Approach to Syncope

CARDIOVASCULAR

97.8% KEY DECISION RULE
Canadian Syncope Risk Score[3,4]
sensitivity for 30-day serious outcomes at a score of −1 or more

Transient loss of consciousness with full spontaneous recovery → Eyewitness history, orthostatic vitals, 12-lead ECG[1,2] → **Any high-risk feature?**

Yes → **High risk: admit for telemetry and echo**[1,2]

- Exertional or supine; no prodrome
- Palpitations or chest pain beforehand
- Structural heart disease or heart failure
- Abnormal ECG: block, long QT, Brugada, WPW
- SBP <90, HR <40 awake, or GI bleeding
- Family history of young sudden death

If not: which mechanism?

	Reflex ~60%	**Orthostatic** ~15%	**Arrhythmia** cardiac ~15%	**Structural** cardiac	**Mimics** not syncope
CAUSES	• Vasovagal • Situational: cough, micturition • Carotid sinus hypersensitivity	• Volume loss or bleeding • Drugs: diuretics, vasodilators • Autonomic failure: PD, diabetes	• **VT/VF: scar, long QT, Brugada** • **High-grade AV block** • SVT, WPW, sinus node disease	• **Aortic stenosis, HCM** • **Pulmonary embolism** • **MI, tamponade, dissection**	• Seizure • Hypoglycemia, intoxication • TIA, psychogenic
CLUES	• Trigger: standing, pain, emotion • Prodrome: warmth, nausea, sweating • Normal heart and ECG	• Within 3 min of standing • Older; new or changed drugs	• Abrupt, no prodrome; supine • Palpitations; family sudden death • First event at ≥35 y (LR 3.3)[5]	• Syncope on exertion; murmur • Chest pain, dyspnea, hypoxemia	• Tongue bite, postictal state[6] • Focal deficit; LOC >5 min
WORKUP	• History alone if typical[1] • Tilt test if recurrent, unclear[2]	• SBP ↓≥20 or DBP ↓≥10 in 3 min[7] • CBC, creatinine; drug review	• Telemetry if high risk • Holter, patch or loop recorder[1] • EP study in selected cases[2]	• Echo if heart disease suspected[1] • Troponin; CTPA if PE likely[8]	• Glucose; EEG if seizure likely • CT or MRI if focal signs
MANAGE	• Explain; avoid triggers • Counter-pressure manoeuvres[9] • Salt and fluids if no hypertension[1]	• Stop culprit drugs; give volume • Compression; rise slowly • Midodrine or fludrocortisone[1]	• Pacemaker for AV block[1] • ICD or ablation for VT[1] • Stop QT-prolonging drugs; fix K, Mg	• Treat cause: AVR, anticoagulation, PCI • Avoid vasodilators in AS or HCM	• Treat cause; neurology referral

Stethopedia
stethopedia.ca/approach/syncope

Evidence [1] Shen 2017, J Am Coll Cardiol [2] Brignole 2018, Eur Heart J [3] Thiruganasambandamoorthy 2016, CMAJ [4] Thiruganasambandamoorthy 2020, JAMA IM [5] Albassam 2019, JAMA [6] Sheldon 2002, J Am Coll Cardiol [7] Freeman 2011, Clin Auton Res [8] Costantino 2018, JAMA IM [9] van Dijk 2006, J Am Coll Cardiol [10] Manual 2024–25, p. 34