

Guidelines for the diagnosis and management of syncope (version 2009)

The Task Force for the Diagnosis and Management of Syncope of the European Society of Cardiology (ESC)

**Towards a multidisciplinary,
internationally accepted document?**

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¹⁰ The Task Force for the Diagnosis and Management of Syncope of the European Society of Cardiology (ESC)

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The Task Force for the Diagnosis and Management of Syncope of the European Society of Cardiology (ESC)

Developed in collaboration with, European Heart Rhythm Association (EHRA)¹, Heart Failure Association (HFA)², and Heart Rhythm Society (HRS)³

Endorsed by the following societies, European Society of Emergency Medicine (EuSEM)⁴, European Federation of Internal Medicine (EFIM)⁵, European Union Geriatric Medicine Society (EUGMS)⁶, American Geriatrics Society (AGS), European Neurological Society (ENS)⁷, European Federation of Autonomic Societies (EFAS)⁸, American Autonomic Society (AAS)⁹

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Summary

Endorsed by:

- 8 European and American Societies:
 - Geriatric Medicine
 - Internal Medicine
 - Emergency Medicine
 - Neurology
 - Autonomic Nervous System

Developed in collaboration among:

- 19 Task Force members
- 10 External Contributors

Revision made by:

- 31 Reviewers

The most International and Multidisciplinary Guideline
The largest consortium of experts



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Most notable changes

- An update of the classification of syncope in the larger framework of transient loss of consciousness (T-LOC).
- New data on epidemiology.
- A new diagnostic approach focusing on risk stratification of sudden cardiac death (SCD) and cardiovascular events after initial evaluation, including some recommendations for treatment in patients with unexplained syncope at high risk.
- Emphasis on the increasing role of a diagnostic strategy based on prolonged monitoring in contrast to the conventional strategy based on laboratory testing.
- An update of evidence-based therapy.



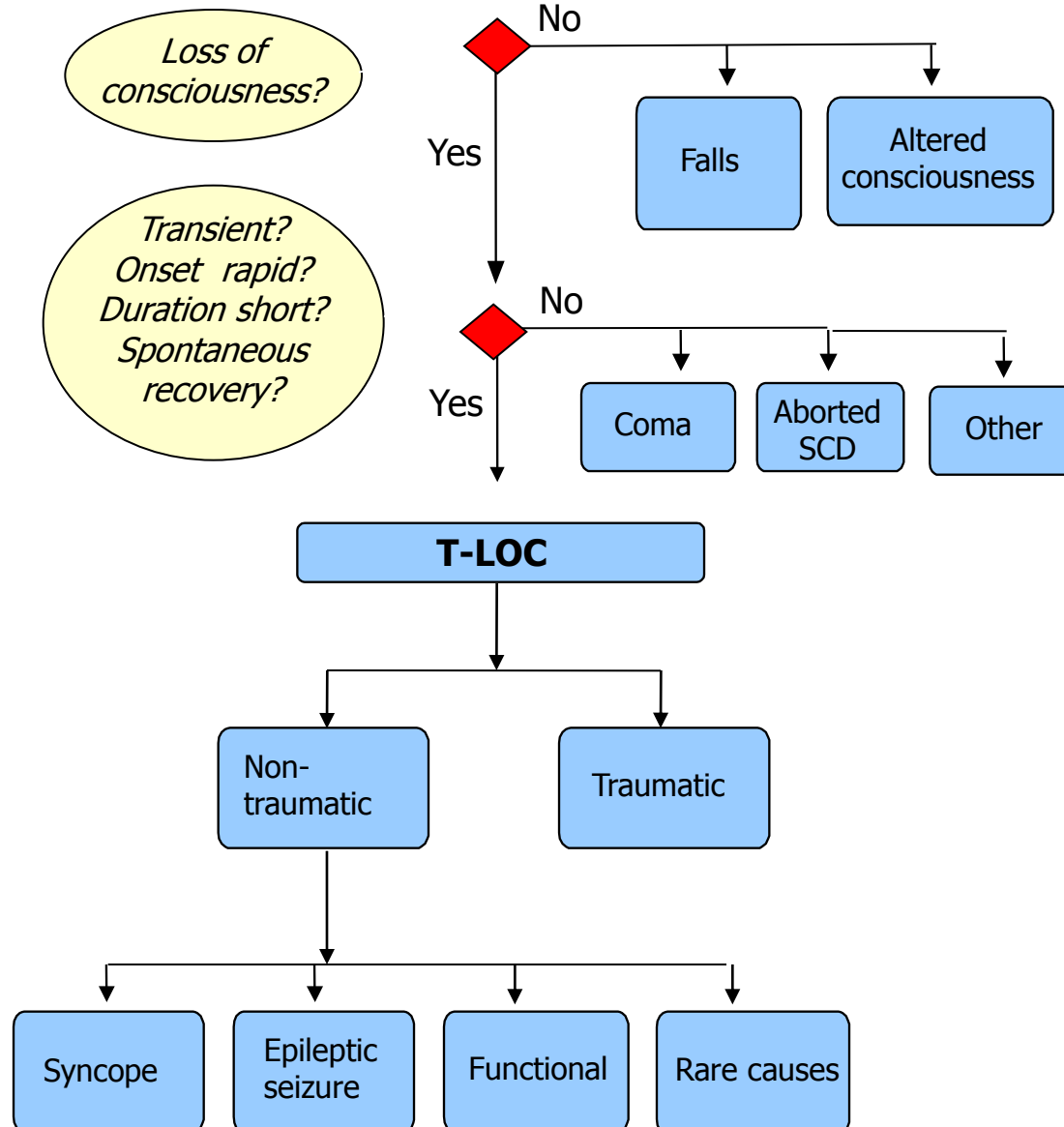
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Most clinically important changes

