Ill Defined Lightheadedness

- Etiology
  - Anxiety/Depression
- Tx: treat underlying problem

Disequilibrium (sensation of unsteadiness)

- Etiology
  - older pts w/ multiple problems including vision/hearing problems, any orthopedic problem, neuropathies esp cerebellar dz, CVA deficits, dementia, etc
- Tx: walker, wheelchair, PT, etc

Vertigo (sensation of rotation/movement)

- Etiology
  - **Peripheral Vestibular Dysfxn (sudden onset, severe Sx, few other neuro Sx, horizontal nystagmus)**
    - BPV: repetitive brief (sec) episodes, 2/2 changes in position resulting in movement of otolith, Tx: Dix-Hallpike Maneuver to identify affected ear, Tx: Epley Maneuver to remove otolith from SCC
    - Labyrinthitis (w/o hearing loss) or Vestibular Neuronitis (w/ hearing loss): sudden, single long (days to months) episode, 2/2 viral infection
    - Otitis Media (refer)
    - Ototoxic Drugs esp aminoglycosides, vancomycin, diuretics, NSAIDs, chemo, etc
    - Physiologic aka Motion Sickness
    - Meniere's (refer)
      - Mechanism: idiopathic increase in labyrinthine endolymph fluid which then distends SCC (50% unilateral vs 50% bilateral)
      - RFs: young adults, FHx, autoimmune disorders, allergies, trauma to head, syphilis
      - Triad S/S: prodromal sensation of inner ear fullness/pressure followed by (1) sudden vertigo lasting up to 1d w/ nystagmus, N/V, diaphoresis, diarrhea, ataxia, (2) fluctuating low frequency sensorineural hearing loss, (3) constant or intermittent tinnitus, NB early on symptoms are episodic lasting <1hr w/ complete remissions lasting up to >1yr but as the disease progresses hearing loss and tinnitus worsens and persists eventually becoming constant
      - DDx of Tinnitus (ringing, whistling, hissing, buzzing, clicking, etc, rarely 2/2 a serious medical condition, explore cause when there is associated hearing loss, >3mo, debilitating to pt w/ auditory testing, consider depression as underlying comorbidity that worsens Sx therefore Tx esp w/ TCAs, consider hearing aids, cochlear implants, sound masking devices as a last resort Tx)
        - Objective (less common, true sound)
          - Vascular: carotid stenosis, AVM, vascular tumor, valve dz
          - MS: palatal myoclonus, spasm of stapedius or tensor tympani muscle, patulous Eustachian tube, TMJ dysfxn
        - Subjective (more common, perception of sound in the absence of external acoustic stimulus)
          - Otologic: Meniere's, barotrauma, noise induced hearing loss, presbycusis, otosclerosis, otitis, impacted cerumen
          - Neuro: head injury, whiplash, MS, acoustic neuroma, psuedotumor cerebri
          - ID: chronic otitis media
          - Drug: aminoglycosides, vancomycin, diuretics, NSAIDs, chemo
      - Dx: MRI w/ Gadolinium Enhancement to rule out other causes, Fukada Stepping/Marching Test (with hands over hears to block out auditory sensory input and eyes closed to block out visual sensory input the pt is asked stomp march in place for 60sec and if the pt turns more >45 degrees or moves forward or backwards >1m then positive for vestibular disturbance), Rinne/Weber Test
      - Tx
        - Acute: Vertigo Tx (refer)
        - Chronic: hydrochlorothiazide, acetazolamide, low salt diet, OTC Lipo-Flavinoid and if severe chemical labyrinthectomy with intratympanic gentamicin or surgical endolymph sac decompression or vestibular neurectomy
  - **Central (gradual onset, mild Sx, other neuro Sx, vertical nystagmus)**
    - CVA of the Posterior Circulation
    - Tumor esp Schwannoma at Cerebral Pontine Angle
    - MS
    - Acephalic Migraine
- Tx: refer above + anticholinergics (scopolamine), antihistamines (meclizine), benzodiazepines (diazepam), neuroleptics (promethazine)

Pre-Syncope/Syncope (sensation of fainting)

- Etiology
    - **Unknown (30%)**
    - **Neurocardiogenic aka Vasovagal (25%)** some autonomic event (cough/sneeze, deglutition of very cold liquids, defecation/micturition, after exercise, scare, sight of blood, pain, fatigue, prolonged still standing, warm environment, etc) → increased sympathetic tone→ vigorous contraction of LV → mechanoreceptors in LV trigger increased vagal tone aka hyperactive Bezold-Jarisch reflex → decrease BP, Dx: clinical, Tx: prevention, drink water before inciting event, meds (fludricortisone, midodrine, disopyramide, anticholinergics)
    - **Orthostatic Hypotension (15%)** hypovolemia (diuretics, bleed, adrenal insufficiency, etc) and/or vasodilation (BB/CCB/ACE-I, autonomic neuropathy from DM, EtOH, etc) Dx: + Tilt-Table (supine x5min then swung vertically x1hr and watch Sx/Vitals/EKG), Tx: treat underlying problem, same meds, rise slowly, Jobst compressive stockings
    - **Cardiovascular (10%)** carotid sinus syncope (pressure on carotid sinus from head turning, shaving, tight collar, etc) brady/tachyarrhythmia, valve dz, CAD, subclavian steal, etc
    - **Neurologic (10%)** TIA/CVA, seizure, migraine, etc
    - **Other (10%)** hypoglycemia, anemia, psychogenic, cataplexy, etc
- Dx: review in detail Hx/PMHx/Meds/FHx/PEx, orthostatics (supine after 5min then standing after 3min w/ + if >20 SBP or >10 DBP or Sx), carotid massage (monitor EKG/BP and + if pause >3sec, >50SBP, or Sx), Tilt Table Testing EKG/Tele/Holter/Event Recorder/EP eval, TTE, cardiac biomarkers, CT+A Neck/Head w/Contrast, EEG, prolactin level, UTox
- Tx: refer above + consider driving restrictions