

Diagnostic and therapeutic management of the patient with syncope

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

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

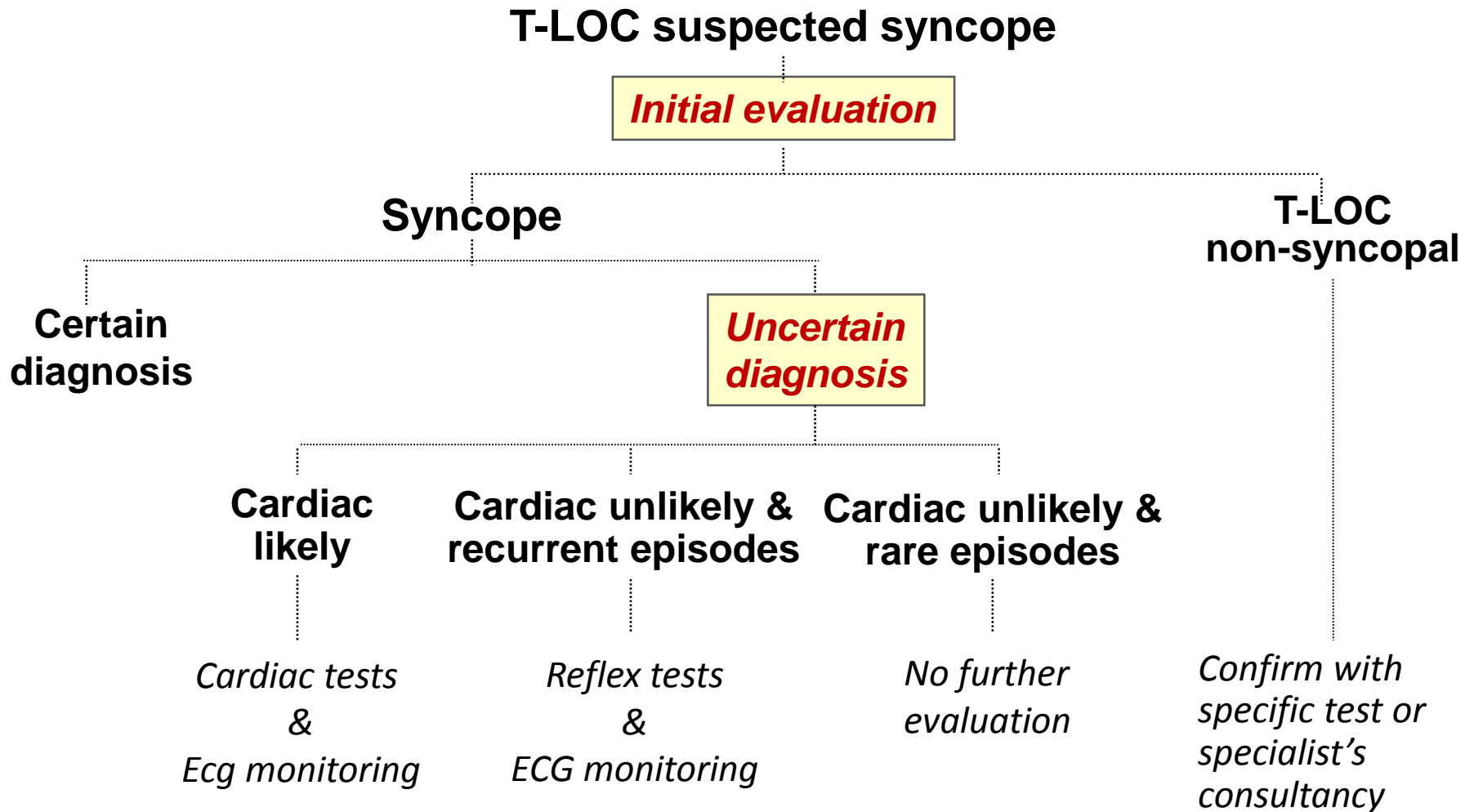
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Available on www.escardio.org/guidelines