- Risk Stratification to allow only those patients to be admitted to hospital who really require it
- Early use of the Implantable loop recorder for more precise diagnosis

Clinical presentation

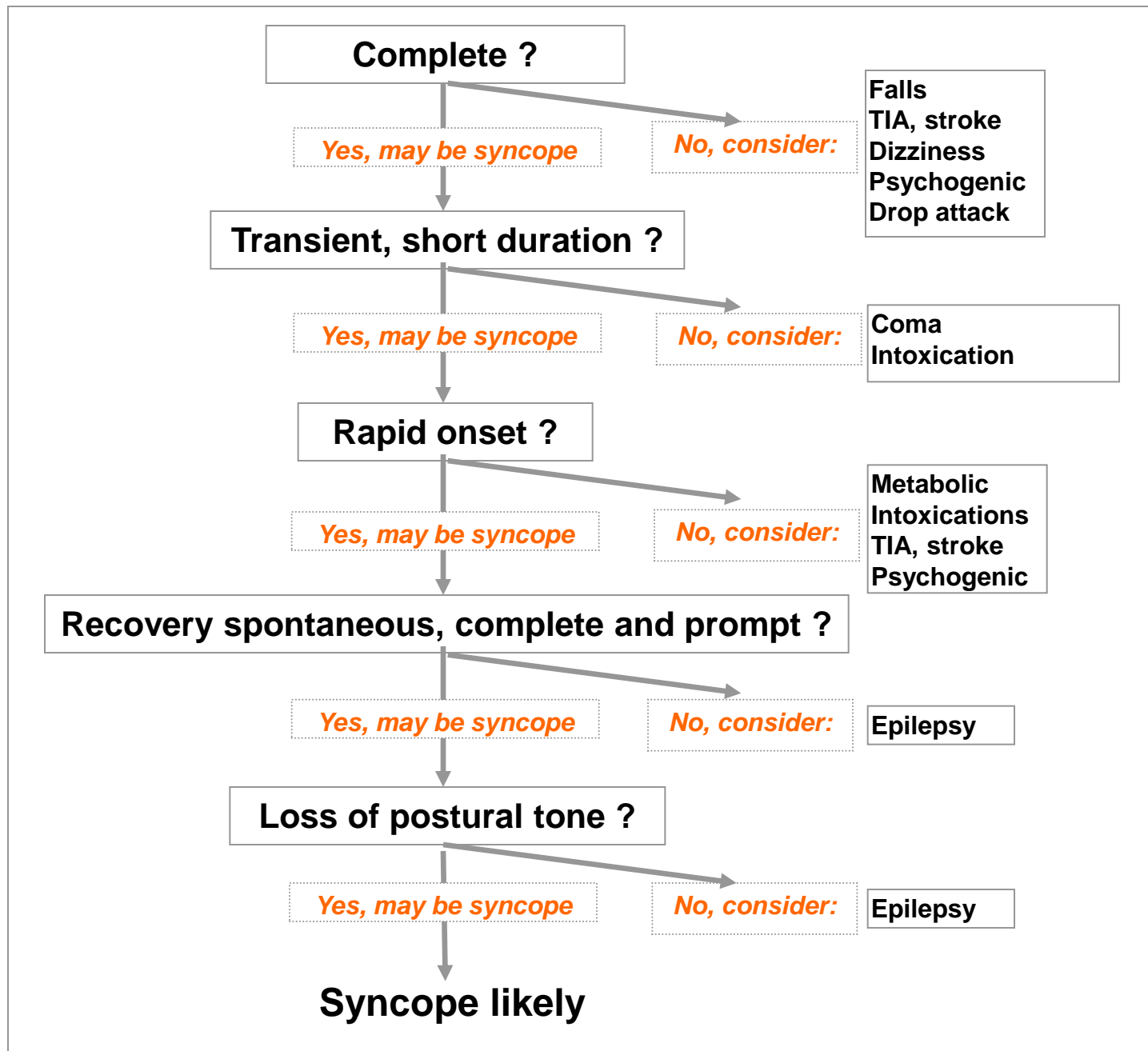


Definition

Syncope is a transient loss of consciousness (T-LOC), *due to transient global cerebral hypoperfusion*, characterized by:

