THE VESTIBULAR HISTORY:
BEING FOCUSED AND SUCCINCT
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* A Practical Guide to Dizziness and Disequilibrium
* April 5, 2019

THE BIG 4 AND OTHERS

• BPPV (benign positional vertigo)
• Migraine Associated Dizziness
• Anxiety-Related Dizziness: 3PD
• Meniere’s Disease

• Musculoskeletal, neurologic, autonomic, cardiogenic, geriatric
FRONTLINE PROVIDER GOALS: DIZZINESS

• Life-threatening or not?
• My ballpark or not?
• What system is most likely involved?
• Is a test needed? If so, what?
• Is a referral needed? If so, where?

INTERNAL THOUGHTS: DIZZINESS

• Is this serious? What am I going to miss?
• How much time is this going to take?
• This isn’t what they said they were here for
• They don’t teach dizziness in school
• Sounds peripheral → ENT
• How can I be efficient, effective and frugal?

THREE BASIC QUESTIONS

• What?
• How long?
• When?
THREE BASIC QUESTIONS

• What is the dizziness like?
• How long does it last?
• When does it occur?

WHAT IS THE DIZZINESS LIKE?

• Dizziness is a catch-all term
• Patients use “dizziness” for any uneasy feeling
• Vertigo is not a diagnosis
• Must get more specific

WHAT? -- VERTIGO

• Typically a spinning or whirling sensation
• Intense enough to cause difficulty walking; stumbling, drifting, crawling
• Usually causes nausea and often vomiting
• Older people may describe intense lightheadedness
• Feature of peripheral conditions
WHAT? – LIGHTHEADED

- Lightheaded – often used with terms like woozy, faint, and dizzy (but not vertigo)
- Blood pressure – both low and high
- Orthostasis
- Cardiovascular
  - Arrhythmias, failure, microvascular disease
- Autonomic dysfunction
  - POTS, neuropathy
- Other
  - Dehydration, infectious, stress, sleep disorders

WHAT? – DISCONNECTED

- Disconnected or can’t focus are terms commonly seen in those with migraine
- Vague feeling of being off
- Brain fog is a common descriptor or resonates well with the patient
- Can be with migraine, post-traumatic, post-surgical, menopausal/menstrual
- Look for other signs
  - Headache, visual disturbance or sensitivity, neck pain

WHAT? – SWAYING

- Swaying and rocking are often seen with anxiety-related dizziness
- A feeling of always having some sensations of motion
- Usually with being upright: postural
- Better with lying down
- Motion sensitive
- Visually sensitive
- Anxious personality
- Depression as well
### HOW LONG DOES IT LAST?

- How long is the dizziness?
- Focus on the intense part
- Focus on the incapacitating part
- Distinguish from the general fatigue or malaise after an attack

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<th>Seconds</th>
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<th>Hours</th>
<th>Day</th>
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### HOW LONG? - SECONDS

- Often two types of “seconds”
  - True seconds: Patient notes it is a momentary sensation
  - Minutes as seconds: Hard to distinguish 30 seconds of intense vertigo as not lasting minutes
- Seconds are associated with BPPV, anxiety, and migraine

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### HOW LONG? - HOURS

- Hours, not day or days
  - Meniere’s disease: 2-12 hours
  - Migraine associated dizziness: 30 minutes to all day
  - Panic attack: Hours

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### HOW LONG? - DAYS

- Lasts until the next morning or notably goes on for days
- Not consistent with Meniere’s disease
- Single episode of vestibular neuritis
- If recurrent, think migraine

### HOW LONG? - CONTINUOUS

- Always; may wax and wane
- Incompatible with ear-related conditions
  - Exception: severe bilateral ototoxicity (rare)
- Feature of anxiety related dizziness
- Status migraine
- Metabolic; age-related

### WHEN DOES IT OCCUR?

- Is the dizziness spontaneous or provoked?
- Does anything seem to consistently bring on the sensation/problem?
- Is it after a particular event?
  - After take medication; menses
- Is it at a specific time?
  - Morning; late in the day
WHEN? - POSITIONAL

- **BPPV**
  - Turning in bed, lying down, reaching or bending, tilting the head back
- **Migraine**
  - Similar sensitivities to positional changes
- **Anxiety-related dizziness**
  - Any activity or postural change other than lying still
- **Standing for a long time**

WHEN? - VISUAL

- **Migraine**
  - Automobile rides, supermarket aisles, reading, computers
- **Anxiety-related**
  - Crowds, driving, fast motion
- **Visual vertigo**
  - Head and eye movement; things moving across visual field
- **Motion sickness**
  - Often a feature of migraine-prone patients
- **Post-peripheral insult: compensatory**

WHEN? - UNUSUAL

- **Superior canal dehiscence**
  - Loud sounds, coughing, sneezing, nose blowing
- **Post-Traumatic Stress**
  - Specific situations
- **School avoidance behavior**
  - Weekends are good
- **Still; not while in motion**
  - Mal de Debarquement
PUT IT TOGETHER

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MACHINE LEARNING AND AI CDS

- Machine learning analysis of direct to patient survey
  - Identify decision tree capable of distinguishing BPPV
- AI / Natural Language processing analysis of expert clinic notes
  - Identify language which predicts specific vestibular conditions
DECISION TREE: BPPV

Distinguishes BPPV from migraine related dizziness and longer lasting or chronic forms of dizziness.

BPPV

1. Over in bed
2. Tilts head
3. Lies down
4. Looks up
5. Spin
VESTIBULAR MIGRAINE

1. Fatigue
2. Headache
3. Difficulty concentrating
4. Migraine
5. High-pitched tinnitus
6. Nausea
7. Pain
8. Menstrual Cycle
9. Some seasonal allergies
10. Throbbing headache

ANXIETY-RELATED: 3PD

1. Lightheadedness
2. Had chronic dizziness
3. Denies true vertigo
4. Intermittent headaches
5. Ear infection
6. Constant pressure
7. Multiple otologic
8. Bilateral ringing
9. Frontal headaches
10. Disconnectedness

WORDS MATTER

**Vestibular Migraine**
- Fatigue
- Headache
- Difficulty concentrating
- Migraine
- Nausea

**BPPV**
- Over in bed
- Tilts head
- Lies down
- Looks up
- Spin

**Anxiety/3PD**
- Lightheadedness
- Had chronic dizziness
- Denies true vertigo
- Intermittent headaches
- Constant pressure
SUMMARY

• What is the dizziness like?
  • How long does it last?
  • When does it occur?

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