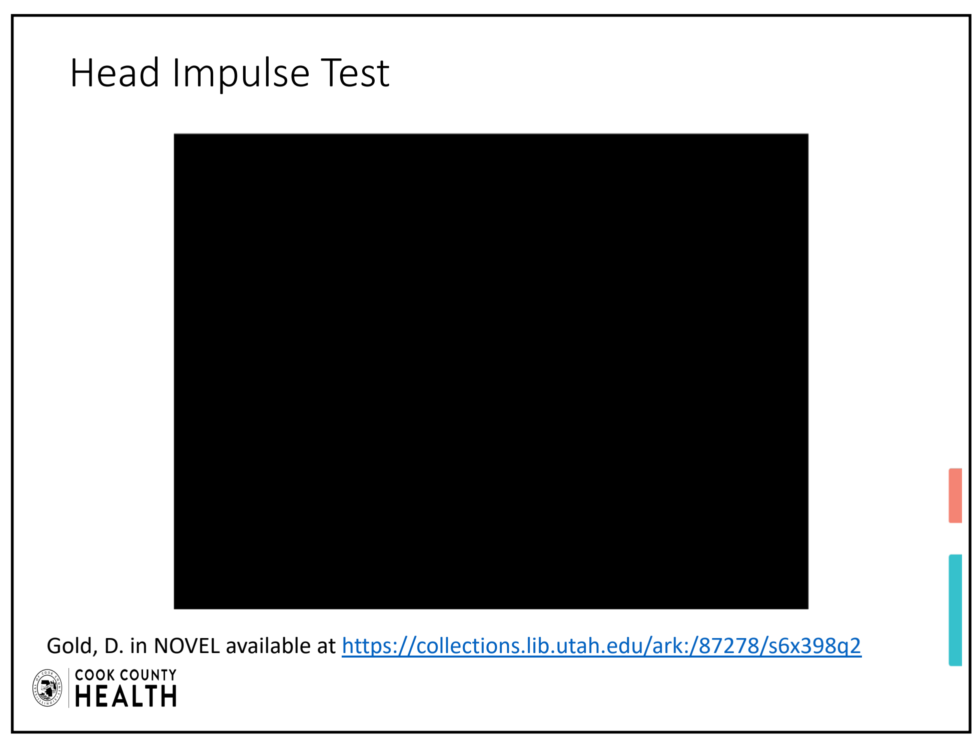
Head Impulse Test



Gold, D. in NOVEL available at https://collections.lib.utah.edu/ark:/87278/s6x398q2

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Central vs Peripheral Nystagmus

	Peripheral	Central
Features	Unidirectional	Gaze evoked
Effect of visual fixation	Suppressed	Not suppressed
Other neuro signs&symptoms	Absent	Usually Present