- rapid onset,
- short duration *and*
- spontaneous complete recovery

Loss of consciousness: diagnostic flow

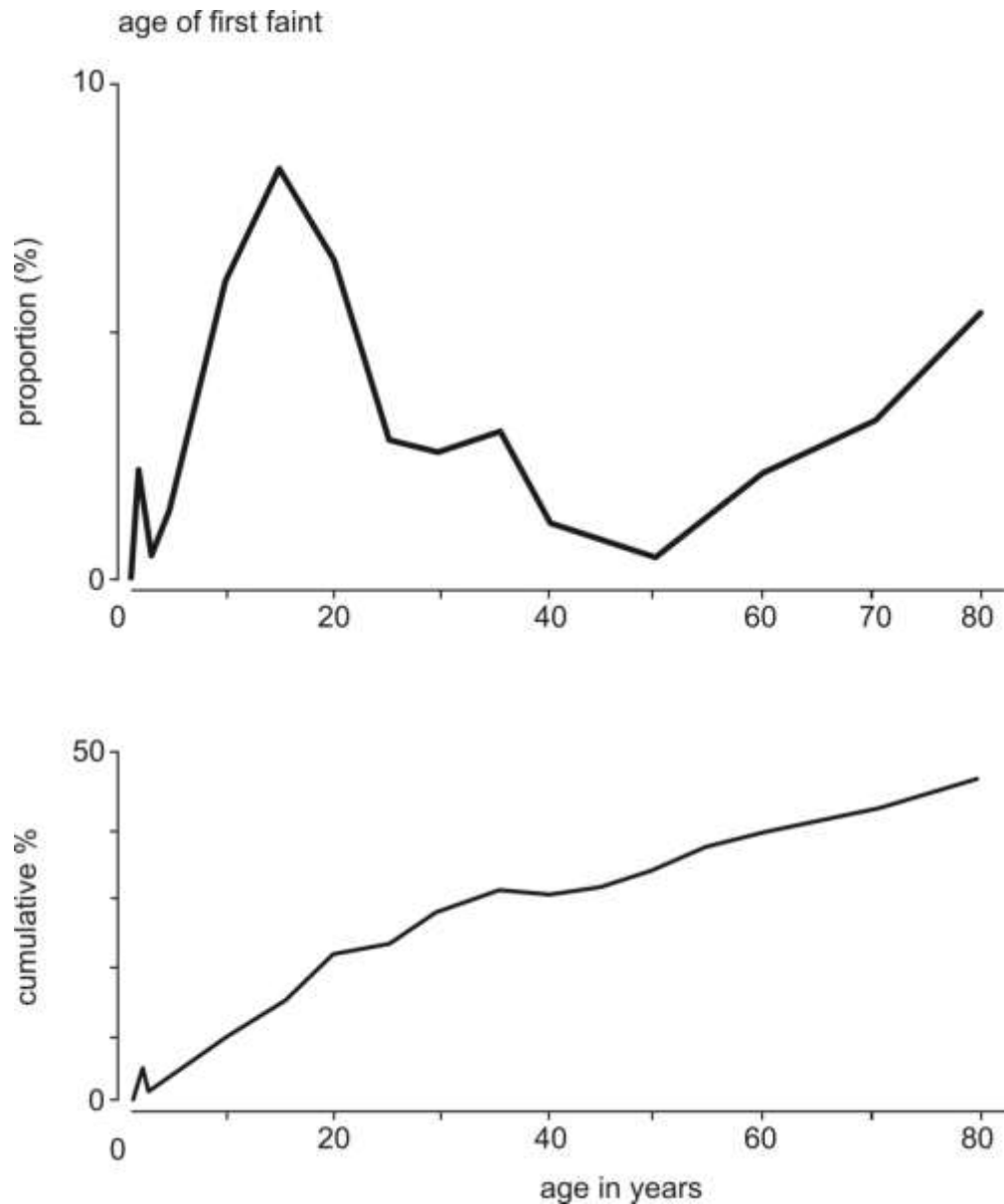




Classification of Transient Loss of Consciousness

I - Syncope	Neurally-mediated Orthostatic hypotension Cardiac arrhythmias Structural cardiopulmonary
II - Non-syncopal	Epilepsy Falls Drop attacks Psychogenic 'pseudo-syncope' Metabolic Intoxications Vertebro-basilar TIA Cataplexy

ESC Task Force on Syncope 2009 - Epidemiology



Syncope events/visits per 1000 patient-years

General population
18.1 – 39.7



General practice
9.3



ED
0.7

Syncope events/visits per 1000 patient-years in The Netherlands (From Olde Nordkamp et al 2008 with permission). ED = Emergency Department

Frequency of the causes of syncope according to the setting

<i>Setting</i>	<i>Source</i>	Reflex %	Orthostatic hypotension %	Cardiac %	Non- syncopal T-LOCs, %	Unexplained %