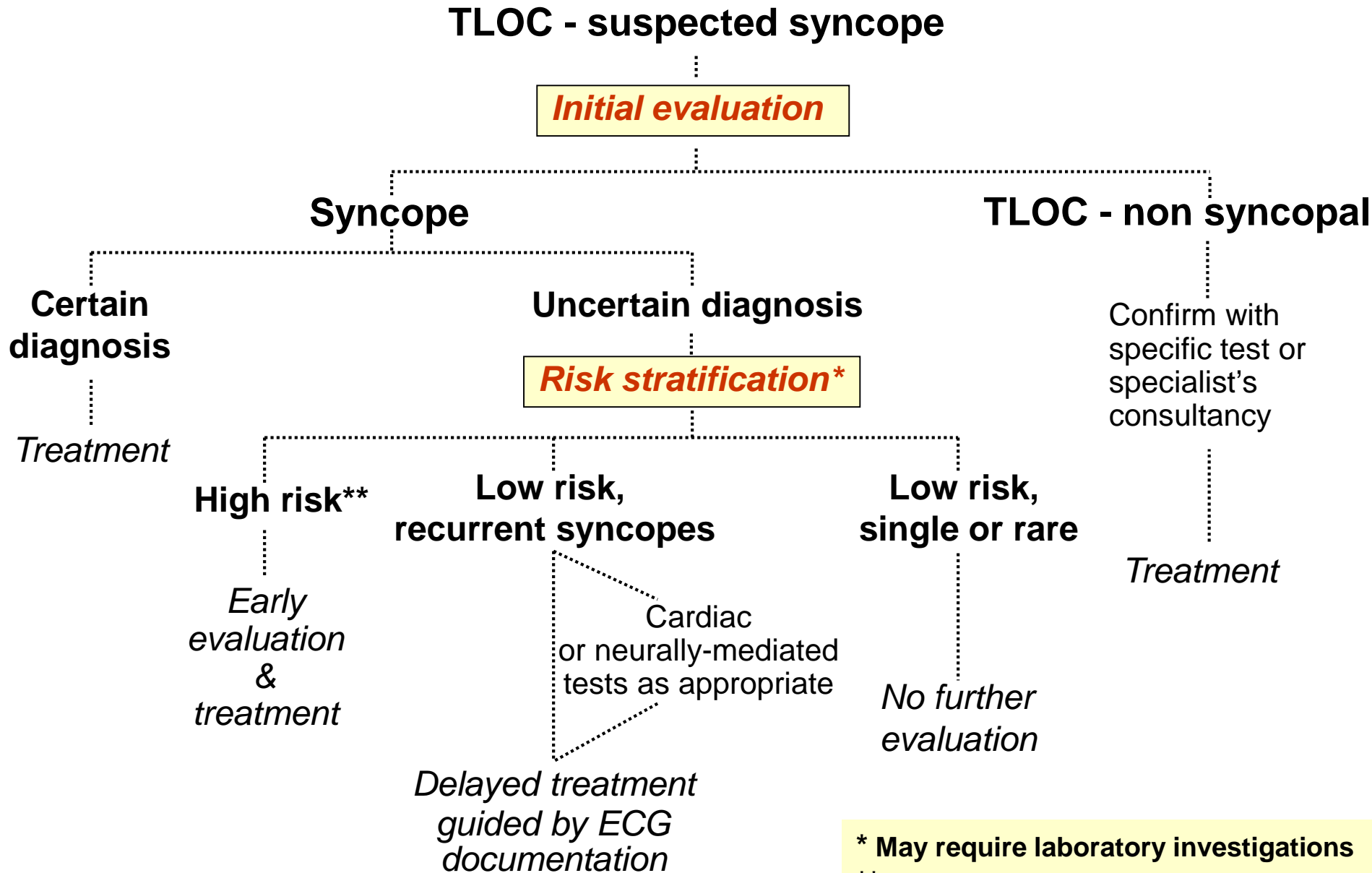


The initial evaluation: **diagnostic strategy**



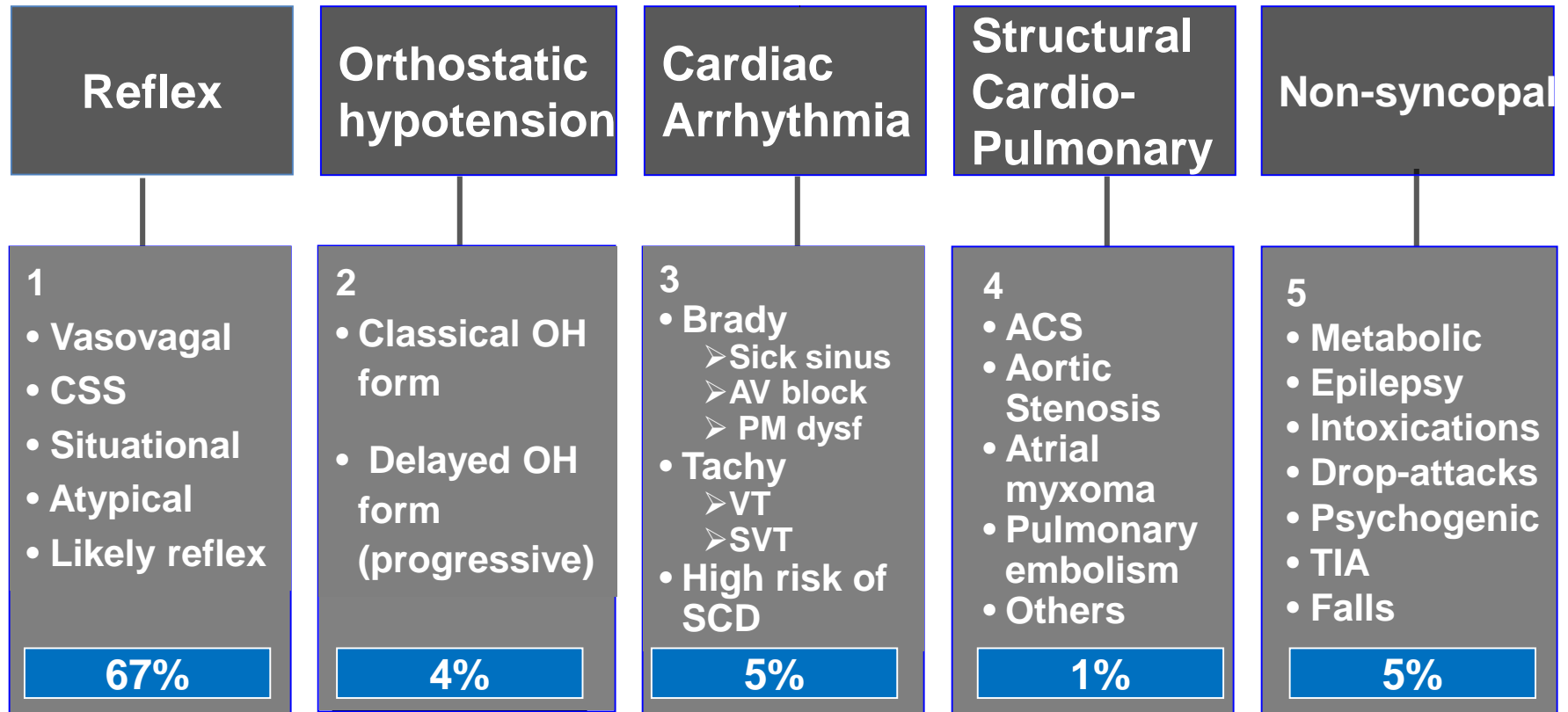


