Case Studies: Assessment of Dizziness

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Balance

- Our sense of balance is very important to us…

Problems

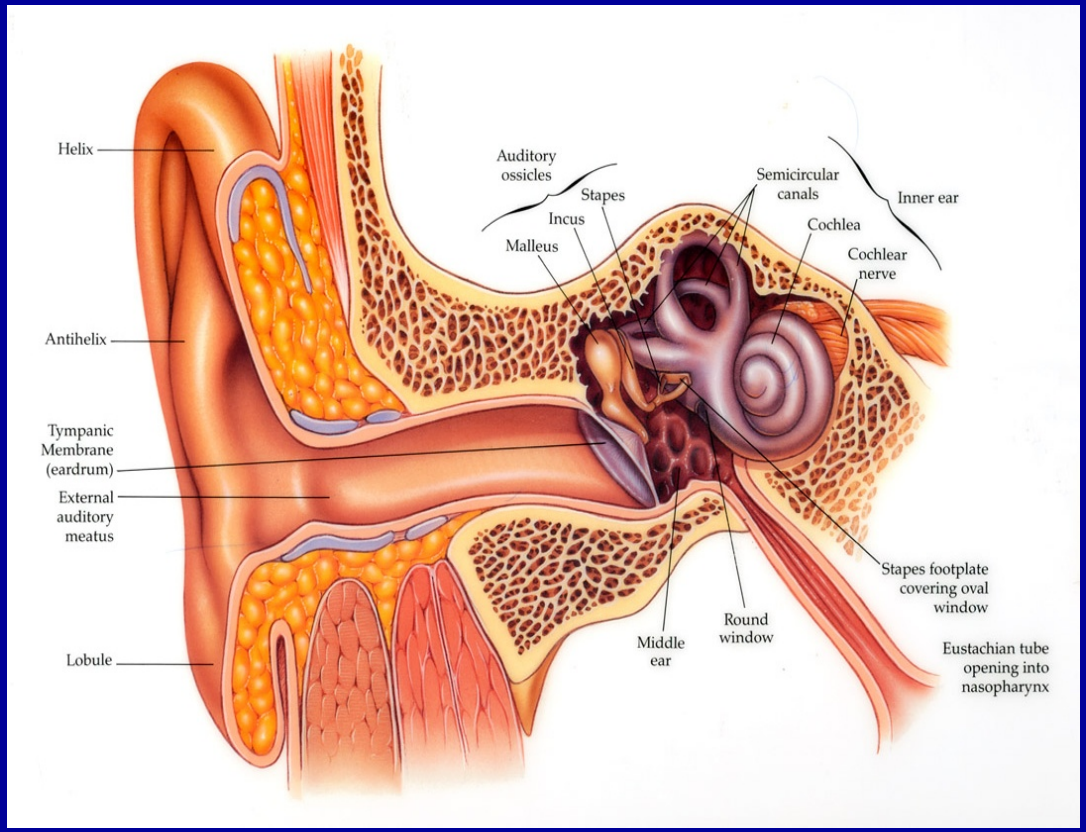
- Dizziness is a nonspecific symptom
- Patients find it difficult to describe
- History key
- Variety possible pathologies
- Commonest presenting symptom >75 y.o.
- Only one quarter have vertigo

Problems

- Hearing loss is common
- Hearing loss may have everything or nothing to do with dizziness
- History is often complicated past diagnoses, drug Rx, medical Hx

Categories

- Vestibular
  - Peripheral (distal to brainstem)
  - Central (brainstem or higher)
- Nonvestibular