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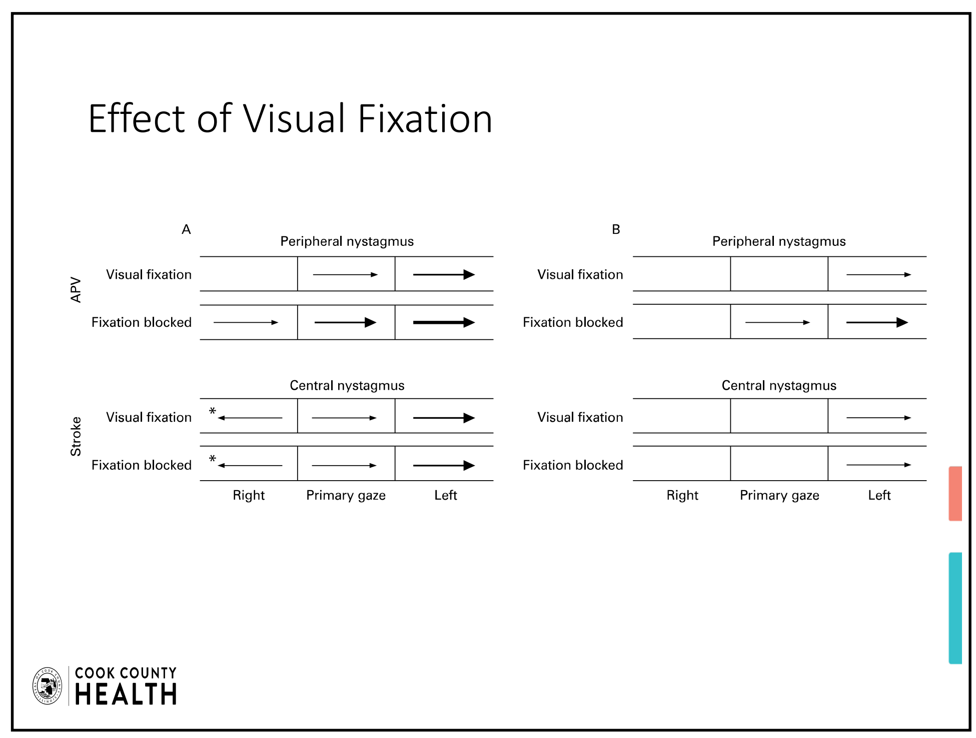
Effect of Visual Fixation
A
Peripheral nystagmus
APV
Visual fixation
Fixation blocked
Central nystagmus
Stroke
Visual fixation
Fixation blocked
Right
Primary gaze
Left
B
Peripheral nystagmus
Visual fixation
Fixation blocked
Central nystagmus
Visual fixation
Fixation blocked
Right
Primary gaze
Left
