

IRISH ASSOCIATION FOR
EMERGENCY
MEDICINE



IAEM Clinical Guideline

Management of syncope in the emergency department

Version 1

April, 2019

Authors: Dr Áine Mitchell, in collaboration with Dr Rosa McNamara, Professor Rose Anne Kenny and the IAEM Guideline Development Committee.

DISCLAIMER

IAEM recognises that patients, their situations, Emergency Departments and staff all vary. These guidelines cannot cover all clinical scenarios. The ultimate responsibility for the interpretation and application of these guidelines, the use of current information and a patient's overall care and wellbeing resides with the treating clinician.

GLOSSARY OF TERMS

AAA:	Abdominal aortic aneurysm
AFib:	Atrial fibrillation
ARVC:	Arrhythmogenic right ventricular cardiomyopathy
AV:	Atrioventricular
βHCG:	Beta human chorionic gonadotropin
BP:	Blood pressure
BSL:	Blood sugar level
CCF:	Congestive cardiac failure
CM:	Cardiomyopathy
ECG:	Electrocardiogram
ED:	Emergency Department
EF:	Ejection fraction
ESC:	European Society of Cardiology
FHx:	Family history
GI:	Gastrointestinal
GP:	General practitioner
HCT:	Haematocrit
HOCM:	Hypertrophic obstructive cardiomyopathy
Hx:	History
IAEM:	Irish Association for Emergency Medicine
ICD:	Implanted cardioverter defibrillator
IHD:	Ischaemic heart disease
MI:	Myocardial Infarction
OPD:	Out-patient department
PCM:	Physical counter-pressure manoeuvres
PE:	Pulmonary embolus
PMHx:	Past Medical History
PPM:	Permanent pacemaker
RSA:	Road safety authority
SAH:	Sub-arachnoid haemorrhage
SBP:	Systolic blood pressure
SCD:	Sudden cardiac death
SVT:	Supra-ventricular tachycardia
TIA:	Transient ischaemic attack
T-LOC:	Transient loss of consciousness
VT:	Ventricular tachycardia
WPW:	Wolff-Parkinson-White

INTRODUCTION

Syncope is defined as a transient loss of consciousness (T-LOC) due to cerebral hypoperfusion. It is characterised by a rapid onset, short duration and spontaneous complete recovery. Patients presenting with syncope and related disorders represent 2-3% of Emergency Department (ED) attendances. Syncope is a common presentation in all age groups, with 40% of the population experiencing syncope during their lifetime.

The differential for syncope is broad and it can be a daunting presentation to medically assess. Rarely, life-threatening conditions may present with syncope and it is crucial to identify these cases when they present to the ED. It is the acute underlying disease that most frequently determines short-term adverse events rather than the syncope itself. Differentiation between the different causes of syncope depends largely on thorough history taking and important features in the history are discussed below.

An algorithm to assist with distinguishing the causes of syncope is provided in the management section.

Patients, parents and caregivers are often very distressed by syncopal episodes. Detailed history taking, careful examination and appropriate investigations are paramount in alleviating these concerns.

PARAMETERS

Target audience: This guide is directed at health-care professionals engaged in the care of adult patients presenting to the ED with syncope.

Patient population: Adult patients presenting to the ED with possible syncope.

Exclusion criteria: While this guideline pertains to patients of any age presenting with syncope, a dedicated IAEM Paediatric Syncope guideline is available and should be referenced when caring for patients under 16 years of age presenting to the ED with possible syncope.

AIMS:

To provide an evidence based guide for the assessment and management of patients presenting to the ED with possible syncope.

Pages 6 & 8 can be printed for easy-access algorithms in the ED, if used in the context of the whole guideline.

ASSESSMENT:

If a patient presenting with possible syncope remains clinically unwell, they will need ongoing emergency care of their underlying condition.