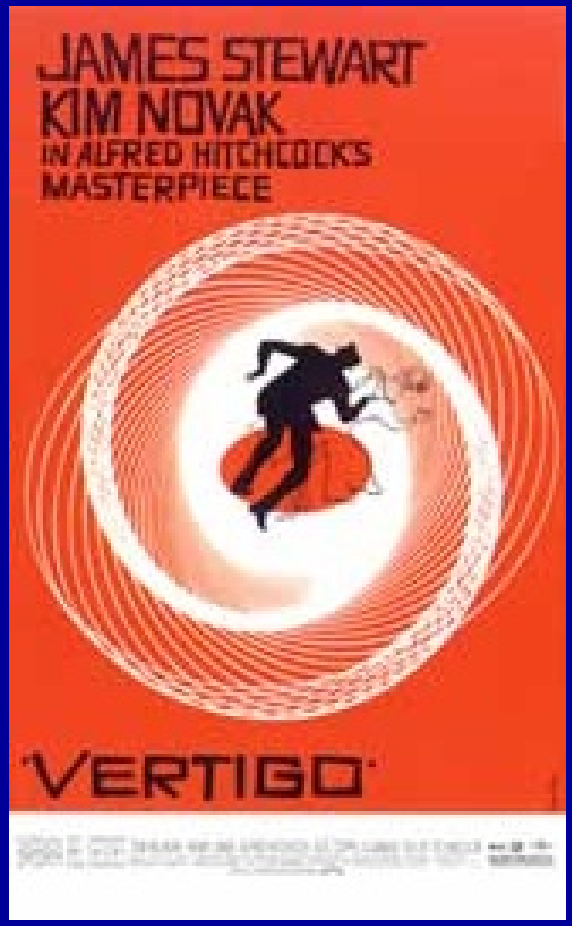


Axioms

- Vertigo = hallucination of movement
- Vertigo + unilateral auditory = peripheral
- Vertigo + CNS symptoms = central
- Vertigo recovers = peripheral

Axioms

- Vertigo = worsened by movement
- Vertigo ≠ ability to keep going



Approach to the Dizzy Patient

- Symptoms:
  - Vertigo: hallucination movement, exacerbated head turning
  - Auditory symptoms: hearing loss, tinnitus
    - Unilateral or bilateral
    - CHANGE WITH ATTACK
  - CNS: LOC, diplopia, blurred vision, hemiparesis,-anaesthesia, dysphasia, headache
  - RECOVERY

Approach to the Dizzy Patient

- Signs:
  - Vestibular: nystagmus, head impulse test
  - Auditory symptoms: Tuning Fork, Audiogram
  - Facial Palsy
  - CNS: the usual (eye movements, FNF, HTH, Unterberger's)
  - Dix Hallpike

Framework

- Acute attack of vertigo
- Recurrent acute attacks of vertigo
- Chronic dizziness

Axioms

- Vertigo + unilateral hearing loss = peripheral
- Vertigo + CNS symptoms = central
- Vertigo on its own which recovers = peripheral

Acute attack of vertigo

- Vertigo + unilateral hearing loss = peripheral
- Vertigo + CNS symptoms = central
- Vertigo on its own which recovers = peripheral

Acute attack of vertigo

- Shows the vertigo in purest form
- GP not Specialist Problem

Acute attack of vertigo

- Vertigo + unilateral auditory symptoms
  - ?
  - ?
  - ?
  - ?

Acute attack of vertigo

- Vertigo + unilateral auditory symptoms
  - First attack Meniere's
  - Labyrinthitis
  - Ramsey Hunt syndrome
  - Temporal bone trauma
  - Cholesteatoma

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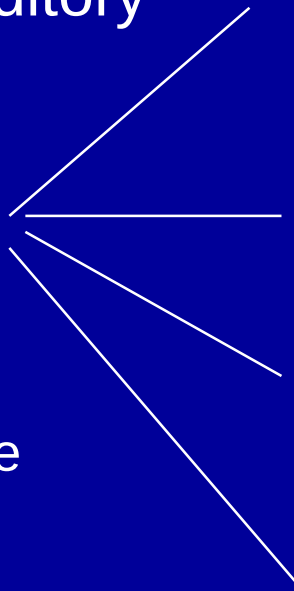