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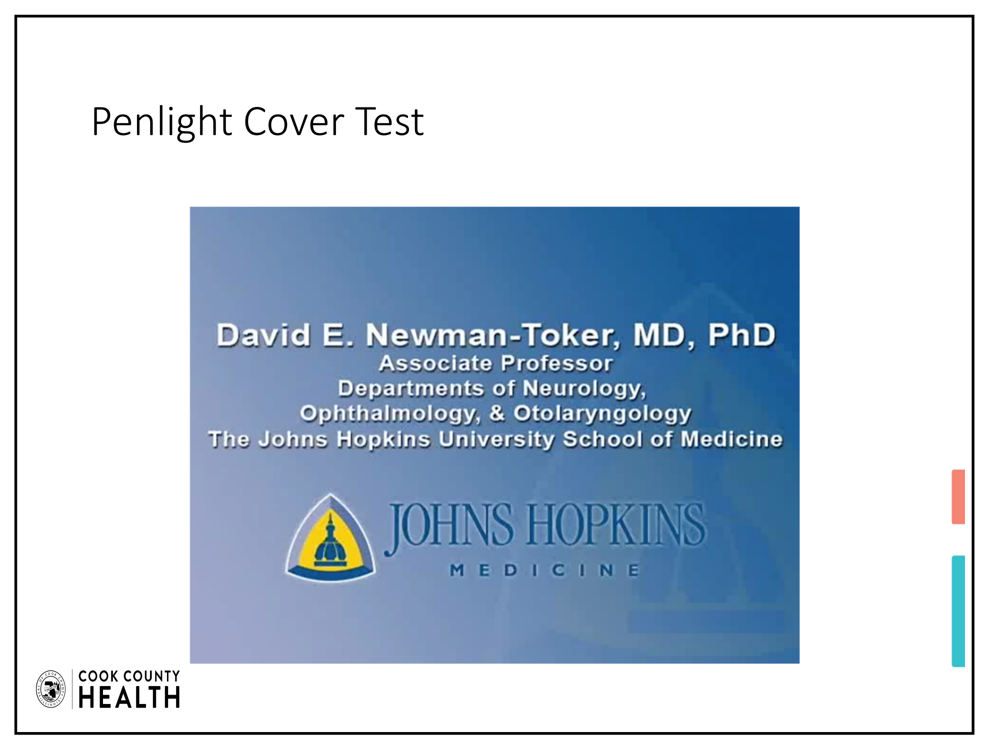
Penlight Cover Test
David E. Newman-Toker, MD, PhD
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Departments of Neurology,
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MEDICINE
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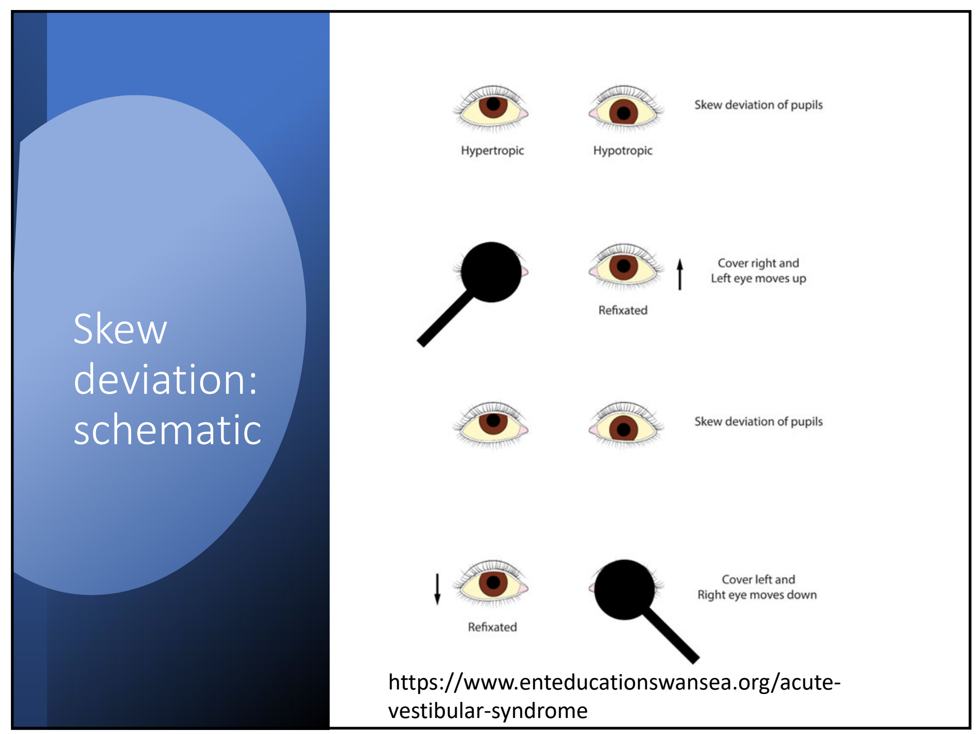
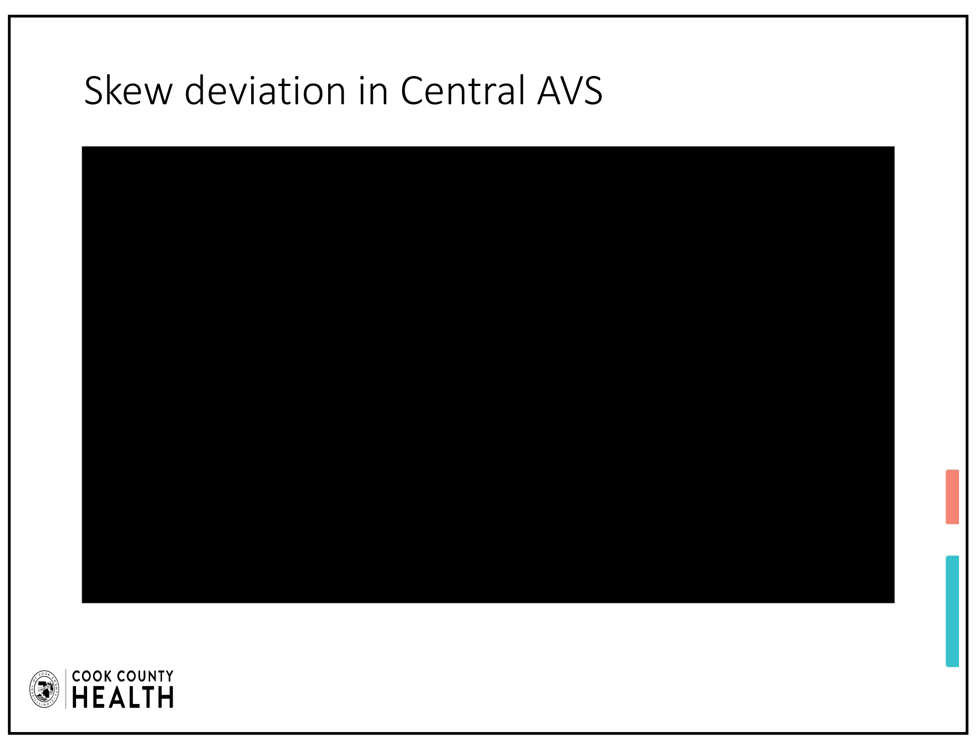

