SYN
CHEAT SHEET

Syncope vs Vertigo

Sorting It Out in the ED

▸ Why this distinction matters

True vertigo (illusion of rotational motion) and presyncope (impending fainting) are often conflated by patients. Misclassification leads to missed cardiac arrhythmias and missed vestibular strokes. A structured bedside approach separates them reliably.

Defining the Symptoms

Symptom	Definition	Mechanism
Vertigo	Illusion of rotational or linear self-motion or movement of surroundings	Asymmetric vestibular input — peripheral or central
Presyncope	Impending fainting, lightheadedness, visual greying out	Global cerebral hypoperfusion — cardiac, orthostatic, or vasovagal
Disequilibrium	Unsteadiness without rotational sensation — primarily in legs/trunk	Multifactorial — proprioceptive, cerebellar, musculoskeletal
Non-specific dizziness	Floating, rocking, foggy — not fitting above categories	Functional (PPPD), anxiety, medication effect

Key Differentiating Questions

Question	Vertigo	Presyncope
What do you feel?	Room spinning / I am spinning / tilting	Going to faint / grey out / lightheaded
What triggers it?	Head movement (BPPV) or spontaneous (neuritis)	Standing, prolonged standing, emotional stress, heat
Duration	Seconds (BPPV) to days (neuritis)	Seconds — resolves lying flat
Nausea / vomiting	Often prominent	May occur but less prominent
Palpitations / chest pain	Not typical	Suggests arrhythmia — escalate urgently
Recovery position	Sitting / lying makes little difference	Resolves promptly on lying flat

Syncope — Three Mechanism Buckets

Mechanism	Examples	Key Feature
Reflex (neurally mediated)	Vasovagal; situational (cough, micturition); carotid sinus hypersensitivity	Prodrome: nausea, diaphoresis, visual change; clear trigger; resolves lying flat
Orthostatic hypotension	Classical OH, POTS, neurogenic OH (Parkinson, autonomic neuropathy)	Drop over 20/10 mmHg on active stand; confirm at 1, 3, 5, 10 min
Cardiac	Arrhythmia (VT, AF, AV block, sick sinus), structural (AS, HCM, PE)	Exertional syncope; no prodrome; abnormal ECG; age over 60

Cardiac Red Flags — Admit and Monitor

▸ Any one warrants admission + cardiac monitoring

Syncope during exertion or supine (not positional).
No prodrome — sudden LOC without warning.
Palpitations immediately before syncope.
Abnormal ECG: new BBB, QTc over 500 ms, delta wave, Brugada pattern, complete AV block.
Structural heart disease: AS, HCM, prior MI, EF below 35%.
Family history of sudden cardiac death under age 50.

Syncope vs Vertigo — *continued*

Canadian Syncope Risk Score (CSRS)

Variable	Points
Predisposition to vasovagal symptoms	-1
Heart disease history	+1
Systolic BP on arrival below 90 or over 180 mmHg	+2
Elevated troponin (over 99th percentile)	+2
Abnormal QRS axis (below -30° or over 100°)	+1
QRS duration over 130 ms	+1
QTc over 480 ms	+2
ED diagnosis: vasovagal syncope	-2
ED diagnosis: cardiac syncope	+2

▸ **Score 0 or below = low risk (0.4%) — discharge. Score 1–3 = moderate (5–15%) — monitor 6 h. Score 4+ = high risk (20–60%) — admit.**

Overlap Syndromes

Syndrome	Key Features	Action
POTS	HR rise over 30 bpm within 10 min standing; palpitations + dizziness; young female	Active stand test + ECG; cardiology/autonomic referral
Carotid sinus hypersensitivity	Syncope with head turning, shaving, tight collar; over age 60	Monitored carotid sinus massage; pacemaker if recurrent

ED Workup

Investigation	All Patients	Selective
ECG	Yes — arrhythmia, QTc, BBB, Brugada	—
Orthostatic BP	Yes — lying and 1, 3, 5 min standing	Extend to 10 min if orthostatic suspected
BSL	Yes — hypoglycaemia mimic	—
Troponin	Age over 50 / cardiac risk factors	Repeat at 3 h if initial negative
Echocardiogram	Cardiac murmur / exertional syncope	HCM, AS, cardiomyopathy

Disposition

Clinical Picture	Disposition
Vasovagal — clear trigger, prodrome, normal ECG, no red flags	Discharge; GP follow-up; lifestyle advice; avoid triggers
Orthostatic hypotension identified	Discharge if stable; medication review; GP referral
Cardiac red flag present	Admit; continuous monitoring; cardiology
POTS suspected	Discharge if stable; cardiology/autonomic referral
High CSRS (4 or above)	Admit; cardiology monitoring
First episode over 60 / diagnostic uncertainty	Admit; monitored bed; low threshold for cardiology input