1. Unilateral hearing loss
2. Episodic vertigo lasting hours
3. Unilateral roaring tinnitus
4. Unilateral aural pressure

Acute attack of vertigo

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  - First attack Meniere's
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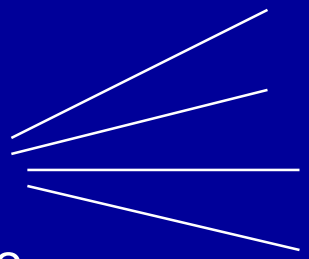
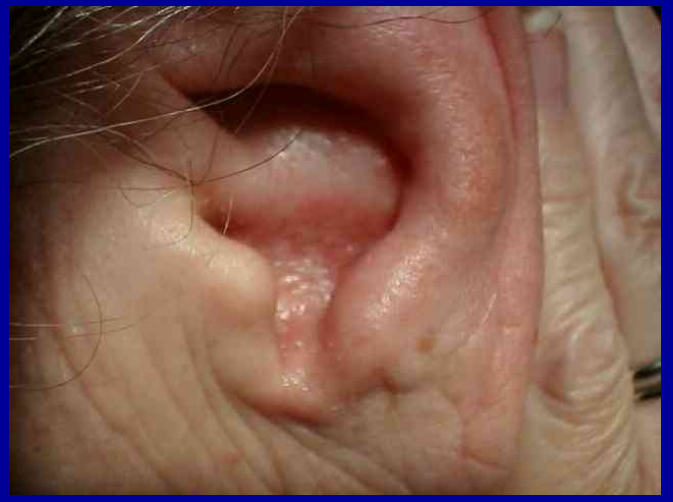
  - Ramsey Hunt syndrome
  - Temporal bone trauma
  - Cholesteatoma



1. Severe hearing loss
2. Severe tinnitus
3. Severe vertigo
4. Viral or bacterial

Acute attack of vertigo

- Vertigo + unilateral auditory symptoms
  - First attack Meniere's
  - Labyrinthitis
  - Ramsey Hunt syndrome
  - Temporal bone trauma
  - Cholesteatoma



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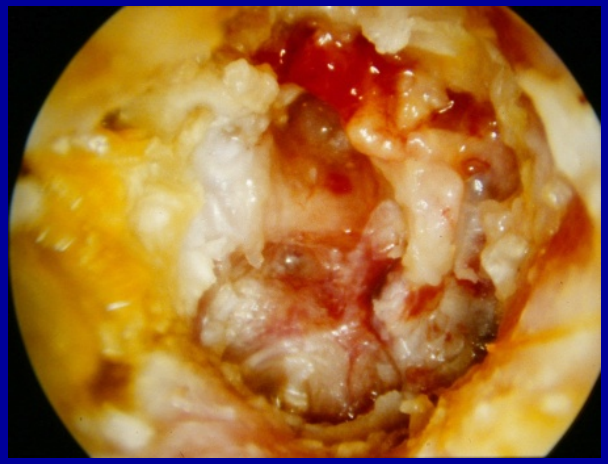


Acute attack of vertigo

- Vertigo + CNS symptoms
  - Cerebellar infarct
  - CVA
  - TIA
  - Demyelination

Acute attack of vertigo

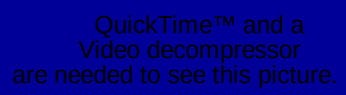
- Vertigo on its own
  - ?

Acute attack of vertigo

- Vertigo on its own
  - Vestibular neuronitis
  - Cerebellar infarct
  - Head impulse test very helpful!

