Dizziness & Vertigo

Key facts:

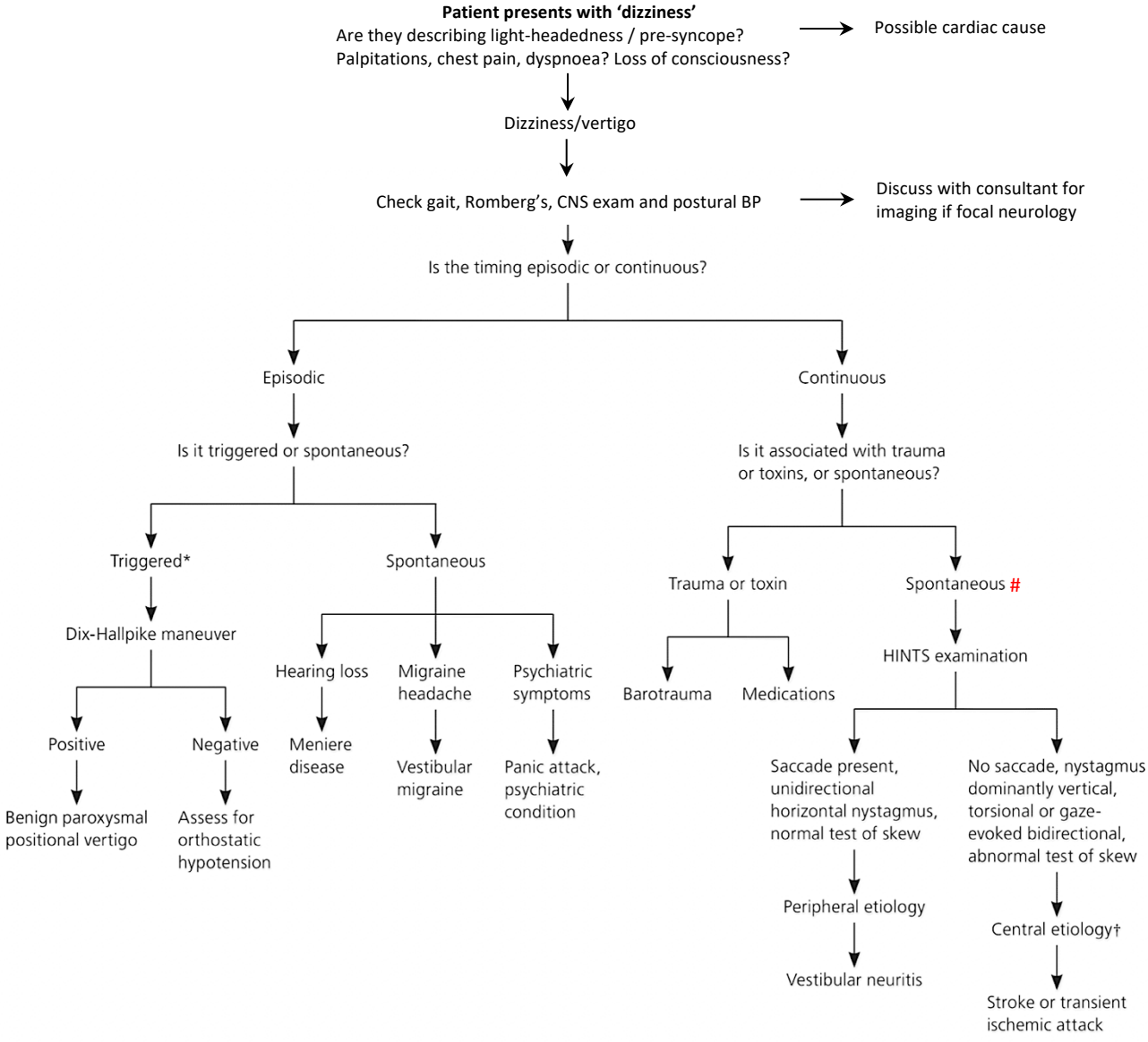
- Challenging presentation to diagnose correctly; complicated by language differences and confusion over what is being meant.
- **Dizziness:** a non-specific term which describes a range of symptoms such as unsteadiness, feeling faint or weak, blurred vision, off balance or vertigo. It can be caused by a vast range of disorders.
- **Vertigo:** an internal sensation of movement – person feels that the world is moving around them; often a horizontal spinning motion. Often associated with nausea, vomiting, sweating, feeling generally unwell.
- **Light-headedness:** the feeling that you are about to faint (pre-syncope).

Consultant Review:

- Persistent worsening dizziness/vertigo lasting >1w
- Sudden onset severe vertigo >24h
- Patient unable to stand
- Dizziness/vertigo associated with significant symptoms on systemic review
- Any neurological deficit, including any hearing loss
- New onset headache

Evaluation of Dizziness and Vertigo

- **TiTrATE approach** helps in evaluating a patient: **Ti**ming, **Tr**iggers that provoke the symptom, **T**argeted **E**xamination.
- **H**ead **I**mpulse **N**ystagmus **T**est of **S**kew (HINTS) helps differentiate central vs peripheral cause if continuous vertigo (see below). But if in doubt, or if cardiovascular risk factors, discuss with consultant to consider imaging.
- Laboratory testing and imaging are **not recommended** if no neurologic abnormality is found on examination.



