Benign Paroxysmal Nystagmus (BPN)

AKA:
- Benign Paroxysmal Positional Nystagmus (BPPN)
- Benign Paroxysmal Positional Vertigo (BPPV)
- Benign Positional Vertigo (BPV)

- Brief attacks of rotatory vertigo +/- nausea (<= 60 seconds)
- Triggers include:
  - Lying down/sitting up in bed/getting out of bed
  - Rolling over in bed
  - Bending, as to tie the shoelaces
  - Extending neck eg to look up to a high shelf.
- Treated with specific exercises/manoeuvres
- Relief is obtained in ~80 percent
- No place for labyrinthine sedatives eg prochlorperazine
BPN aetiology

• Debris ("crystals") in vestibular system
• Usually posterior semi-circular canal.
• Generally accepted explanation is that posterior canal is most dependant, so debris gravitates to this region
• Aetiology: head injury, infection, surgery or out of the blue
Dix-Hallpike test

- To diagnose BPN
- Explain beforehand
- Ensure no neck/back problems that would be aggravated by sudden change in posture

See also:
- http://www.youtube.com/watch?v=Ew14aZqiUrw&feature=related
• **Dix Hallpike Test**
  • Stand to the side of the patient
  • Pt sitting with head turned to examiner
  • Pt sat so that when supine, the head will be beyond the end of the couch
  • Patient lain flat in one **quick**, smooth movement
  • Eyes must stay open
  • Repeat on other side
Interpretation of Dix Hallpike Test

• 90% are posterior semicircular canal BPN
  – Rotatory upbeat nystagmus with the diseased ear down
  – Fast phase toward undermost ear
  – Reversal of nystagmus direction on sitting up

• If atypical features, consider central problem
Dix-Hallpike test continued

• Positive test:
  – Rotatory nystagmus (& vertigo):
    • Diseased ear downmost
  – 3 features of BPN:
    • Latency – delay of up to 20 seconds before onset of nystagmus
    • Fatigueability – nystagmus fades if head held in provoking position
    • Habituation – Repeating DH test produces less vigorous response
Red flags

- Refer in for need to exclude central cause of positional nystagmus
  - Atypical nystagmus:
    - Non-rotatory nystagmus
    - Triad of latency, fatigueability and habituation not present
  - Other otological/neurological symptoms/signs
    - (Failure to improve with 2-3 Epleys)
    - (Failure to improve with Brandt & Daroff)
BPN treatments

• Epley manoeuvre
• Brandt & Daroff exercises

See separate documents for quick view and patient leaflets
Epley manoeuvre

- 80% quoted success rate
- Easy to perform
- Repositions “crystals”
- Explain to patient beforehand
- Some post-manoeuvre instructions also
ELEY Manoeuvre – see following slides
Epley manoeuvre
Post-manoeuvre instructions

• Patient not to drive home after Epley
• Patient to avoid lying flat for 2 nights after
• For a further 5 nights, avoid lying on bad side:
  – Sleep on good side with pillow behind back to act as a barrier to rolling over
Brandt & Daroff Exercises

- Can be done at home
- High success rate
- Breaks up “crystals”
- Arduous:
  - 3 sets per day for 2 weeks
  - 1 set = 5 repetitions of the exercise
  - Each set takes 10 minutes
- See following slides for detail
Brandt & Daroff Exercises
Brandt & Daroff Exercises

- Begin by sitting upright on bed (position 1 above)
- Lie down onto side. Take no more than 1-2 seconds to do this
- Keep head looking up at 45 degree angle. Imagine someone standing about six feet in front of you, and keep looking at the person's head at all times (position 2)
- Remain on this side for thirty seconds, or until dizziness subsides.
- Return to an upright position and wait for thirty seconds (position 3)
- Now lie down onto the other side. Again, it should take one or two seconds to get into position
- Keep the head at a 45 degree angle (position 4)
- Stay down for another thirty seconds, or until vertigo subsides
- Return to an upright position and wait for another thirty seconds.
Atypical BPN

• Not common - 10%
  – Lateral Canal
  – Anterior Canal
  – Cupulolithiasis
  – Vestibulolithiasis
  – Multicanal patterns

• May arise following Epley or Brandt & Daroff

• Because of need to exclude central cause, refer in to ENT for assessment