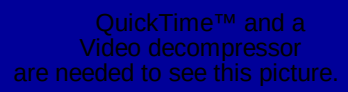
Acute attack of vertigo

- Head thrust
- Unilateral lesion= “flick” on weak side



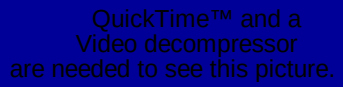
Acute attack of vertigo

- No other symptoms, positive head thrust
  - Vestibular neuronitis



Acute attack of vertigo

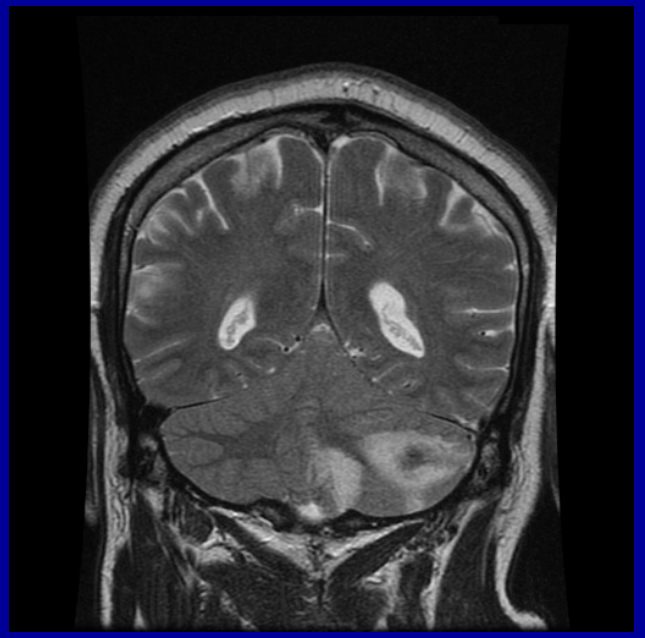
- No other symptoms, positive head thrust
  - Vestibular neuronitis
  - Presumed viral infection
  - Common in GP



Acute attack of vertigo

- No other symptoms, negative head thrust
  - POSSIBLE CEREBELLAR INFARCT
  - IF IN DOUBT, FIND OUT

QuickTime™ and a
Video decompressor
are needed to see this picture.



Acute attack of vertigo

- Management
  - Vertigo + hearing loss-> refer
  - Vertigo + CNS -> refer
  - Vertigo + HIT -> sedatives
  - IM stemetil, buccastem, IV diazepam

Acute attack of vertigo

- Management Vestibular Neuronitis
  - Failure to improve rapidly -> refer for Scan
  - Disabled 2 days, unwell 2 weeks, recovery 2 months
  - About 10% don’t recover!
  - Encourage activity!

Recurrent acute vertigo

- Vertigo + unilateral hearing loss = peripheral
- Vertigo + CNS symptoms = central
- Vertigo on its own which recovers = peripheral

Recurrent acute vertigo

- Recurrent vertigo + unilateral hearing loss
  - ?

Recurrent acute vertigo

- Recurrent vertigo + unilateral hearing loss
  - Meniere's
  - Vestibular Schwannoma
  - Other (otosyphillis, cholesteatoma, autoimmunity)
- Will require specialist assessment and advice

Recurrent acute vertigo

- Recurrent vertigo + CNS
  - TIAs
  - VBI
  - Demyelination

Recurrent acute vertigo

- Recurrent vertigo on its own
  - Brief
    - ?
  - Prolonged
    - ?

Recurrent acute vertigo

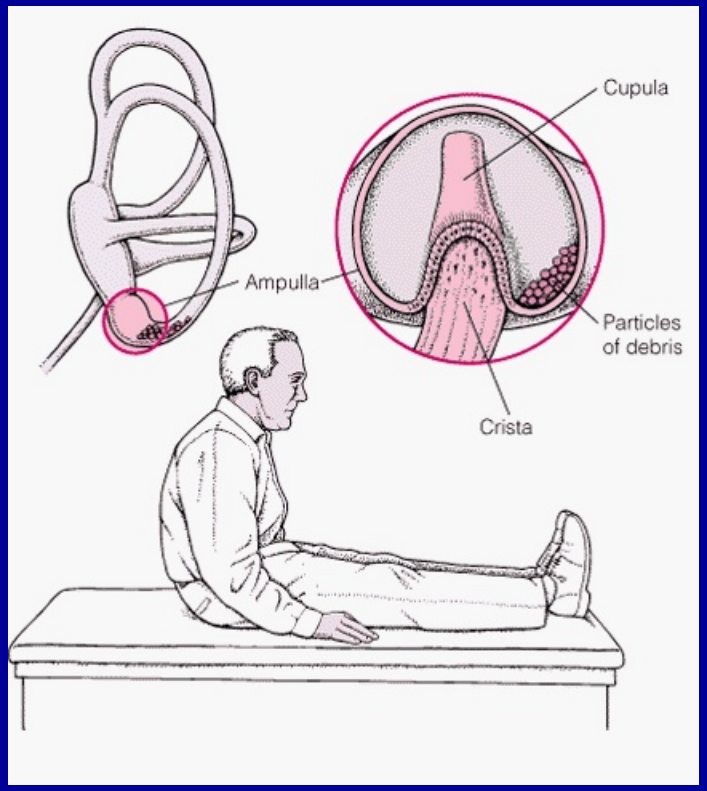
- Recurrent vertigo on its own
  - Brief
    - BPV
  - Prolonged
    - Migraine