—Exacerbation of symptoms with movement does not aid in determining whether the etiology is peripheral vs. central.

†—*Central causes can also occur with patterns triggered by movement.*

Discuss with consultant to consider imaging if CV risk factors or if HINTS examination is not clear

HINTS examination https://www.youtube.com/watch?v=-VXwD2nskhQ

Head Impulse
• Face the patient • Ask the patient to focus on your nose • Quickly turn the patient's head to one side and then the other • If the patient cannot fixate forward during the test, the test is positive for a peripheral lesion
Nystagmus
• Horizontal nystagmus: If there is an increase in the intensity of the nystagmus when the patient looks in the direction of the fast phase of the nystagmus, then the test is positive for a peripheral lesion • Vertical or rotary nystagmus is almost always associated with a central lesion
Test of Skew
• Face the patient • Ask the patient to focus on your nose • Cover one eye and then the other. If the uncovered eye has to move up or down to refocus on the examiner's nose, then the test is positive for a central lesion

Management of dizziness & vertigo

CAUSE	CLINICAL DESCRIPTION	TREATMENT
Peripheral/vestibular causes		
Benign paroxysmal positional vertigo (BPPV)	Transient episodes of vertigo caused by dislodged calcium carbonate crystals in the semicircular canals Typically starts on getting out of bed/turning over; triggered by head movement; settles with stillness, lasts about 1 minute Diagnosed with positive Dix-Hallpike test https://www.youtube.com/watch?v=8RYB2QlO1N4	Epley manoeuvre (best treatment) https://www.youtube.com/watch?v=jBzID5nVQjk Home Brandt-Daroff exercises No pharmacological benefit
Meniere's disease	Caused by excess endolymphatic fluid pressure in the inner ear. Typical cluster of symptoms: tinnitus, vertigo, hearing loss, sensation of ear fullness. Spontaneous nystagmus during attacks. Attacks often last several hours (<24h). Most common age 40-60y. Usually unilateral, 30% bilateral. Rare. Symptoms **not related to movement.** Clinical findings normal between attacks.	Discuss with consultant if suspect – audiometry and MRI recommended Treatment includes intratympanic steroid injection and low salt diet. Other options are diuretic treatments and betahistine. Best managed by ENT
Vestibular neuronitis	Usually attributed to a viral infection causing inflammation of vestibular nerve. Rare, sudden-onset, continuous rotational vertigo; nausea and vomiting usually present, cannot get relief in any position, can last several days. NO hearing loss Lasts several weeks before resolving. Head-impulse test positive Differential diagnosis Stroke	Antiemetics/Antihistamines - in acute phase only. Vestibular rehabilitation if vertigo persists https://balanceanddizziness.org/wp-content/uploads/2018/06/Cawthorne-Cooksey-Exercise-Regime.pdf
Temporal bone fracture	Can occur after severe blunt trauma to the head and sometimes involves structures of the ear causing hearing loss, vertigo, balance disturbance, +/- facial paralysis	Refer ENT
Other peripheral causes: Otosclerosis, Hyperviscosity syndromes, Herpes zoster infection (Ramsey Hunt syndrome)		
Central causes		
Vestibular migraine	Similar to BPPV history but *without* association with movement; photophobia/phonophobia, headache, nausea; stress can induce; Hallpike's manoeuvre will not trigger an attack; may be associated with visual aura and headache (can be before, during or after the attack may not be prominent). Lasts minutes to hours.	Discuss with consultant 1st-line treatment propranolol as per regular migraine (see migraine guideline); discuss with consultant/refer ENT if this is not effective
Posterior circulation stroke (cerebellar stroke)	May present similarly to vestibular neuronitis but often more severe imbalance; **usually unable to stand;** may experience hearing loss, other cranial nerve deficits and upgoing plantars.	See Stroke guideline
Brain tumour	Most common presentation of **vestibular schwannoma (acoustic neuroma)** is unilateral sensorineural hearing loss, tinnitus and vertigo. Other brain tumours can cause dizziness, usually gradual onset e.g. **cerebellar or brainstem tumours**. Note other red flag symptoms and focal neurology	Refer ENT
Multiple sclerosis	Relapsing and remitting symptoms with other features of MS e.g. optic neuritis or transverse myelitis	Speak to consultant, refer to neurology
Other causes		
Psychiatric	Initially episodic, then often continuous episodes of dizziness without another cause and associated with psychiatric condition (e.g. anxiety, depression, bipolar disorder)	Discuss with consultant. Treat underlying diagnosis, check medication for possible side effects, consider psychiatry referral
Medication induced	Continuous episodes of dizziness without another cause and associated with a possible medication adverse effect	Check drug history, many drugs can cause vertigo, discuss with consultant if necessary, stop/change implicated meds

References: *Dizziness: approach to evaluation and management* Am Fam Physician. 2017 Feb 1;95(3):154-162; *Sudden-onset dizziness and vertigo symptoms: assessment and management of vestibular causes* BJGP 2020;70:310 *Making a diagnosis in patients who present with vertigo* BMJ 2012;345:e5809.