In patient's presenting with possible syncope who are otherwise well, all patients at minimum need an assessment to determine probability of cardiogenic or secondary syncope (see syncope workup algorithm below). This should always include:

- Thorough history
- Cardiorespiratory examination, and other exam as dictated by history
- Electrocardiogram (ECG) evaluation

If indicated, work-up should also include:

- Lying-standing Blood Pressure if syncope related to standing or postural symptoms
- β human chorionic gonadotropin (β HCG) if patient is female of child-bearing age
- Bedside Blood sugar level (BSL)
- Patients who have a cardiac device should undergo prompt device interrogation.
- Other tests if investigating secondary syncope

Diagnostic radiology and laboratory tests such as chest X-ray, CT brain, routine blood haematology, biochemistry, D-dimer levels and cardiac markers have a low diagnostic yield, low impact on risk stratification of patients with syncope, and should not routinely be used unless specifically suggested by clinical evaluation.

FIGURE 1: SUGGESTED SYNCOPE WORKUP

SYNCOPE WORKUP

HISTORY 1

Please take a thorough history of the event, and collateral history.

- Position and activity prior, situation, prodrome.
- Eye witness account of syncopal event
- Post event symptoms

Background Hx

- Previous syncopes, timing, frequency.
- PMHX esp. IHD, epilepsy, parkinsons.
- Medications and alcohol
- Social and functional history in elderly

Family History: Blackouts, channelopathy, sudden cardiac death

Systems review

HISTORY RED FLAGS

Supine syncope, exertional syncope
 Sudden onset palpitations immediately preceding
 Chest pain, dyspnoea, abdominal pain or headache
 New unexplained breathlessness
 Severe structural heart disease or coronary artery disease
 CCF, EF <35% (high likelihood arrhythmogenic events),
 previous MI.

HISTORY ORANGE FLAGS (treat as RED FLAGS if assoc. with structural heart disease or abnormal ECG)

Seated syncope
 Sudden drop without warning or short (<10sec) prodrome
 FHx channelopathy, Sudden adult death

HISTORY GREEN FLAGS

3Ps -Provoking factor, typical prodrome and postural (from standing)
 During a meal or postprandial
 Triggered by cough, defaecation or micturition.
 On head movement or pressure on carotid sinus
 On standing from seated/lying.
 Long history of recurrent (GREEN flag) syncope with similar characteristics of the current episode

EXAMINATION 2

Cardiorespiratory exam

+/- Neurological / other as dictated by history and systems review.

EXAMINATION RED FLAGS

Unexplained SBP <90mmHg in the ED
 Undiagnosed systolic murmur
 Evidence of GI bleed
 Persistent Bradycardia <40bpm in awake state and in absence of physical training.

EXAMINATION GREEN FLAG Normal Exam

INVESTIGATIONS 3

ECG always

Lying - Standing BP (syncope from standing)

BSL and β HCG

Other: Blood tests if investigating secondary syncope

ECG RED FLAGS

Changes consistent with acute ischaemia
 AV block - Mobitz II or third-degree
 AFib <40bpm
 Persistent sinus brady <40bpm, sinus pauses >3 sec
 Bundle branch block, Bi-, Tri-fascicular block
 Sustained and non-sustained VT
 Prolonged QTc (>460ms), Type 1 Brugada pattern, HOCM criteria.
 Dysfunction of an ICD or PPM

ECG ORANGE FLAGS (treat as RED FLAGS if history suggesting arrhythmic syncope)

AV Block - Marked first-degree or Mobitz I
 Mild bradycardia: AFib/sinus <50
 Paroxysmal SVT or AFib
 ARVC, atypical Brugada patterns, short QTc (<340ms), WPW

ECG GREEN FLAG Normal ECG

OTHER INVESTIGATIONS (if indicated) RED FLAGS

Anaemia, HCT <30%
 Electrolyte disturbance

CAUTION attributing injuries in older patients to falls and failing to recognise amnesia associated with syncope is common in older people. It is good practice to perform a baseline ECG on all patients presenting with falls aged ≥ 65 years. This patient group should at minimum have a syncopal diagnosis considered.

MANAGEMENT:

In the Syncope workup algorithm, clinical features are broken into high, moderate and low risk features.



