Prise en charge de la syncope

Nouvelles recommandations

JC Deharo, Marseille
2018 ESC Guidelines for the diagnosis and management of syncope
2018 ESC Guidelines for the diagnosis and management of syncope

The Task Force for the diagnosis and management of syncope of the European Society of Cardiology (ESC).

Developed with a special contribution of European Heart Rhythm Association (EHRA).

Endorsed by the following societies:
European Society of Emergency Medicine (EuSEM).
European Federation of Internal Medicine (EFIM).
European Union Geriatric Medicine Society (EUGMS).
European Neurological Society (ENS).
European Federation of Autonomic Societies (EFAS).

Authors/Task Force Members: Michele Brignole (Chairperson) (Italy); Angel Moya (Co-chairperson) (Spain); Jean-Claude Deharo (France); Frederik de Lange (The Netherlands); Perry Elliott, (UK); Artur Fedorowski (Sweden); Alessandra Fanciulli (Austria); Raffaello Furlan (Italy); Rose Anne Kenny (Ireland); Alfonso Martin (Spain); Vincent Probst (France); Matthew Reed (UK); Ciara Rice (Ireland); Richard Sutton (Monaco); Andrea Ungar (Italy); Gert van Dijk (the Netherlands).
## Recommendations

### Classes of recommendations

<table>
<thead>
<tr>
<th>Class</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>46</td>
<td>(41%)</td>
</tr>
<tr>
<td>Class IIa</td>
<td>42</td>
<td>(37%)</td>
</tr>
<tr>
<td>Class IIb</td>
<td>21</td>
<td>(19%)</td>
</tr>
<tr>
<td>Class III</td>
<td>4</td>
<td>(4%)</td>
</tr>
</tbody>
</table>

### Levels of evidence

<table>
<thead>
<tr>
<th>Evidence</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence A</td>
<td>6</td>
<td>(5%)</td>
</tr>
<tr>
<td>Evidence B</td>
<td>50</td>
<td>(44%)</td>
</tr>
<tr>
<td>Evidence C</td>
<td>57</td>
<td>(50%)</td>
</tr>
</tbody>
</table>
NEW / REVISED CLINICAL SETTINGS AND TESTS:
• Tilt testing: concepts of hypotensive susceptibility
• Increased role of prolonged ECG monitoring
• Video recording in suspected syncope
• “Syncope without prodrome, normal ECG and normal heart” (adenosine sensitive syncope)
• Neurological causes: “ictal asystole”

NEW / REVISED INDICATIONS FOR TREATMENT:
• Reflex syncope: algorithms for selection of appropriate therapy based on age, severity of syncope and clinical forms
• Reflex syncope: algorithms for selection of best candidates for pacemaker therapy
• Patients at risk of SCD: definition of unexplained syncope and indication for ICD
• Implantable loop recorder as alternative to ICD, in selected cases

(OUT-PATIENT) SYCONE MANAGEMENT UNIT:
• Structure: staff, equipment, and procedures
• Tests and assessments
• Access and referrals
• Role of the Clinical Nurse Specialist
• Outcome and quality indicators

2018 NEW/REVISED CONCEPTS in management of syncope

MANAGEMENT IN EMERGENCY DEPARTMENT:
• List of low-risk and high-risk features
• Risk stratification flowchart
• Management in ED Observation Unit and/or fast-track to Syncope Unit
• Restricted admission criteria
• Limited usefulness of risk stratification scores
What is new in 2018 syncope guidelines? (1)

<table>
<thead>
<tr>
<th>2009</th>
<th>CHANGE IN RECOMMENDATIONS</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contraindications to CSM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tilt testing: indication for syncope</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tilt testing for educational purposes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tilt testing: diagnostic criteria</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tilt testing for assessing therapy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Holter for unexplained syncope</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECG Monitoring: presyncope &amp; asymptomatic arrhythmias</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adenosine trisphosphate test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EPS-guided pacemaker: prolonged SNRT</td>
<td></td>
</tr>
</tbody>
</table>
Tilt testing: positivity rate