Gen pop	<i>Framingham</i>	21	9.4	9.5	9	37
Emergency department	<i>Ammirati</i>	35	6	21	20	17
	<i>Sarasin</i>	83	24	11	8	19
	<i>Blanc</i>	48	4	10	13	24
	<i>Disertori</i>	45	6	11	17	19
	<i>OldeNordkamp</i>	39	5	5	17	33
	range	35-48	4-24	5-21	8-20	17-33
Syncope Unit (dedicated facility)	<i>Alboni</i>	56	2	23	1	18
	<i>Chen</i>	56	6	37	3	20
	<i>Shen</i>	65	10	6	2	18
	<i>Brignole</i>	65	10	13	6	5
	<i>Ammirati</i>	73	1	6	2	18
	range	56-73	1-10	6-37	1-6	5-20

Frequency of the causes of syncope according to age

Age	Source	Reflex %	Orthostatic hypotension %	Cardio- vascular %	Non- syncopal T-LOC %	Unexplained %
<40 years	<i>Olde Nordkamp</i>	51	2.5	1.1	18	27
40-60 years	<i>Olde-Nordkamp</i>	37	6	3	19	34
<65 years	<i>Del Rosso</i>	68.5	0.5	12	-	19
>60/ 65 years	<i>Del Rosso</i>	52	3	34	-	11
	<i>Ungar</i>	62	8	11	-	14
	<i>Olde-Nordkamp</i>	25	8.5	13	12.5	41
>75 years	<i>Ungar</i>	36	30	16	-	9

Initial evaluation.