Skew deviation: schematic
Hypertropic
Hypotropic
Skew deviation of pupils
Cover right and
Left eye moves up
Refixated
Skew deviation of pupils
Cover left and
Right eye moves down
Refixated
https://www.enteducationswansea.org/acute-vestibular-syndrome


Skew deviation in Central AVS
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Truncal Ataxia Gradations Used to Distinguish Peripheral Versus Central Causes of Acute Vestibular Syndrome[a]

Ataxia grade	Definition
1	Mild to moderate imbalance with walking independently
2	Severe imbalance with standing, but cannot walk without support
3	Falling at upright posture

[a] In a study evaluating acute vestibular syndrome presentations of posterior circulation stroke, all patients a grade 3 had stroke, and all at grade 1 had peripheral causes.[27]

CONTINUUM (MINNEAP MINN) 2021;27(2, NEURO-OTOLOGY): 402–419.

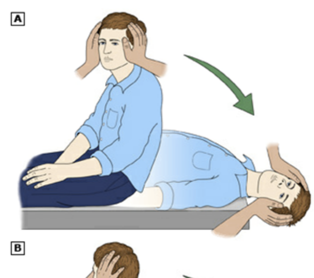
Episodic Positional Dizziness

- BPPV
- Migrainous vertigo
- Central Causes (10%)
- Light Cupula Syndrome (rare)

History: BPPV

- Vertigo ppt by head movements (bend over, turn, roll over in bed etc)
- Last seconds to 1 minute
- No tinnitus, hearing loss
- Everyone says “dizzy all day”….need to tease this out.

Dix Hallpike

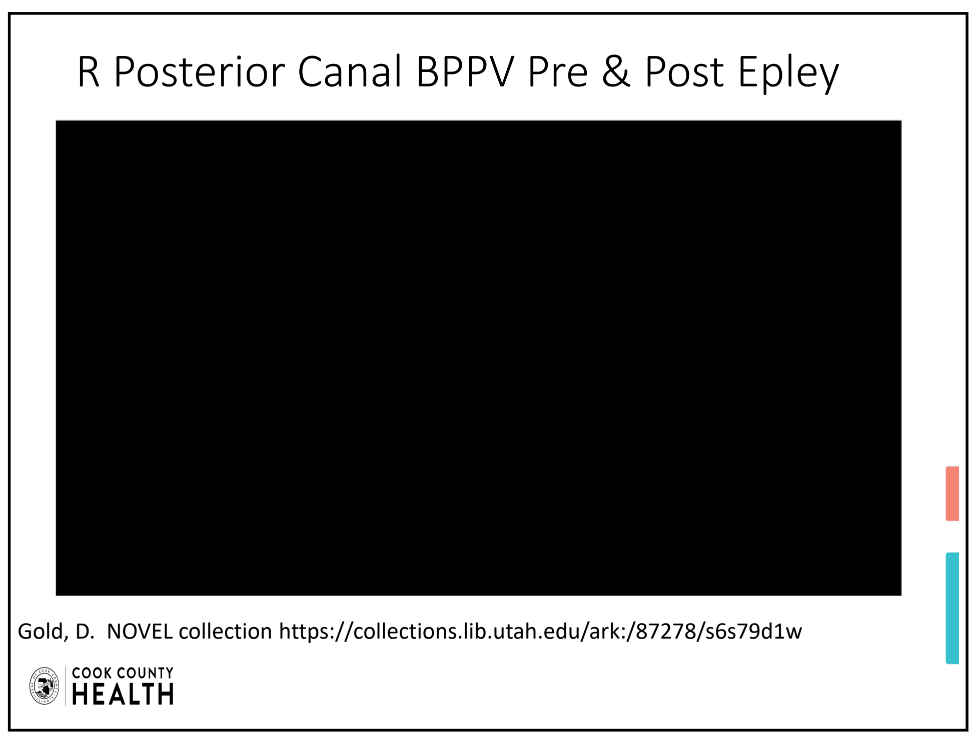


Dix Hallpike is Gold Standard Test for dx of BPPV.