92%  Typical VVS, emotional trigger (Clom)
78%  Typical VVS, situational trigger (TNG)
73%-65%  Typical VVS, miscellaneous (Clom) (TNG)
56%-51%  Likely reflex, atypical (TNG)
47%  Cardiac syncope (TNG)
45%  Likely tachyarrhythmic syncope (Passive)
36%-30%  Unexplained syncope (TNG) (Clom)
13%-8%  Subjects without syncope (Passive) (Clom) (TNG)
# Tilt testing

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Class</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Tilt testing should be considered in patients with suspected reflex syncope, OH, POTS, or PPS.</td>
<td>IIa</td>
<td>B</td>
</tr>
<tr>
<td>2. Tilt testing may be considered to educate patients to recognize symptoms and learn physical manoeuvres.</td>
<td>IIb</td>
<td>B</td>
</tr>
<tr>
<td><strong>Diagnostic criteria</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Reflex syncope, OH, POTS, or PPS should be considered likely if tilt testing reproduces symptoms along with the characteristic circulatory pattern of these conditions.</td>
<td>IIa</td>
<td>B</td>
</tr>
</tbody>
</table>
ECG monitoring: indications

T-LOC suspected syncope

- Certain diagnosis/mechanism
  - Treat appropriately
- Uncertain diagnosis/mechanism
- Syncope
  - High risk, arrhythmia likely
    - In-hospital monitoring (Class I)
      - If negative
        - ILR (Class I)
        - ELR (Class IIa)
        - Holter (Class IIa)
  - Low risk, arrhythmia likely & recurrent episodes
    - ILR (Class I)
  - Low risk, reflex likely & need for specific therapy
    - ILR (Class IIa)
  - Low risk & rare episodes
  - T-LOC non-syncopal
    - Unconfirmed epilepsy
    - Unexplained falls
      - ILR (Class IIb)

2018 ESC Guidelines on Syncope – Michele brignole & Angel Moya
EHJ Doi:10.1093/eurheartj/ehy037
Left ventricular systolic dysfunction

1. ICD therapy is recommended to reduce SCD in patients with symptomatic heart failure (NYHA class II–III) and LVEF ≤35% after ≥3 months of optimized medical therapy for at least 1 year.

Hypertrophic cardiomyopathy

1. It is recommended to make a spontaneous diagnostic type I ECG pattern and a history of unexplained syncope.

2. Left cardiac sympathetic denervation should be considered in patients with symptomatic LQTS, beta-blocker contraindicated; when patients on beta-blockers with an ICD experience multiple shocks.

Long QT syndrome

1. ICD implantation in addition to beta-blockers should be considered in LQTS patients who experience recurrent episodes of unexplained syncope while receiving an ICD.

Arrhythmia

1. ICD implantation in addition to beta-blockers should be considered in patients with recurrent episodes of unexplained syncope.

2. Instead of an ICD, an ILR may be considered in patients with recurrent episodes of unexplained syncope with systolic impairment but without a current indication for ICD.

Brugada syndrome

1. ICD implantation should be considered in patients with a spontaneous diagnostic type I ECG pattern and a history of unexplained syncope.

2. Instead of an ICD, an ILR may be considered in patients with recurrent episodes of unexplained syncope with systolic impairment but without a current indication for ICD.

