Evaluation/Treatment of BPPV

1) Perform Dix-Hallpike test on any patient reporting vertigo/dizziness with getting in/out of bed, tipping head back or bending over AND on any patient >65 with reports of imbalance or dizziness.
2) If Dix-Hallpike is negative, perform Roll Test.
3) If positional testing is positive, perform appropriate canalith repositioning maneuver or refer to experienced provider such as a vestibular physical therapist.
   - Do NOT prescribe meclizine. If patient is very nauseous and not tolerating testing or treatment maneuvers, consider giving anti-emetic.
   - Do NOT order imaging studies.
   - Do NOT recommend post-treatment restrictions
4) Patient should follow-up within 4 weeks to verify resolution of symptoms.
5) If positional testing is negative, but patient is still symptomatic with movements, consider referral to vestibular rehab for habituation training.

Dix-Hallpike (Assesses Posterior and Anterior Canals)

- A positive test is indicated by torsional and upbeat nystagmus.
- If the patient feels dizzy but there is no nystagmus this is NOT a positive test.
- If the patient feels dizzy when returning to upright position only this is suggestive of orthostatic intolerance.
**Roll Test (Assesses Horizontal Canals)**

1. Patient lies supine
2. Rotate head rapidly ~ 90 degrees to the side, observe for nystagmus, then return to face up position and allow nystagmus to resolve.
3. Rotate head rapidly ~90 degrees to the other side and observe for nystagmus.
4. A positive test = direction changing horizontal positional nystagmus in bilateral roll.
   a. Horizontal canal canalithiasis presents as geotropic nystagmus which fatigues in less than 60 seconds. The side the patient lies on that elicits the **most** intense nystagmus is the affected side.
   b. Horizontal canal cupulolithiasis presents as non-fatiguing apogeotropic nystagmus. The side the patient lies on that elicits the **least** intense nystagmus is the affected side.

**Prolonged positioning Maneuver**

*Treatment of Horizontal Canal BPPV*

Patient performs at night when going to bed:

Canalithiasis (geotropic nystagmus): patient lies down on back for 1 minute, then rolls to the unaffected side and sleeps on that side all night.

Cupulolithiasis (apogeotropic nystagmus): patient lies down on back for 1 minute, then rolls to the affected side and sleeps on that side all night.
Epley Maneuver/Canalith Repositioning Maneuver

Treatment of Posterior Canal BPPV

Hold each position for 45 seconds:

1) Perform 3 cycles of the appropriate canalith repositioning maneuver each session if tolerated.
2) Expect resolution within 1-5 visits.
3) Always retest each session with frenzel goggles if available.
4) If you do not have frenzel goggles and patient is not improving after 3-5 visits, consider referral to provider who has frenzel goggles.
5) If you have frenzel goggles and patient is not improving after 5 visits, consider referral to ENT or neurology to rule out other conditions.
6) Instruct on home maneuvers only if patient has adequate cervical ROM and able to independently and correctly demonstrate performance of maneuver.

How to Refer to Vestibular Therapy

If you are a provider within the Froedtert Health System: Enter “Vestibular Rehab CFAC clinic referral” in Order Entry in Epic.

Other Froedtert Health Rehab clinics that offer Vestibular Rehab:
- Community Memorial Hospital
- Froedtert Hospital-SCIC and Neuro Rehab
- Moorland Reserve Health Center
- Orthopedic Sports and Spine Center
- Springdale Health Center
- Froedtert South-Kenosha
- Mequon Health Center
- North Hills Center
- West Bend Rehabilitation and Sports Medicine Center

If you are a provider outside of the Froedtert Health System: Fax referral to 414-805-7936. Make sure to indicate referral to physical therapy/vestibular rehab and the diagnosis (exp: BPPV, dizziness, vertigo).

If you would like to find a vestibular rehab provider in another area of the state or country here are some additional resources:
- https://www.vestibular.org/finding-help-support/provider-directory
- http://www.neuropt.org/map_Vestibular/map.html
Algorithm for Treatment of BPPV

Dix-hallpike or Side lying test

- Right nystagmus
  - Right torsional nystagmus
    - Upbeating
      - <60 sec: Right PC Canalithiasis
      - >60 sec: Right PC Cupulolithiasis
  - Downbeating
    - <60 sec: Right AC Canalithiasis
    - >60 sec: Right AC Cupulolithiasis

- Left nystagmus
  - Left torsional nystagmus
    - Upbeating
      - <60 sec: Left PC Canalithiasis
      - >60 sec: Left PC Cupulolithiasis
    - Downbeating
      - <60 sec: Left AC Canalithiasis
      - >60 sec: Left AC Cupulolithiasis

Roll Test

- Nystagmus present
  - Geotropic nystagmus on both right and left side
  - Apogeotropic nystagmus on both right and left side
  - HC Canalithiasis: Affected side is side of most intense nystagmus
  - HC Cupulolithiasis: Affected side is side of least intense nystagmus

- No nystagmus
  - Reassess dix-hallpike and ensure performance with appropriate speed

Prolonged positioning (unaffected side)
- Barbecue maneuver
- Gufoni maneuver

Prolonged positioning (affected side)
- Gufoni maneuver