The initial evaluation: risk stratification strategy



* May require laboratory investigations

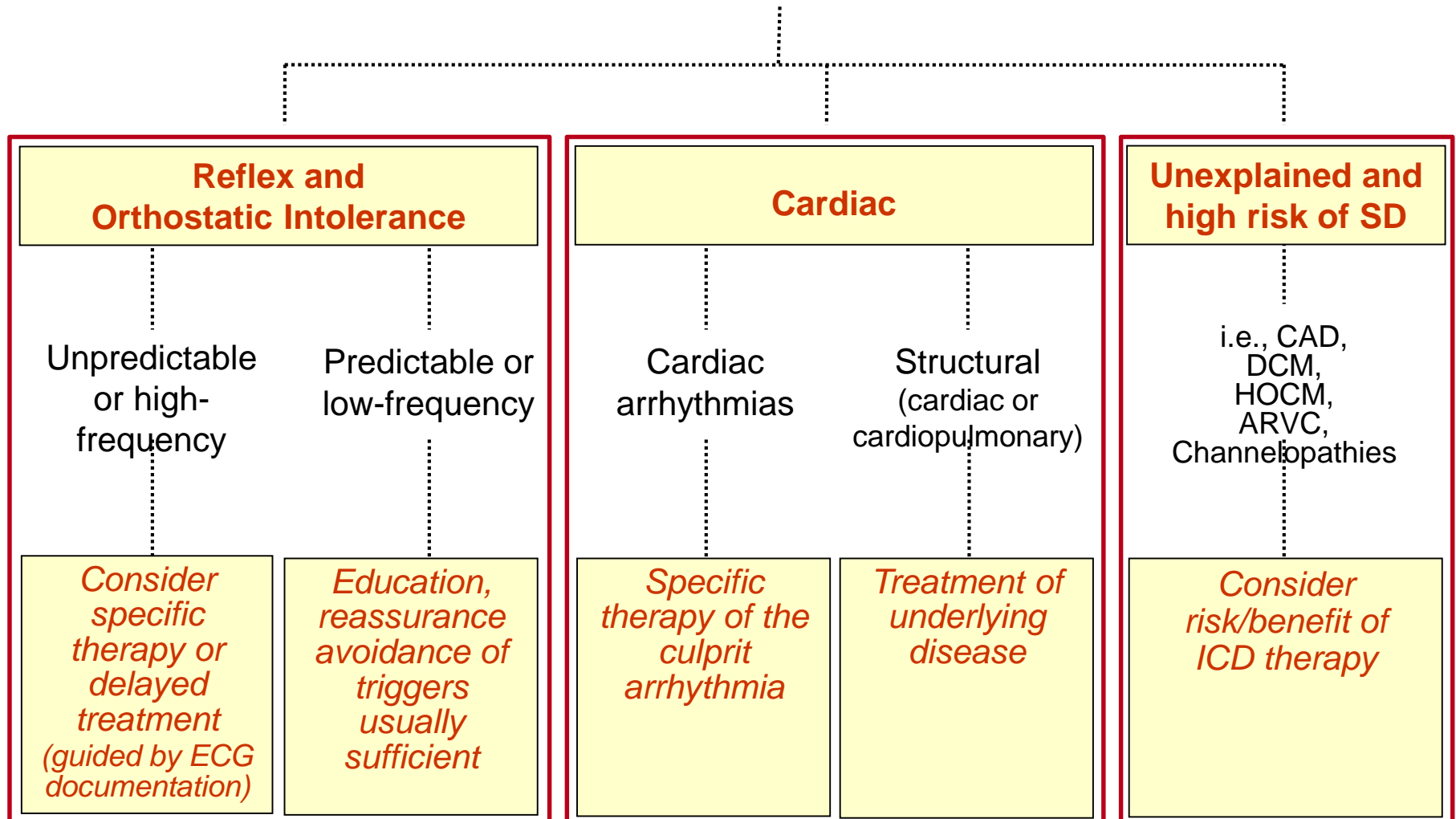
** Risk of short-term serious