Unexplained syncope is defined as syncope that does not meet a Class I diagnostic criterion defined in the tables of recommendations. In the presence of clinical features described in this section, unexplained syncope is considered a risk factor for ventricular tachyarrhythmias.
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Syncope
(after initial evaluation in ED)

Low-risk features only
- Likely reflex, situational or orthostatic
- Can be discharged directly from the ED

Neither high nor low-risk
- Should not be discharged from the ED
- ED or Hospital Syncope Observational Unit (if available)
- Syncope outpatient clinic (SU) (if available)

Any high-risk Feature
- Any high-risk features require intensive diagnostic approach
- Should not be discharged from the ED
- Admission for diagnosis or treatment

If recurrent
## Management of syncope in the ED

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Class</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is recommended that patients with low-risk features, likely to have reflex or situational syncope or syncope due to OH, are discharged from ED.</td>
<td>I</td>
<td>B</td>
</tr>
<tr>
<td>2. It is recommended that patients with high-risk features receive an early intensive prompt evaluation in a syncope unit or in an ED observation unit (if available), or are hospitalized.</td>
<td>I</td>
<td>B</td>
</tr>
<tr>
<td>3. It is recommended that patients who have neither high- nor low-risk features are observed in the ED or in a syncope unit instead of being hospitalized.</td>
<td>I</td>
<td>B</td>
</tr>
<tr>
<td>4. Risk stratification scores may be considered for risk stratification in the ED.</td>
<td>IIb</td>
<td>B</td>
</tr>
</tbody>
</table>
Organizational aspects: Syncope Unit

Key components

- The syncope unit should take the lead in service delivery for syncope, and in education and training of healthcare professionals who encounter syncope.
- The syncope unit should be led by a clinician with specific knowledge of TLOC and additional necessary team members (i.e. clinical nurse specialist) depending on the local model of service delivery.
- The syncope unit should provide minimum core treatments for reflex syncope and OH, and treatments or preferential access for cardiac syncope, falls, psychogenic pseudosyncope, and epilepsy.
- Referrals should be directly from family practitioners, EDs, in-hospital and out-hospital services, or self-referral depending on the risk stratification of referrals. Fast-track access, with a separate waiting list and scheduled follow-up visits, should be recommended.
- Syncope units should employ quality indicators, process indicators, and desirable outcome targets.
### Organizational aspects: Role of physician and staff in a SU

<table>
<thead>
<tr>
<th>Procedure or test</th>
<th>SU Physician</th>
<th>SU Staff</th>
<th>Non-SU personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>History taking</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Structured history taking (e.g., application of software technologies)</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>12-lead ECG</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Blood tests</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Echocardiogram and imaging</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Carotid sinus massage</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active standing test</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Tilt table test</td>
<td>(x)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Basic autonomic function test</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>ECG monitoring (Holter, ELR): administration and interpretation</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Implantable loop recorder</td>
<td>x</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Remote monitoring</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Others: stress test, electrophysiological study, angiograms</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Neurological tests (CT, MRI, EEG, video-EEG)</td>
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<td>x</td>
<td></td>
</tr>
<tr>
<td>Pacemaker and ICD implantation, catheter ablation</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Patient’s education, biofeedback training, and instructions</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Final report and clinic note</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication with patients, referring physicians</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Follow-up</td>
<td></td>
<td>x</td>
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</tr>
</tbody>
</table>
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Treatment of Reflex syncope

Reflex syncope

Education, life-style measures (Class I)
## Treatment of syncope: General principles