For all:

- **history**
- **physical examination**
- **standard ECG**

In selected cases (when appropriate):

- **echocardiogram**
- **in-hospital monitoring**
- **orthostatic challenge**
- **carotid sinus massage**
- **neurological evaluation**

Aims of Initial Evaluation

- To Stratify Risk**
- To make a Diagnosis**



Risk stratification (at the initial evaluation)

High risk

Unexplained syncope and ..

- Indication for ICD or PM (independent of a definite diagnosis of the cause of syncope)
- Severe structural cardiopulmonary disease
- Arrhythmic syncope likely
 - ✓ Syncope during exertion or supine
 - ✓ Palpitations at the time of syncope
 - ✓ Heart failure or low EF
 - ✓ NSVT
 - ✓ BBB
 - ✓ Sinus bradycardia <50 bpm
 - ✓ AV block
 - ✓ WPW, long/shortQT, ARVD, Brugada
- Important co-morbidities (severe anaemia, electrolyte disturbances, etc)

Immediate in-hospital evaluation or early intensive evaluation and



The initial evaluation of T-LOC

3 key questions:

Question #1

Syncope or not syncope?

Question #2

Is heart disease present or absent?

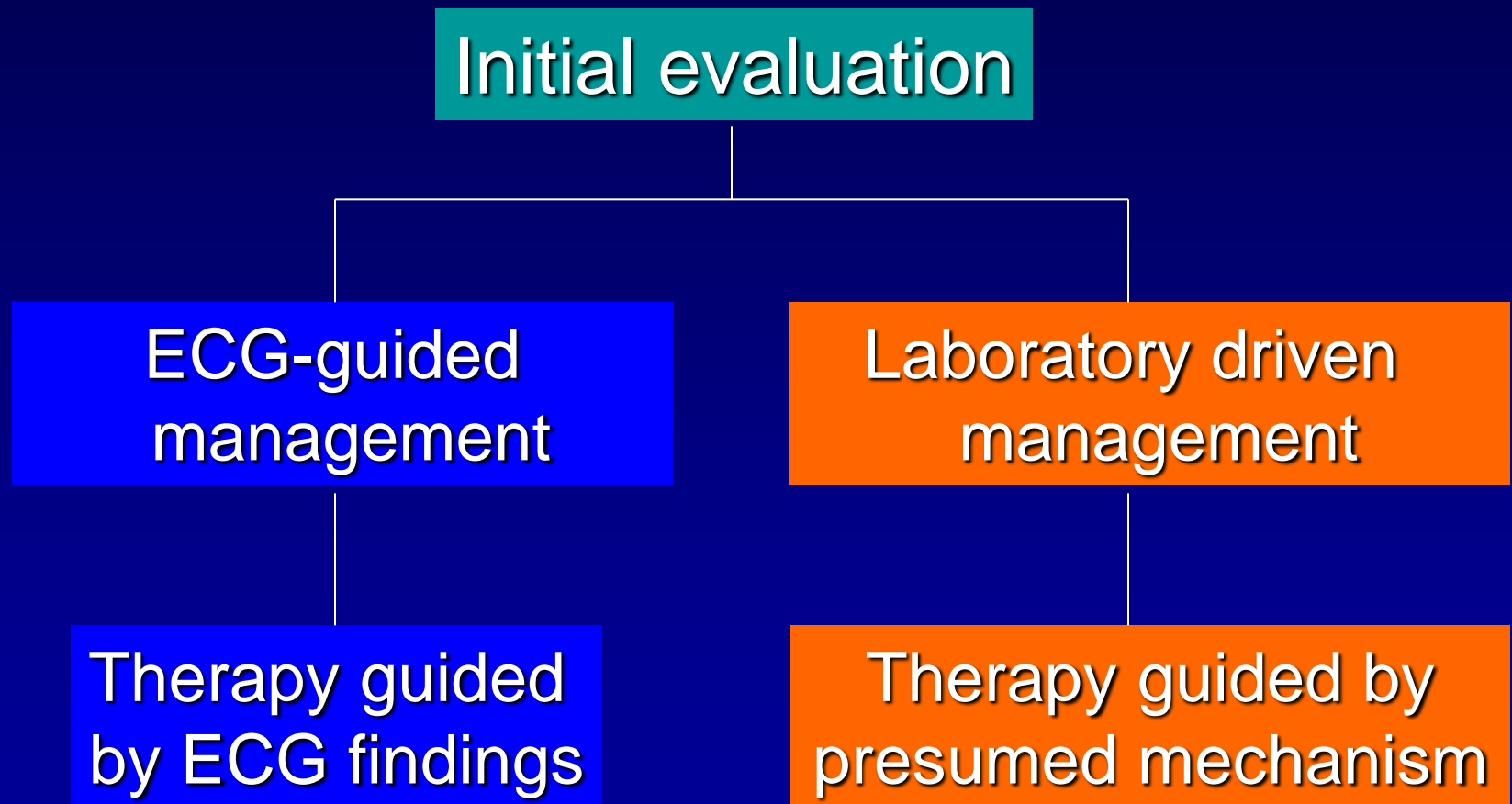
Question #3

What is the history of syncope?

Diagnosis

**Syncope of uncertain cause
after the initial evaluation**

Strategy for the management of patients with syncope of uncertain cause after the initial evaluation



Strategy for the management of patients with syncope of uncertain cause after the initial evaluation

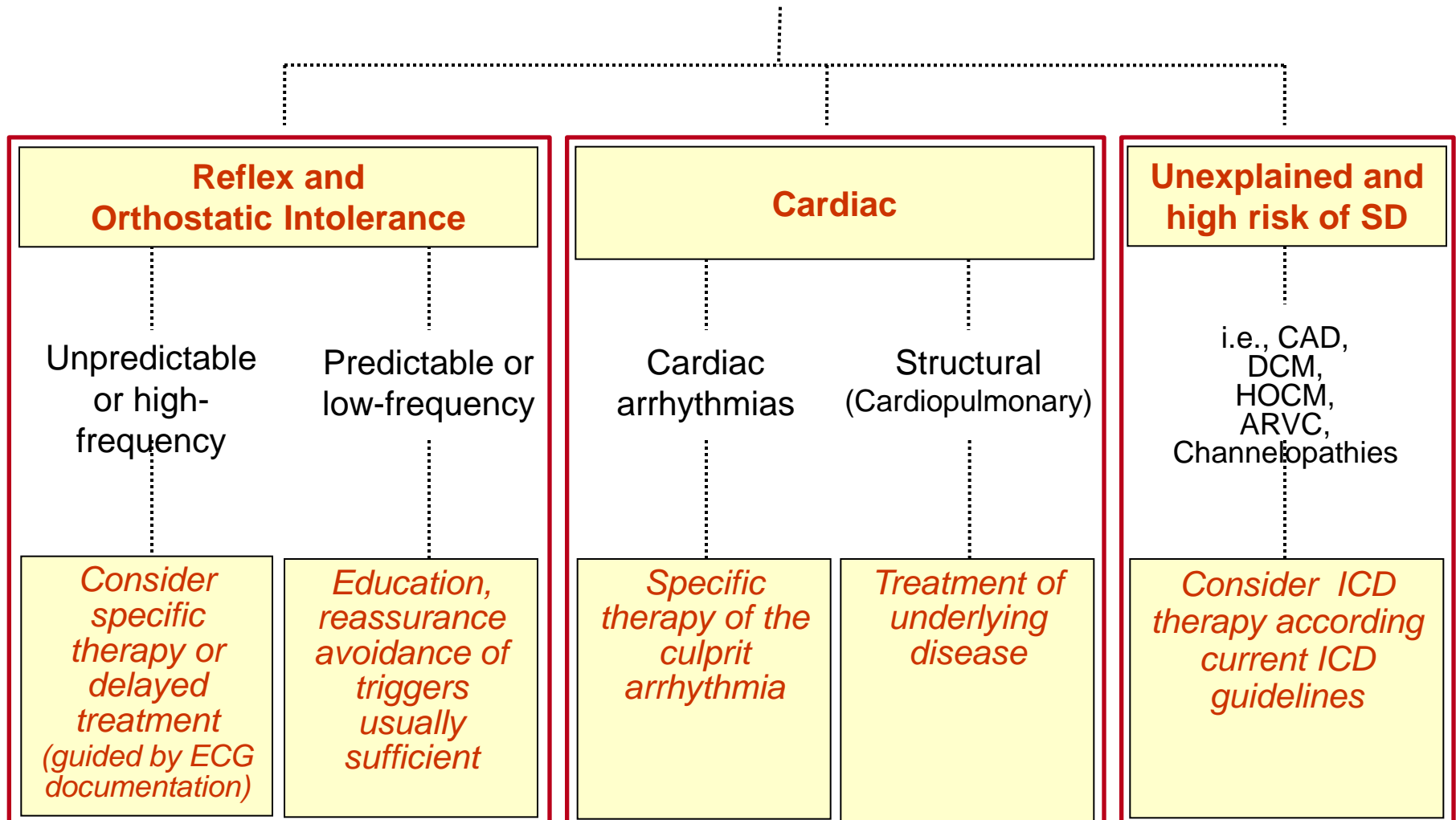
ECG-guided	Laboratory driven
<ul style="list-style-type: none">• Diagnosis and therapy <i>delayed</i>• Initial risk stratification required (safety issue)	<ul style="list-style-type: none">• Diagnosis and therapy <i>immediate</i>• Risk of misdiagnosis