Positive if **both** a) vertigo and b)**triggered** and **transient** nystagmus

Nystagmus of BPPV has a **latency** of 1-2 seconds before onset, and it **fatigues**.

R Posterior Canal BPPV Pre & Post Epley



Gold, D. NOVEL collection https://collections.lib.utah.edu/ark:/87278/s6s79d1w

Treatment of Posterior Canal BPPV: Canalith Repositioning maneuvers

- Epley
- Semont
- Semont-plus
- Half somersault
- Brandt-Daroff exercises* - not curative

Similar efficacy, both have self-maneuvers (Epley, Semont)

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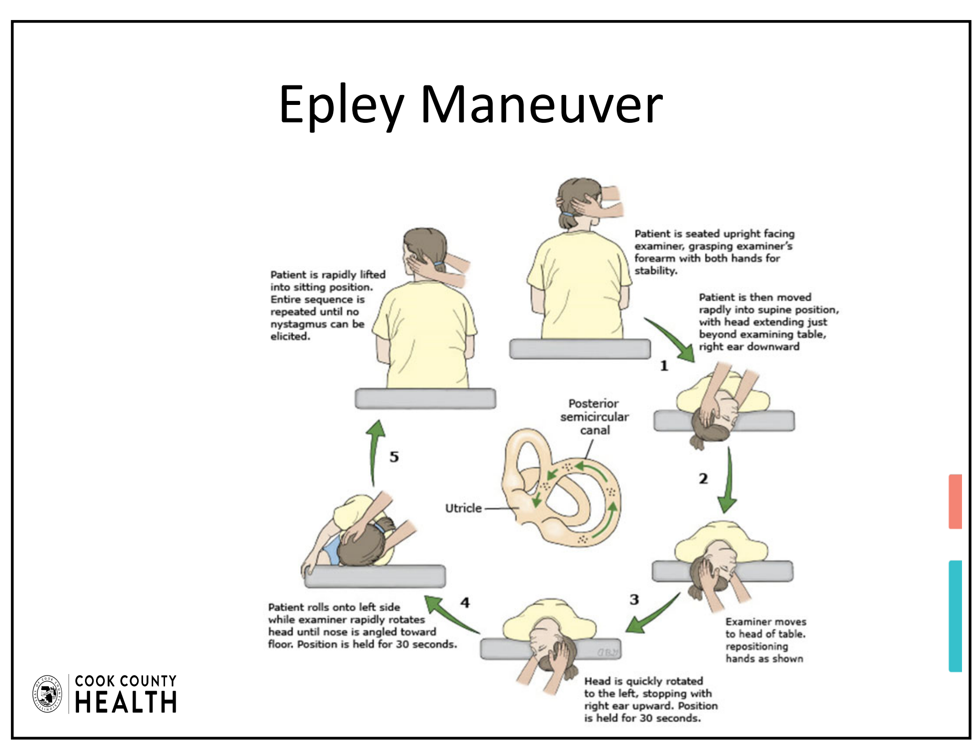