### Recurrence of syncope in untreated patients in RCT

<table>
<thead>
<tr>
<th>Reference</th>
<th>Aetiology</th>
<th>Syncopes before evaluation</th>
<th>Syncopes after evaluation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPS I</td>
<td>VVS -Tilt +</td>
<td>6 (3–40) last 1 year</td>
<td>70% at 1 year</td>
</tr>
<tr>
<td>PC-Trial</td>
<td>VVS</td>
<td>3 (2–5) last 2 years</td>
<td>51% at 14 months</td>
</tr>
<tr>
<td>VASIS-Etilefrine</td>
<td>VVS -Tilt +</td>
<td></td>
<td>24% at 1 year</td>
</tr>
<tr>
<td>POST</td>
<td>VVS - Tilt +</td>
<td></td>
<td>35% at 1 year</td>
</tr>
<tr>
<td>Madrid et al</td>
<td>VVS - Tilt +</td>
<td></td>
<td>46% at 1 year</td>
</tr>
<tr>
<td>VPS II</td>
<td>VVS - Tilt +</td>
<td></td>
<td>40% at 6 months</td>
</tr>
<tr>
<td>SYNPACE</td>
<td>VVS - Tilt +</td>
<td></td>
<td>44% at 1 year</td>
</tr>
<tr>
<td>VASIS</td>
<td>Reflex</td>
<td></td>
<td>50% at 2 years</td>
</tr>
<tr>
<td>SPAIN</td>
<td>Reflex – CI</td>
<td></td>
<td>46% at 2 years</td>
</tr>
<tr>
<td>ISSUE 3</td>
<td>Reflex</td>
<td>5 (3–6) last 2 years</td>
<td>57% at 2 years</td>
</tr>
<tr>
<td>ATP Study</td>
<td>Unexplained – ATP +</td>
<td>Na</td>
<td>69% at 2 years</td>
</tr>
<tr>
<td>PRESS</td>
<td>Cardiac – BBB</td>
<td>1 last 6 months</td>
<td>14% at 2 years</td>
</tr>
<tr>
<td>THEOPACE</td>
<td>Sick sinus syndrome</td>
<td>3.2 ± 4.3</td>
<td>30% at 4 years</td>
</tr>
</tbody>
</table>

« No treatment » recurrence rate - 50% at 1-2 years
Explain, reassure, educate

What is reflex syncope?

Reflex syncope is the commonest cause of syncope and is due to a temporary, intermittent dysfunction of part of the nervous system, called the autonomic nervous system. The autonomic nervous system controls the heart rate and blood pressure, and can be prone to episodes of over- or under-activity, leading to a slowing of the heart rate or a fall in the blood pressure. Being upright, food, heat, exercise, sight of blood, and emotional stress can sometimes bring on episodes. Patients commonly experience these symptoms for several minutes before losing consciousness and tend to recover fairly quickly afterwards (whereas after an epileptic seizure the person may be quite confused and sleepy for some time). During reflex syncope, the person can also experience some short-lived shaking (similar to that seen in a seizure), as well as incontinence.
Actions to take to avoid an impending attack of reflex syncope

- When you feel symptoms of syncope coming on, the best response is to lie down. If this is not possible, then sit down and do counter manoeuvres. The final warning symptom is when everything goes dark and you lose vision: then you only have seconds in which to prevent syncope.

- Your doctor will have shown you how to do the counter manoeuvres. They all concern tensing large muscles in the body. One way is to press the buttocks together and straighten the knees forcefully; another is to cross your legs and press them together over their entire length. Others make fists and tense the arm muscles.

- Drink around 2 litres of fluid a day and do not use salt sparingly (unless there are medical reasons not to!). A simple way to tell your fluid intake is high enough is to check the colour of your urine: if it is dark yellow there is little fluid in your body, so try to keep it very lightly coloured.

- Inform those in your immediate surroundings what to do during a spell: in typical spells there is no need to call a doctor or an ambulance. Of course, if you hurt yourself in the fall, this may change.
Treatment of Reflex syncope

- Frequent
- Recurrent

Education, life-style measures (Class I)

- No/Short prodromes
- High risk activities

Severe/recurrent form
Treatment of Reflex syncope

SBP < 110 mm Hg
Orthostatic intolerance, Orthostatic VVS

Reflex syncope
Education, life-style measures (Class I)
Severe/recurrent form

ILR-guided management in selected cases (Class I); See section 4.2.4

Stop/reduce hypotensive drugs (Class IIa)
Cardiac pacing (Class IIa/IIb) See figure 10

Counter-pressure manoeuvre (Class IIa)

Tilt training (Class IIb)

ILR-guided management (Class I)

Yes
No or very short

Low BP phenotype
Prodromes
Hypotensive drugs
Dominant cardioinhibition

Younger

• Fludrocortisone
• Midodrine (Class IIb)