Red flags: High-risk features that suggest a serious condition in patients with syncope at initial evaluation in the emergency department.



Amber flag: These features should be treated as high risk if associated with other concerning features, i.e. known structural heart disease, an abnormal ECG or a history suggesting arrhythmic syncope. **Patient's with high risk features require an intensive diagnostic approach and likely need urgent treatment and admission.**



Green flags: Low-risk features (that suggest a benign condition) in patients with syncope at initial evaluation in the emergency department.

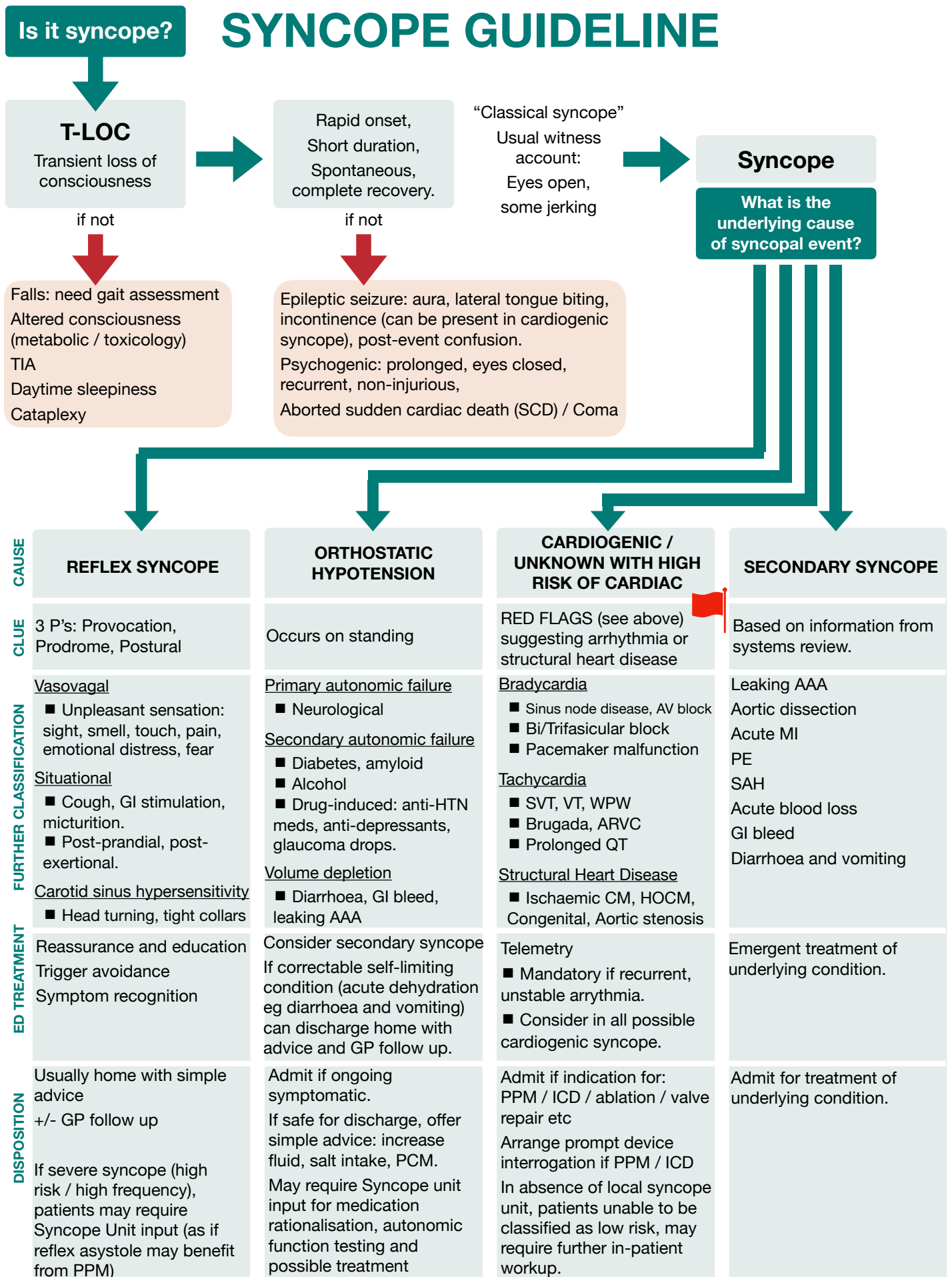
These patients do not need further diagnostic tests in the ED as they are likely to have reflex, situational, or orthostatic syncope. In general, if they are currently well, these patients can be discharged without follow up. They may benefit from reassurance or patient education. Low-risk patients can be referred to the outpatient syncope clinic for therapy purposes, if needed.