events



Unknown Cause = 18%

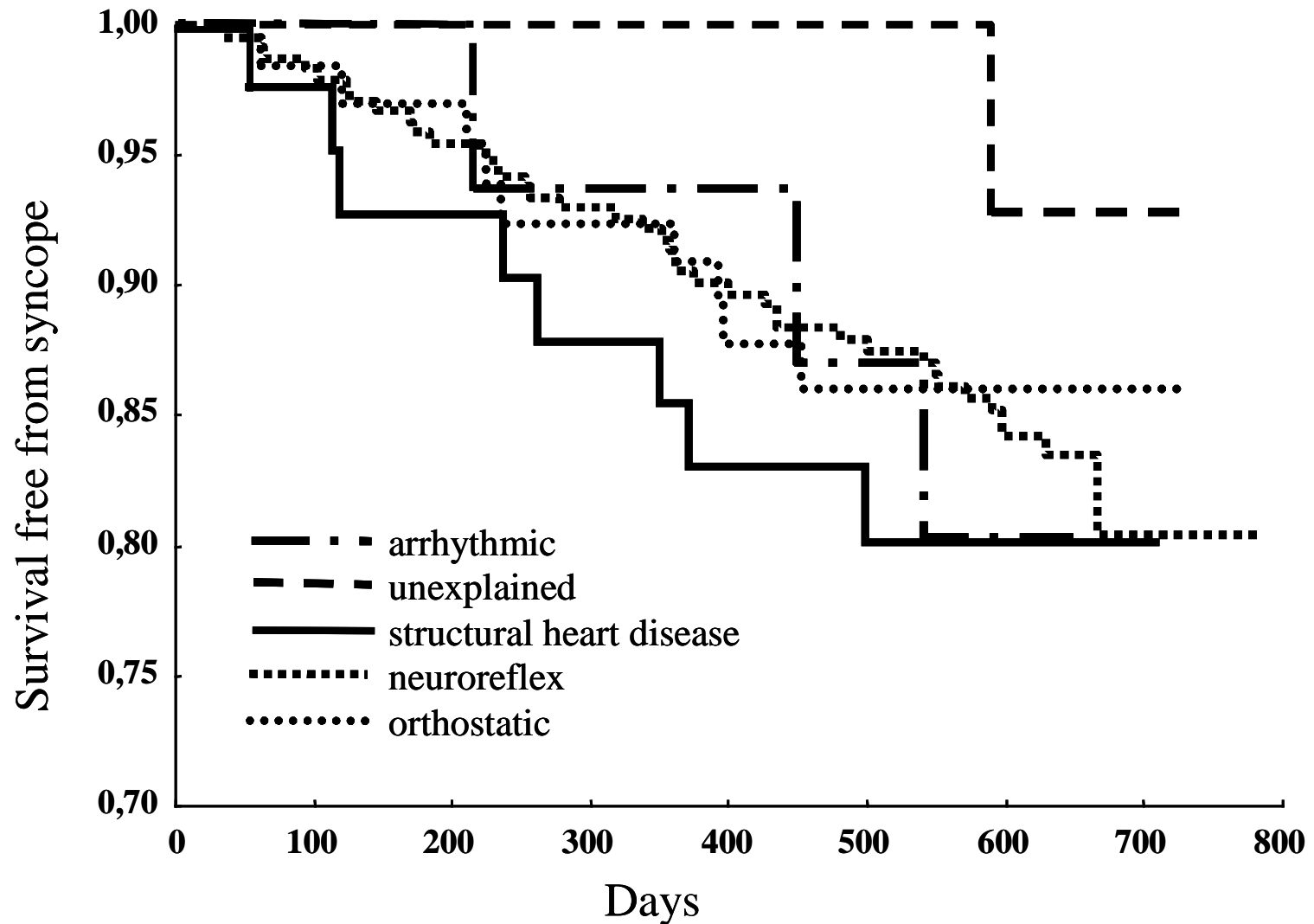
Treatment of syncope

Diagnostic evaluation



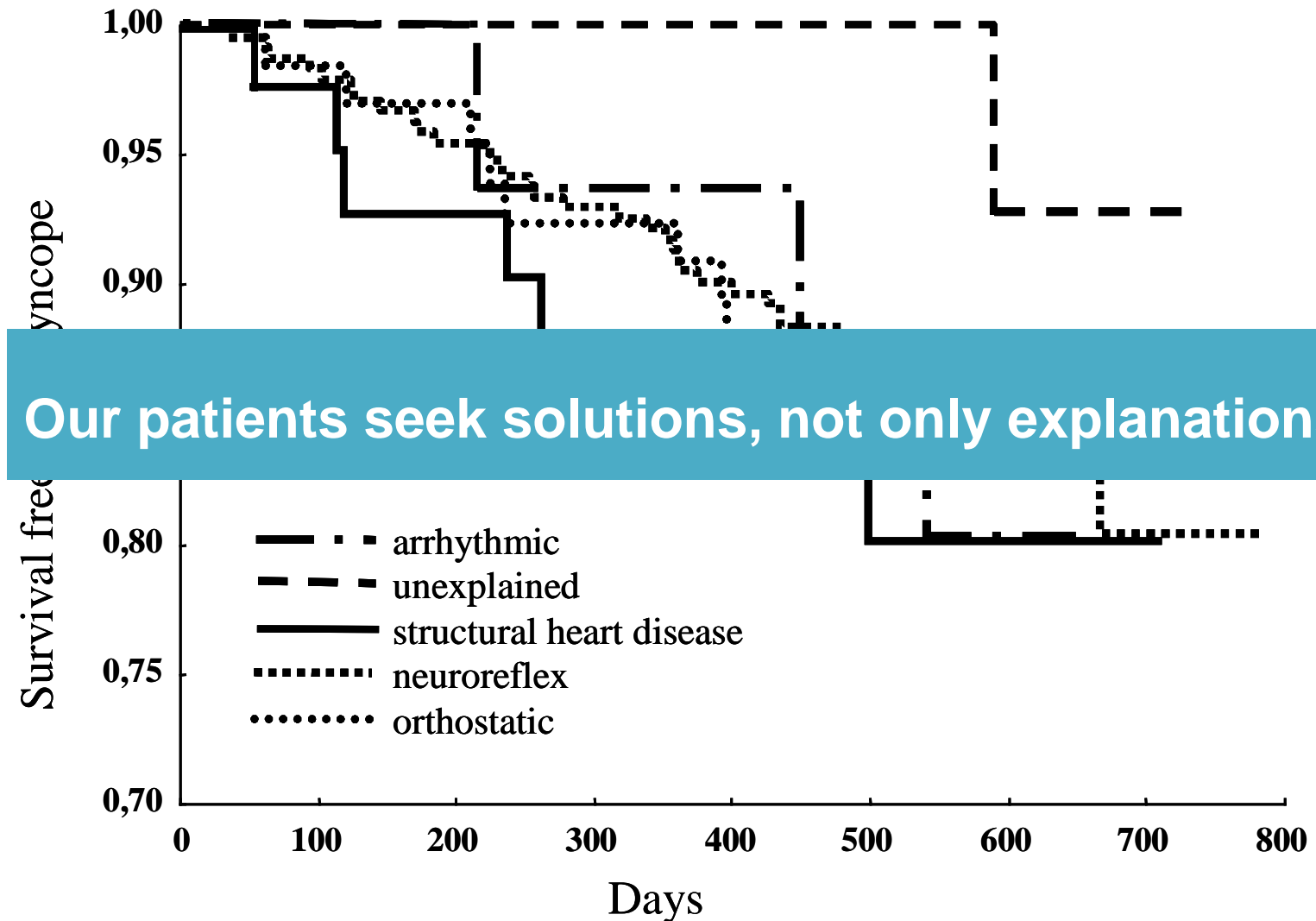