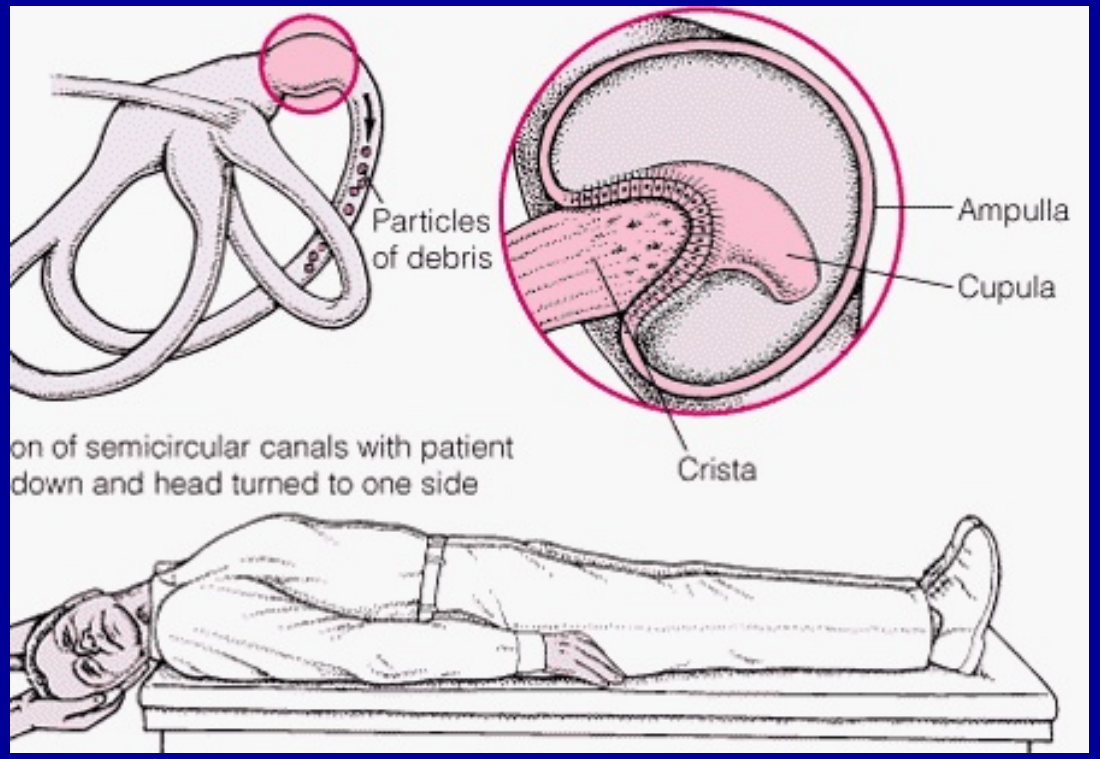
Recurrent acute vertigo

- BPV
  - Characteristic triggers:
    - “Washing vertigo”
    - “Top shelf vertigo”
    - “Bottom cupboard vertigo”
    - Rolling over in bed
  - Dix Hallpike test
  - May need repeating