For patients with neither High-risk nor Low-risk features, while there is no evidence they benefit from an inpatient admission, European Society of Cardiology (ESC) guidance advises they require an expert syncopal opinion. In the absence of a local Syncope unit or appropriate alternative local service (see special considerations below), these patient's may require admission.

See Syncope guideline below for further classification of syncope and T-LOC.

FIGURE 2: SYNCOPE MANAGEMENT GUIDELINE



SPECIAL CONSIDERATIONS

*SYNCOPE UNIT

A syncope unit is defined as a facility featuring a standardised approach to the diagnosis and management of T-LOC and related symptoms, with dedicated staff and access to appropriate diagnostics and therapies. European guidelines developed by the ESC recommend availability of a Syncope Unit referral process as this has been shown to provide better management, allow for reduction in admissions and reduction in low yield investigations of patients presenting with syncope.

If a Syncope Unit is not available to your local Emergency Department and patients are considered safe for discharge, but would benefit from further specialist input i.e. high frequency or high risk vasovagal syncope; some orthostatic hypotension patients; patients that cannot be classified as low risk (green flag) syncope, this follow up will need to be arranged within local services provision. Specialised syncope units are considered best practise, and local discussion should be commenced to see if this service could be developed locally. In the absence of a specialised service, local guidelines will need to be developed to decide on best care for those patients not considered low risk and safe for discharge to their GP. This may be by referral to one of local cardiology, geriatric or neurology out-patient (OPD) services, as applicable and available, or failing safe and timely availability of above, may require hospital admission for further management.

FITNESS TO DRIVE

Consider patient's fitness to drive if considered safe for discharge. You can access national driving recommendations at RSA.ie: "Sláinte agus Tiomáint" Medical fitness to drive 2017 PDF guideline. Page 21-23 relate to syncopal presentations.

FURTHER READING

Guidelines for the diagnosis and management of syncope (version 2018); developed by Task Force for the Diagnosis and Management of Syncope, European society of cardiology. Available from <https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines/Syncope-Guidelines-on-Diagnosis-and-Management-of>

Transient loss of consciousness ('blackouts') in over 16s. NICE Clinical guideline [CG109]. Available from <http://guidance.nice.org.uk/CG109>

Half a dozen things to know about transient loss of consciousness (“Blackouts”). CEM summary of NICE guideline CG109 (2010).

Available from: <https://www.rcem.ac.uk/docs/College%20Guidelines/5z38.%20RCEM%20summary%20of%20NICE%20Guidance%20CG109-%20Transient%20Loss%20of%20Consciousness.pdf>

Syncope Unit: rationale and requirement--the European Heart Rhythm Association position statement endorsed by the Heart Rhythm Society. *Europace*. 2015 Sep;17(9): 1325-40. doi: 10.1093/europace/euv115.

For patient information leaflets for reflex syncope and psychogenic pseudosyncope, see: Practical Instructions for the 2018 ESC Guidelines for the diagnosis and management of syncope. Available from <https://academic.oup.com/eurheartj/article/39/21/e43/4939242#117347704>

RSA Sláinte agus Tiomáint Medical Fitness to Drive Guidelines 2017, Road Safety Authority. Syncope recommendations available from page 21: <http://www.rsa.ie/Documents/Licensed%20Drivers/Sláinte%20Agus%20Tiomáint%202017%20i.pdf>