Recurrence of syncope

in 398 patients

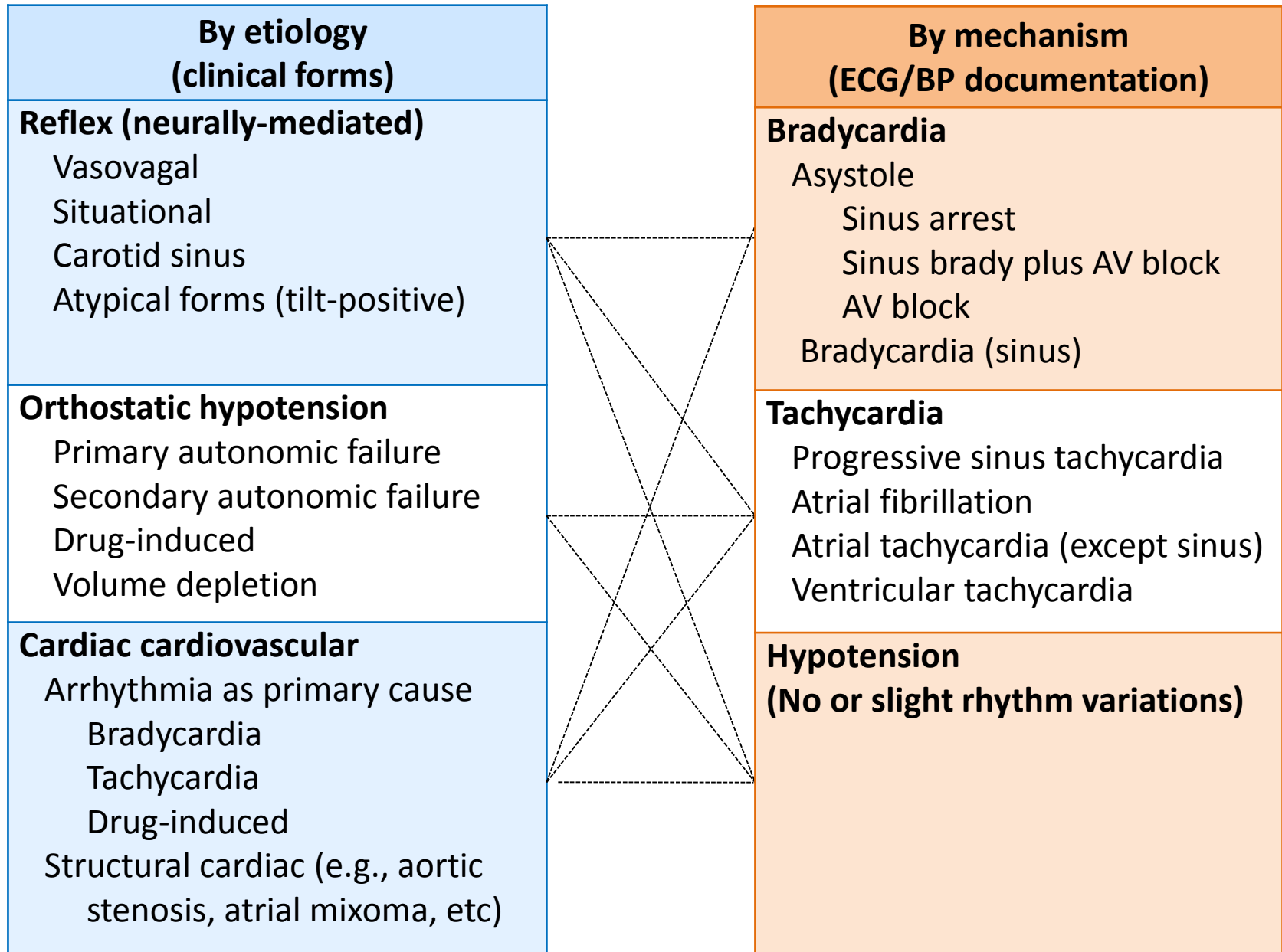


Recurrence of syncope

in 398 patients



Different ways to classify syncope



Take home message

- **The efficacy of therapy is largely determined by the mechanism of syncope rather than its etiology**