Recurrent acute vertigo

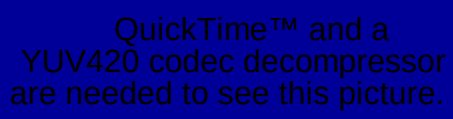
- BPV
  - Dix Hallpike





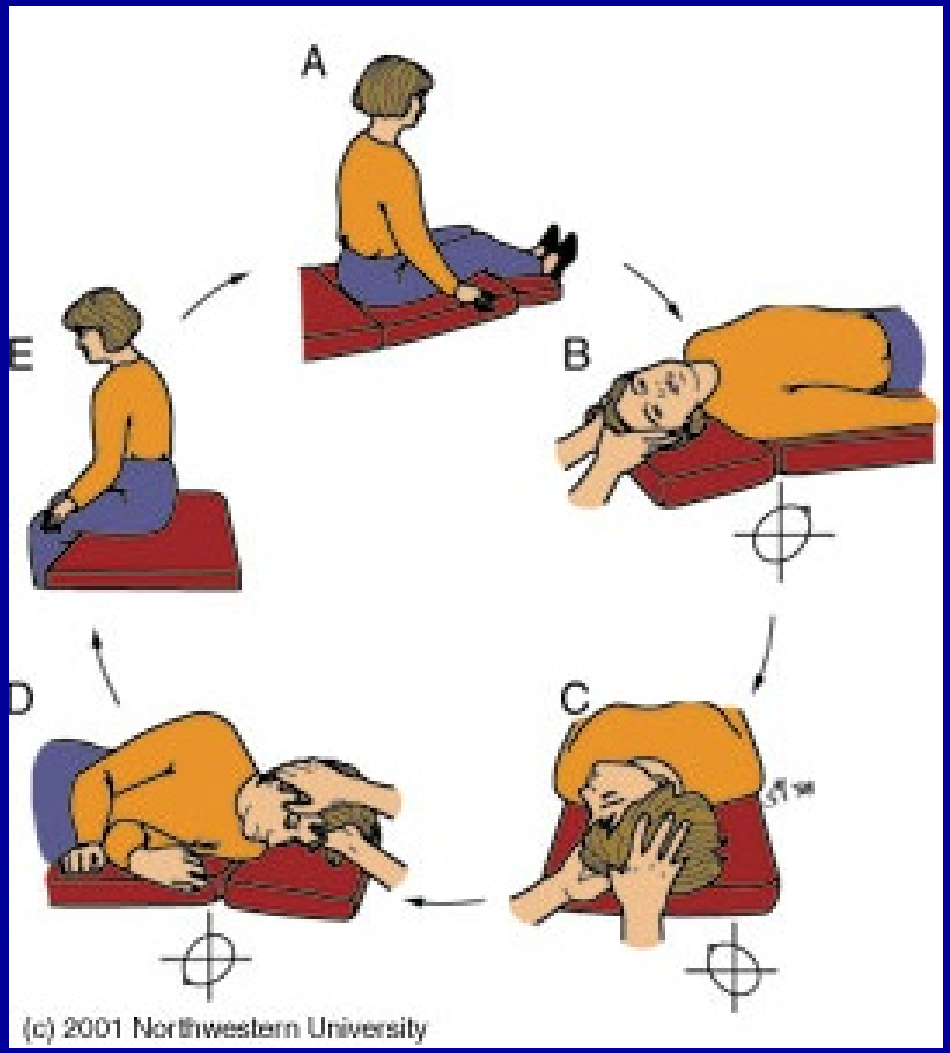
Recurrent acute vertigo

- BPV
  - Dix Hallpike: Nystagmus



Recurrent acute vertigo

- BPV
  - Epley
  - Should now be GP management



- http://www.dizziness-and-balance.com/disorders/bppv/epley/first.html

Recurrent acute vertigo

- Epley
  - For at least one week, *avoid provoking head positions* that might bring BPPV on again.
  - Use two pillows when you sleep.
  - Avoid sleeping on the "bad" side.
  - Don't turn your head far up or far down.

Recurrent acute vertigo

- Migraine
  - Recurrent attacks of vertigo without auditory symptoms unlikely Meniere's
  - Migraine is common (16%)
  - Vertigo is common in migraine
  - Meniere's is rare (.2%)

Recurrent acute vertigo

- Migraine
  - Past history Migraine
  - Travel sickness
  - Attacks last more than several hours
  - Photophobia, phonophobia
  - Sleepiness
  - Triggers: tiredness, food, etc

Recurrent acute vertigo

- Migraine versus Meniere's- still in doubt- REVIEW

  DURING ATTACK

  - Acute Audiogram
  - Ask patient about photophobia and phonophobia
  - Head Impulse Test -ve Migraine +ve Meniere's

Recurrent acute vertigo

- Symptomatic relief
  - Buccastem
- Prevention
  - Meniere’s: Betahistine, salt restriction
  - Migraine: lifestyle, prophylaxis

Chronic Dizziness

- Chronic dizziness + unilateral auditory
- Chronic dizziness + CNS
- Chronic dizziness on its own

Chronic Dizziness

- Chronic dizziness + unilateral auditory ->

  refer!