Epley Maneuver
Patient is seated upright facing examiner, grasping examiner's forearm with both hands for stability.
Patient is then moved rapdly into supine position, with head extending just beyond examining table, right ear downward
1
2
Examiner moves to head of table, repositioning hands as shown
3
Head is quickly rotated to the left, stopping with right ear upward. Position is held for 30 seconds.
4
Patient rolls onto left side while examiner rapidly rotates head until nose is angled toward floor. Position is held for 30 seconds.
5
Patient is rapidly lifted into sitting position. Entire sequence is repeated until no nystagmus can be elicited.
Posterior semicircular canal
Utricle
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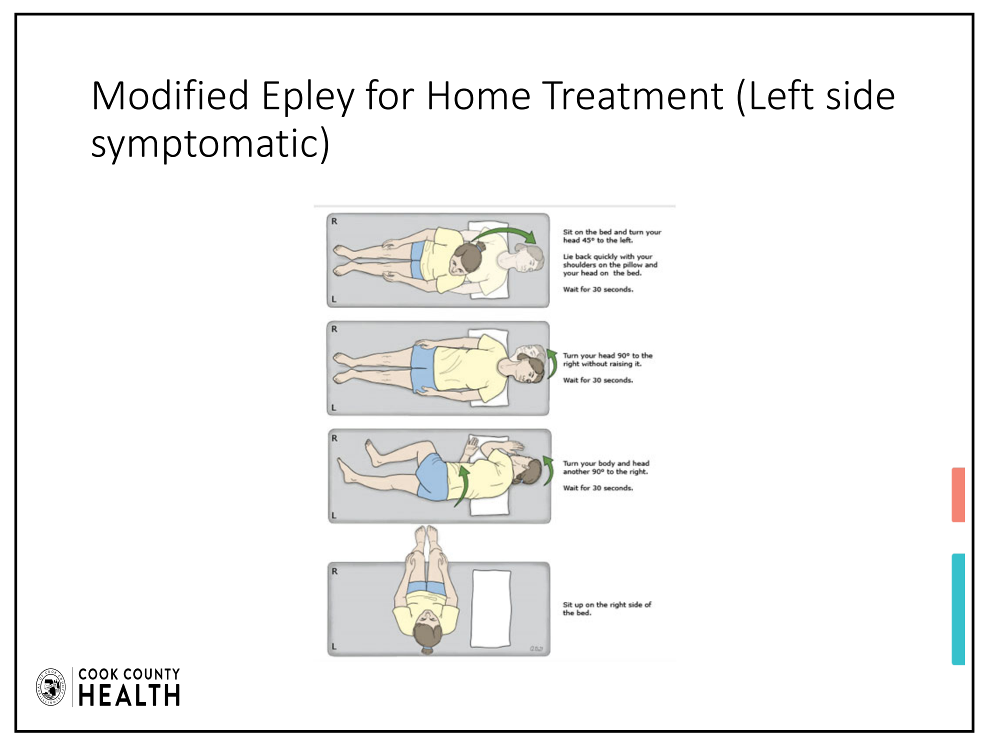

Modified Epley for Home Treatment (Left side symptomatic)
Sit on the bed and turn your head 45° to the left.
Lie back quickly with your shoulders on the pillow and your head on the bed.
Wait for 30 seconds.
Turn your head 90° to the right without raising it.
Wait for 30 seconds.
Turn your body and head another 90° to the right.
Wait for 30 seconds.
Sit up on the right side of the bed.
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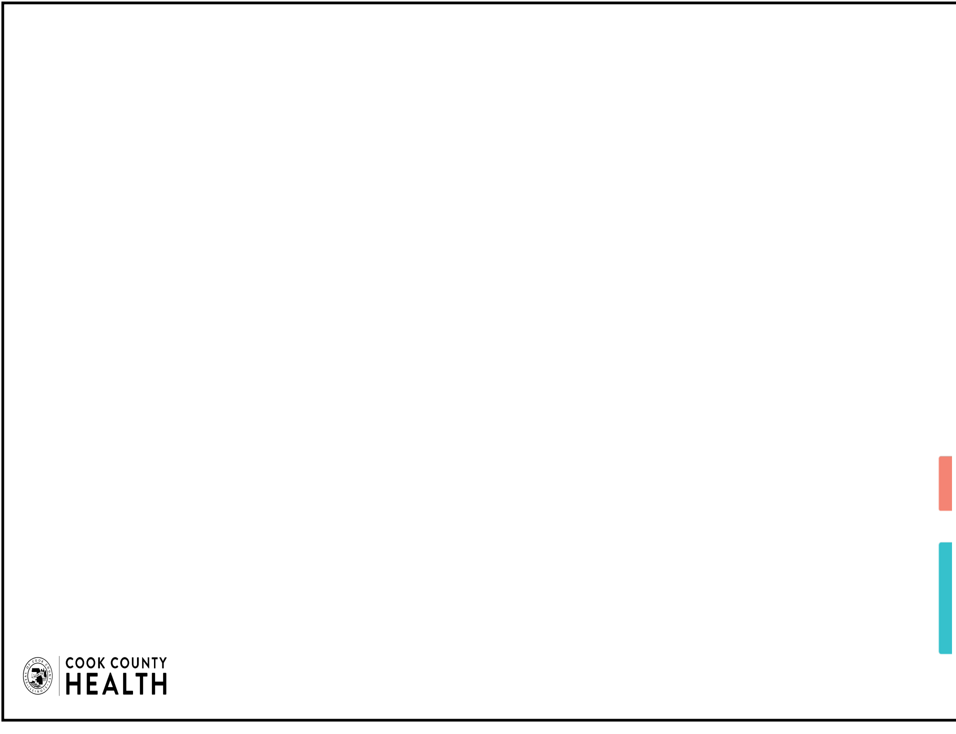