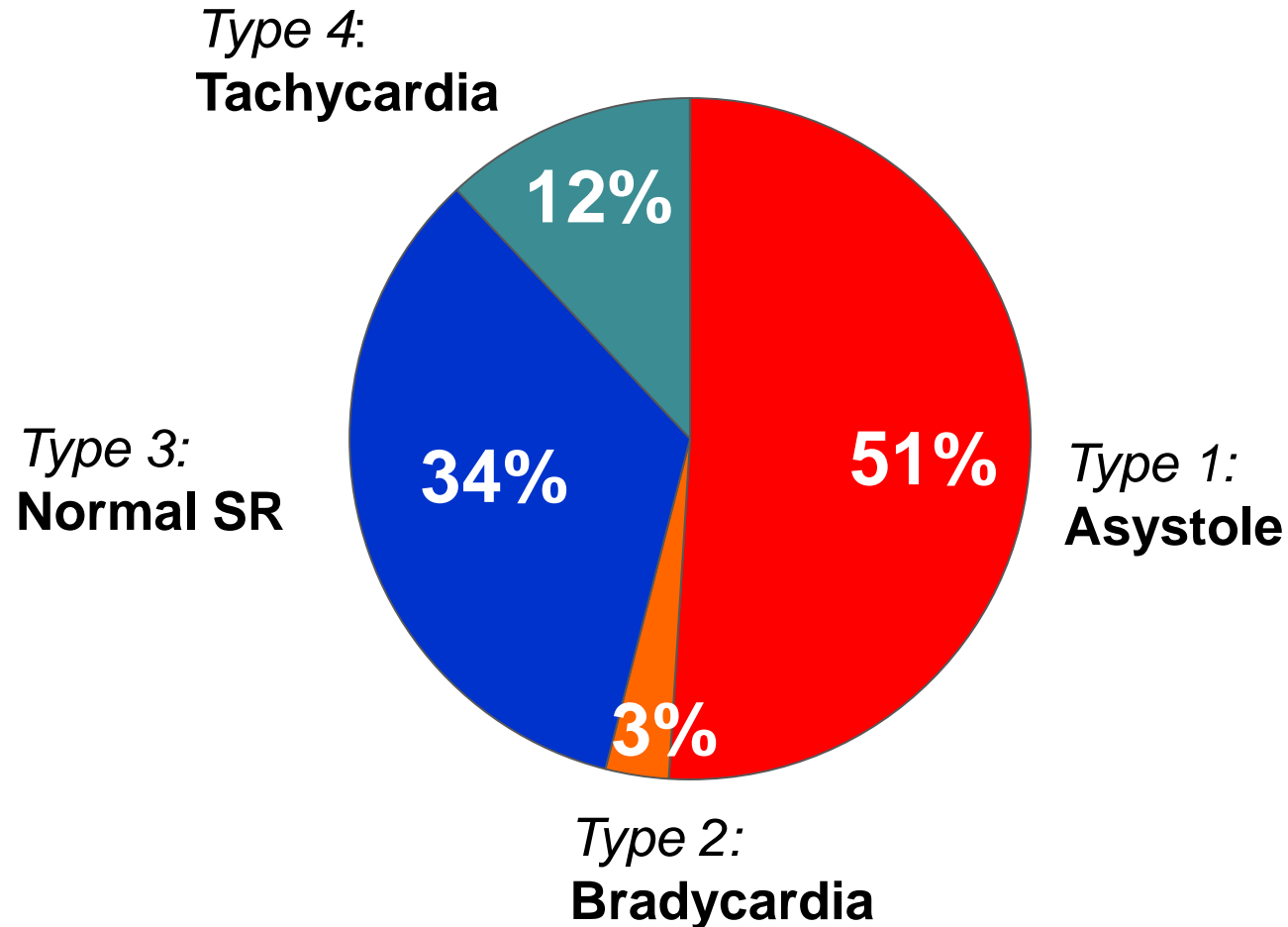
Diagnosis by mechanism

- **Bradycardia/tachycardia**
- Hypotension

Diagnostic yield of very prolonged ILR observation

Arrhythmologic Centre - Lavagna 2001-2010

ISSUE classification