  - ?

Chronic Dizziness

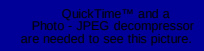
- Chronic dizziness +

  unilateral auditory ->

  refer!

  - Vestibular schwannoma
  - Chronic otitis media,

    Meniere’s



Chronic Dizziness

- Chronic dizziness + CNS -> refer!
  - Many possible diagnoses here

Chronic Dizziness

- Chronic dizziness on its own
  - Many possible diagnoses here
  - Three Otoneurological
    - Ototoxicity
    - BPV in older patient
    - Failure to compensate unilateral lesion

Chronic Dizziness

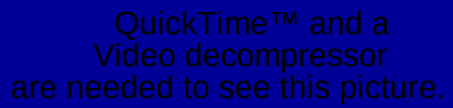
- Chronic dizziness on its own
  - College et al BMJ 1996; 313:788-792
  - large study of elderly dizzy
  - Multiple diagnoses 84%
  - Vascular disease, cervical spondylosis, anxiety
  - BPPV
  - MR unhelpful
- More recent research suggests BPV may be much more common than this

Chronic Dizziness

- Other Otoneurological
  - Ototoxicity
    - Follows chemotherapy, cardiac surgery
    - Aminoglycosides
    - Severe disability
    - Often presents LATE

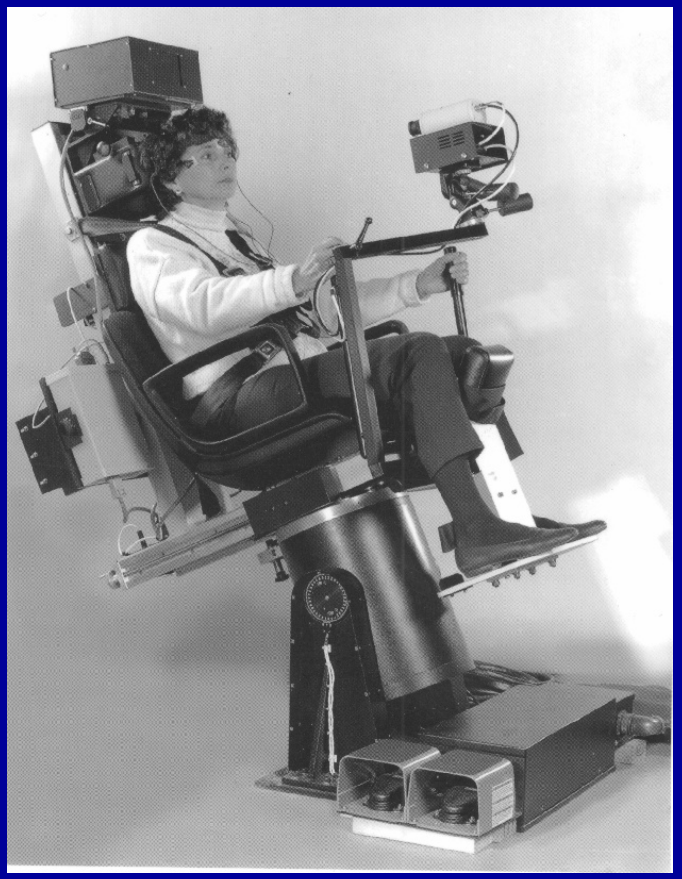
Chronic Dizziness

- Ototoxicity



Chronic Dizziness

- Otoneurological Management:
  - Assessment (vestibular function tests, posturography)
  - Rehabilitation (Tai Chi, exercises)



Chronic Dizziness

- Otoneurological Management:
  - Assessment (vestibular function tests, posturography)
  - Rehabilitation (Tai Chi, exercises)

Epley Movie

- http://dizziness-and-balance.com/disorders/bppv/movies/Epley-480x640.avi