29

Semont plus

A Semont-plus maneuver

B Epley maneuver

Left ear is the affected ear

60 seconds in each position for semont-plus, 30 for Epley

Semont plus shown superior to Epley in 1 recent Class II RCT

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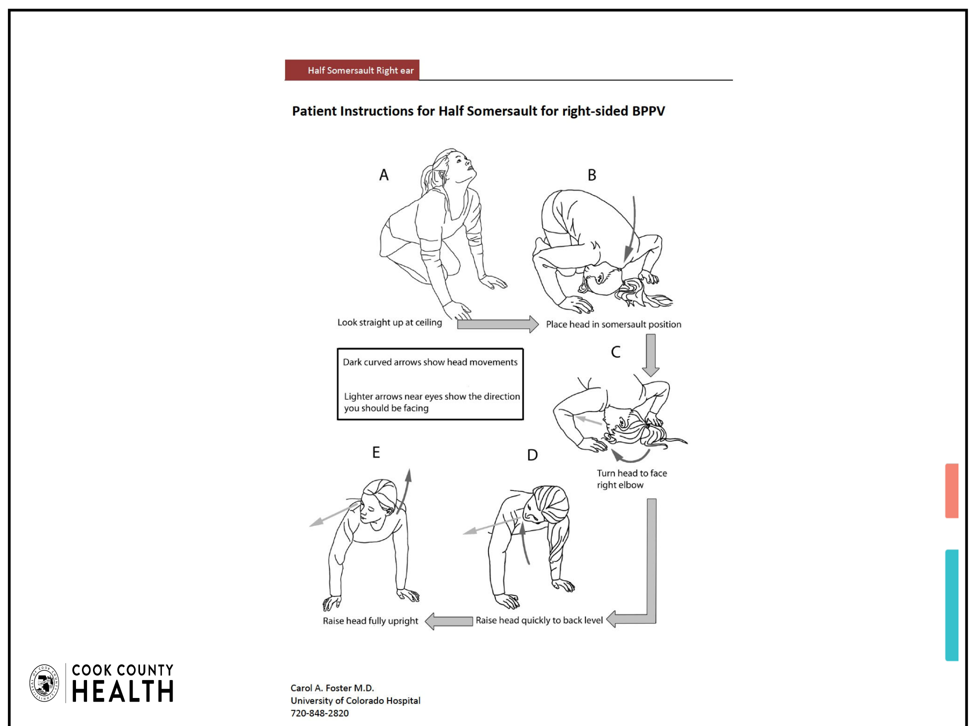
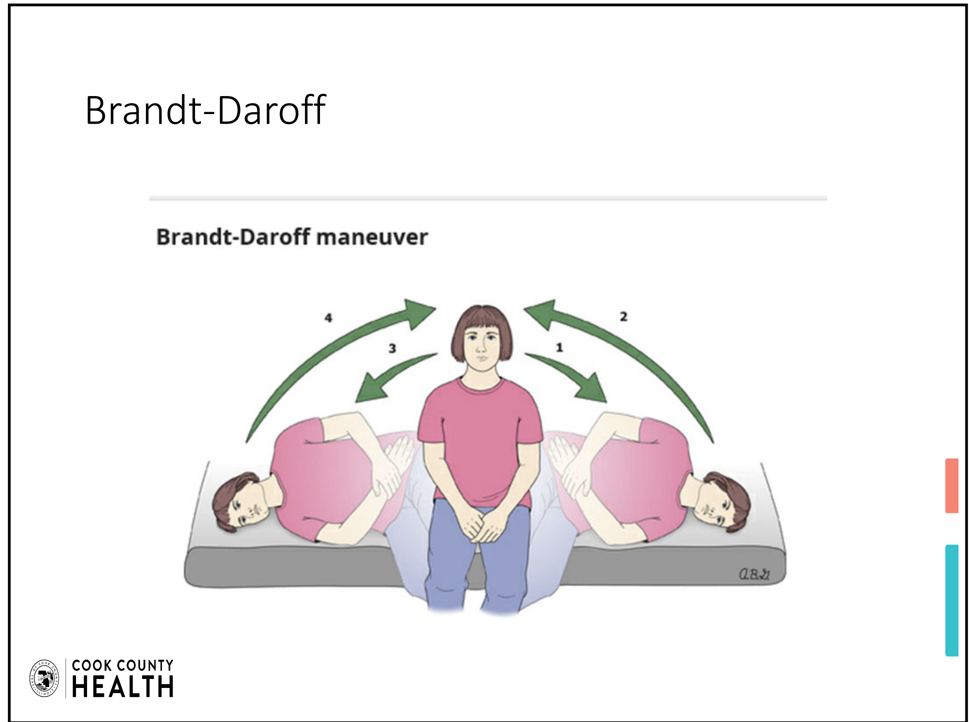
Videos of self-maneuvers