Recommendations: Indications for ILR in patients with syncope

<i>Clinical situation</i>	<i>Class</i>	<i>Level</i>
<ul style="list-style-type: none"> • In an early phase of evaluation of patients with recurrent syncope of uncertain origin who have: <ul style="list-style-type: none"> – absence of high-risk criteria that require immediate hospitalization or intensive evaluation, <i>and</i> – a likely recurrence within battery longevity of the device 	I	B
<ul style="list-style-type: none"> • In high-risk patients in whom a comprehensive evaluation did not demonstrate a cause of syncope or lead to specific treatment 	I	B
<ul style="list-style-type: none"> • ILR may be indicated to assess the contribution of bradycardia before embarking on cardiac pacing in patients with suspected or certain neurally mediated syncope presenting with frequent or traumatic syncopal episodes 	IIa	B
<ul style="list-style-type: none"> • ILR may be indicated in patients with T-LOC of uncertain origin in order definitely to exclude an arrhythmic mechanism 	IIb	B

Treatment of syncope

Diagnostic evaluation



Recommendations: Indications for ICD in patients with unexplained syncope and a high risk of SCD (1)

<i>Clinical situation</i>	<i>Class</i>	<i>Level</i>
In patients with ischaemic cardiomyopathy with severely depressed LVEF or HF ICD therapy is indicated according to current guidelines for ICD-cardiac resynchronization therapy implantation	I	A
In patients with non-ischaemic cardiomyopathy with severely depressed LVEF or HF ICD therapy is indicated according to current guidelines for ICD-cardiac resynchronization therapy implantation	I	A

Recommendations: Indications for ICD in pts with unexplained syncope and high risk of SCD (2)

<i>Clinical situation</i>	<i>Class</i>	<i>Level</i>
In HCM ICD should be considered in HR pts	IIa	C
In ARVD ICD should be considered in HR pts	IIa	C
In Brugada ICD should be considered in pts with spont. Type 1 ECGs	IIa	B
In Long QT ICD plus Beta-blockers should be considered in HR pts	IIa	B
Comments: In all non-HR pts consider ILR		

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Conclusions

Risk stratify patients in order to select those at need for immediate action

Use the Implantable loop recorder early so as to make a precise diagnosis which, in turn, permits optimal treatment. *Implication - less tilt testing*