Fludrocortisone

Tilt training (Class IIb)

Midodrine (Class IIb)

Counter-pressure manoeuvre (Class IIa)

ILR-guided management (Class I)

Tilt training (Class IIb)

Younger

Older

Tests showing CI, No prodromes
Pacing for reflex syncope

Reflex syncope

- Spontaneous asystolic pauses/s
  - Extrinsic (functional) (Class IIa)
  - CI-CSS (Class IIa)
  - Asystolic tilt (Class IIb)
  - Adenosine sensitive syncope (Class IIb)
- Test-induced asystolic pauses/s
- Undocumented syncope (Class III)

Pacing indicated

- Vagally-mediated or
- Adenosine-sensitive

Pacing not indicated
Pacing for reflex syncope: decision pathway

Clinical features
Severe, recurent unpredictable syncopes, age >40 years?

Perform CSM & tilt table test
CI-CSS?
Yes
Yes & Tilt positive
Implant a DDD PM
Yes & Tilt negative
Implant a DDD PM & counteract hypotensive susceptibility
No
Asystolic tilt test?
Yes
Implant a DDD PM & counteract hypotensive susceptibility
No
Asystole?
Yes
Implant a DDD PM
No
Yes & Tilt negative
Implant a DDD PM & counteract hypotensive susceptibility
No
Yes & Tilt positive
Implant a DDD PM & counteract hypotensive susceptibility

Pacing not indicated
### Treatment of syncope: General principles

#### Cardiac pacing in different clinical settings

<table>
<thead>
<tr>
<th>Expected 2-year syncope recurrence rate</th>
<th>Clinical setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>High efficacy (≤5% recurrence rate)</td>
<td>Established bradycardia</td>
</tr>
<tr>
<td>Moderate efficacy (5% to 25% recurrence rate)</td>
<td>Established bradycardia</td>
</tr>
<tr>
<td>Low efficacy (&gt;25% recurrence rate)</td>
<td>Suspected bradycardia</td>
</tr>
</tbody>
</table>
Treatment of syncope: **Orthostatic hypotension**

**Syncope due to orthostatic hypotension**

- **Education, life-style measures** (Class I)
- **Adequate hydration and salt intakes** (Class I)

---

**Stop/reduce vasoactive drugs** (Class IIa)

If symptoms persist:

- **Counter-pressure manoeuvres** (Class IIa)
- **Compression garments** (Class IIa)
- **Head-up tilt sleeping** (Class IIa)
- **Midodrine** (Class IIa)
- **Fludrocortisone** (Class IIa)
Observation

• Homme, 77 ans
• Coronarien stable (stents 2016); AVC 2016 (pas de séquelles)
• depuis 2010, syncopes récidivantes
  – parfois lors d’émotions,
  – parfois sans contexte particulier
  – pas de prodromes
  – multiples traumatismes
  – 2 épisodes par an, 3 au cours du dernier mois
• Examen normal (pas d’hypotension orthostatique)
• Examen normal (pas d’hypotension orthostatique), ECG normal

• Quelles explorations?
• Examen normal (pas d’hypotension orthostatique), ECG normal

• MSC: négatif

• TI: négatif

• Autres explorations: ?
• Implanté 10/2018 d’un moniteur ECG sous-cutané
• Carelink®
• Récidive syncopale : traumatisme, pas de souvenir précis de l’épisode...
Pacing for reflex syncope

Reflex syncope

- Spontaneous asystolic pauses/s
  - Extrinsic (functional) (Class IIa)
  - Vagally-mediated or Adenosine-sensitive

- Test-induced asystolic pauses/s
  - CI-CSS (Class IIa)

- Undocumented syncope (Class III)
  - Asystolic tilt (Class IIb)
  - Adenosine sensitive syncope (Class IIb)

Pacing indicated

Pacing not indicated
ESC Pocket Guidelines & APP will be available at the ESC Congress in Munich 2018

French App soon coming!