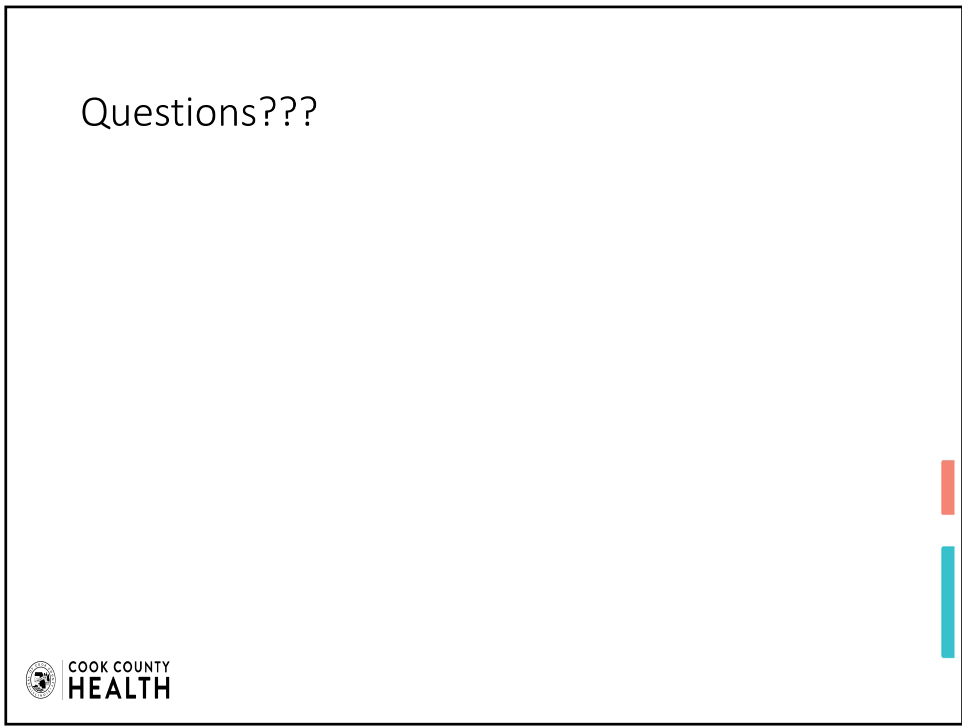
- https://jamanetwork.com/journals/jamaneurology/fullarticle/2806601





Special situations

- Vertigo and nystagmus triggered by Valsalva or pressure to external ear/tragus: Superior Semicircular Canal Dehiscence or Perilymphatic fistula
- Autophony/Conductive hyperacusis: pt hears own body sounds (voice, eye movements, stomach sounds) --> SCC Dehiscence
- Tullio Phenomenon: Vertigo ppt by loud sounds→SCC Dehiscence


Questions???
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