

## Practice Gap

**Context:** Syncope is one of the most common reasons for admission, associated with excessive testing, costs, increased imaging

**Current:** Use high value care with testing that impacts management & don't underestimate the value of good history

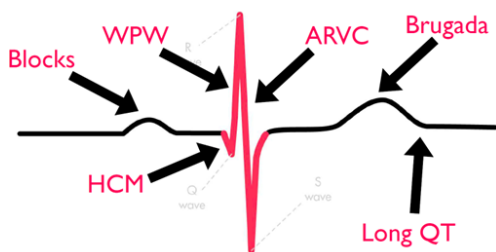
Avoid: Admitting low risk patients, routine lab testing, routine cardiac imaging, carotid imaging, EEG in absence of specific neurologic features, MRI/head CT without focal neurological findings or head injury.

European Society of Cardiology Guidelines<sup>1</sup>: high- and low-risk syncope features, symptoms with each diagnosis and diagnostic criteria for reflex syncope, orthostatic hypotension or cardiac syncope EKG and Orthostatic vital signs and EKG are high yield in the ER and inpatient, hospitalists ordered in 27-38% of admitted patients (27%-38%), results changed management in 25% of cases.<sup>2</sup>

**Cutting Edge:** Consider POCUS: aortic dissection, pericardial effusion, aortic stenosis, cardiomyopathy

<b>High-risk</b>
<b>Major</b>
<ul style="list-style-type: none"> <li>• New onset of chest discomfort, breathlessness, abdominal pain, or headache<sup>26,44,55</sup></li> <li>• Syncope during exertion or when supine<sup>36</sup></li> <li>• Sudden onset palpitation immediately followed by syncope<sup>36</sup></li> </ul>
<b>Minor (high-risk only if associated with structural heart disease or abnormal ECG):</b>
<ul style="list-style-type: none"> <li>• No warning symptoms or short (&lt;10 s) prodrome<sup>36,38,49,56</sup></li> <li>• Family history of SCD at young age<sup>57</sup></li> <li>• Syncope in the sitting position<sup>54</sup></li> </ul>
<b>High-risk</b>
<b>Major</b>
<ul style="list-style-type: none"> <li>• Severe structural or coronary artery disease (heart failure, low LVEF or previous myocardial infarction)<sup>76,77,35,55,59</sup></li> </ul>

## Concerning EKG Changes



**Context:** The EKG is a low cost, high value modality.

**Current:** Know the following EKG abnormalities that are the most concerning in syncope and familiarize yourself with the EKG findings: Blocks, WPW, HCM, Brugada, Long QT, ARVC (arrhythmogenic right ventricular cardiomyopathy)

**Cutting Edge:** Remember EKG changes can be transient

## Pulmonary Embolism

**Current:** PE prevalence is small, in recent larger studies: between 0.06% and 0.55% in the ED and 0.15% and 2.1% among admitted patients<sup>1</sup>

**Current:** Think about PE, but do not work patients up for it unless you have no other etiology to explain their syncope, screening for their risk of PE via Wells and a D-dimer first

## Risk Scores

**Current:** Hospitalization rates are stable over time despite more testing, many risk scores don't perform well across many sites, and are very sensitive

**Cutting Edge:** Canadian Syncope Risk Score<sup>4</sup> may be best to use but know that risk-stratification scores don't perform any better than clinical judgment, if you do use one Canadian Syncope Risk Score may be the best

## References:

1. Sun, B. Quality-of-Life, Health Service Use, and Costs Associated With Syncope <https://doi.org/10.1016/j.pcad.2012.10.009>
2. Costantino G, Ruwald MH, Quinn J, et al. Prevalence of Pulmonary Embolism in Patients With Syncope. *JAMA Intern Med.* 2018;178(3):356–362. doi:10.1001/jamainternmed.2017.8175
3. Brignole M, Moya A, de Lange FJ, Deharo JC, Elliott PM, Fanciulli A, Fedorowski A, Furlan R, Kenny RA, Martín A, Probst V, Reed MJ, Rice CP, Sutton R, Ungar A, van Dijk JG; ESC Scientific Document Group. 2018 ESC Guidelines for the diagnosis and management of syncope. *Eur Heart J.* 2018 Jun 1;39(21):1883-1948. doi: 10.1093/eurheartj/ehy037. PMID: 29562304.
4. Thiruganasambandamoorthy V, Kwong K, Wells GA, et al. Development of the Canadian Syncope Risk Score to predict serious adverse events after emergency department assessment of syncope. *CMAJ.* 2016;188(12):E289-E298.