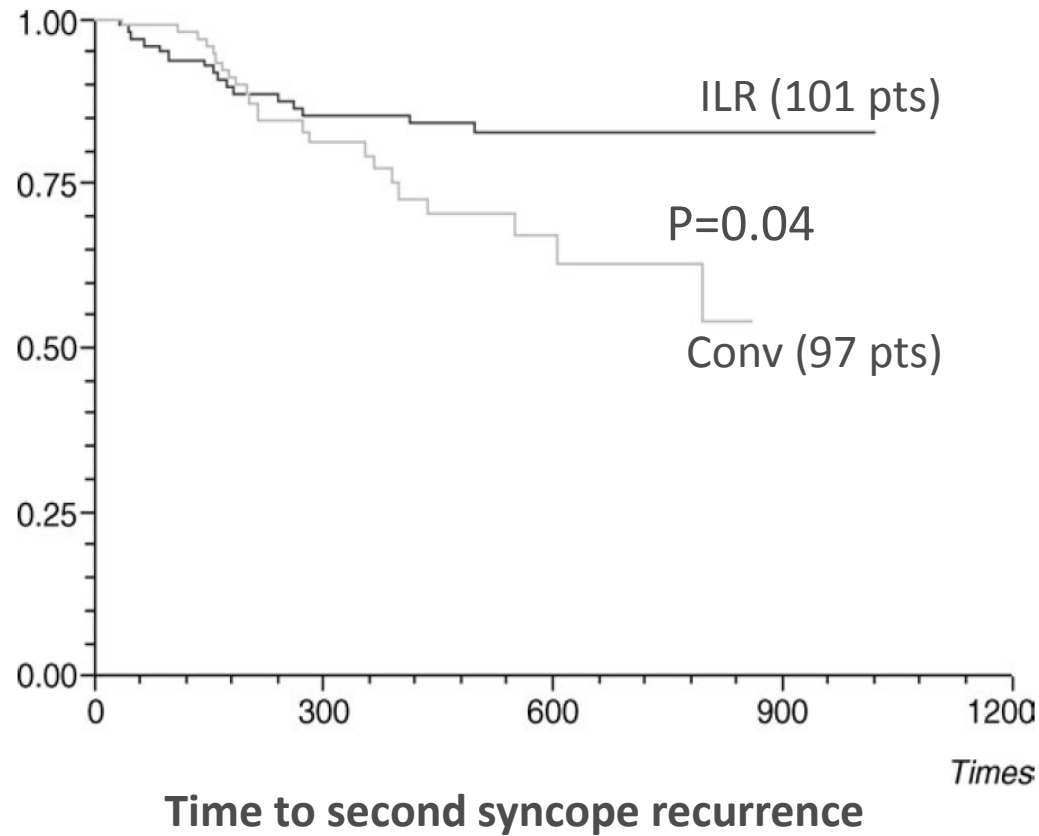


Eastbourne Syncope Assessment Study (EaSyAS)

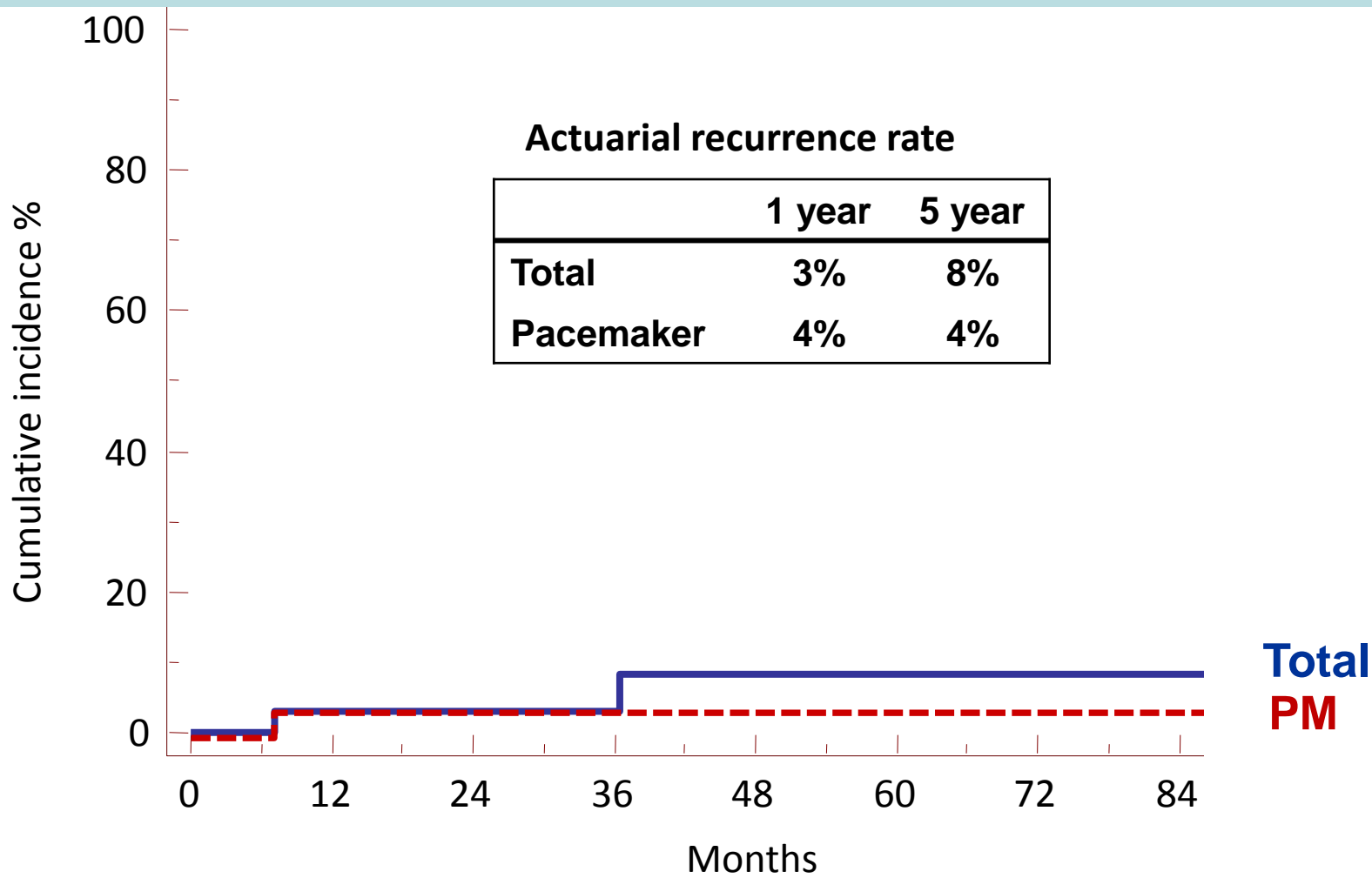
European Heart Journal 2006; 27, 351–356

Table 3 ECG directed therapies introduced by study census

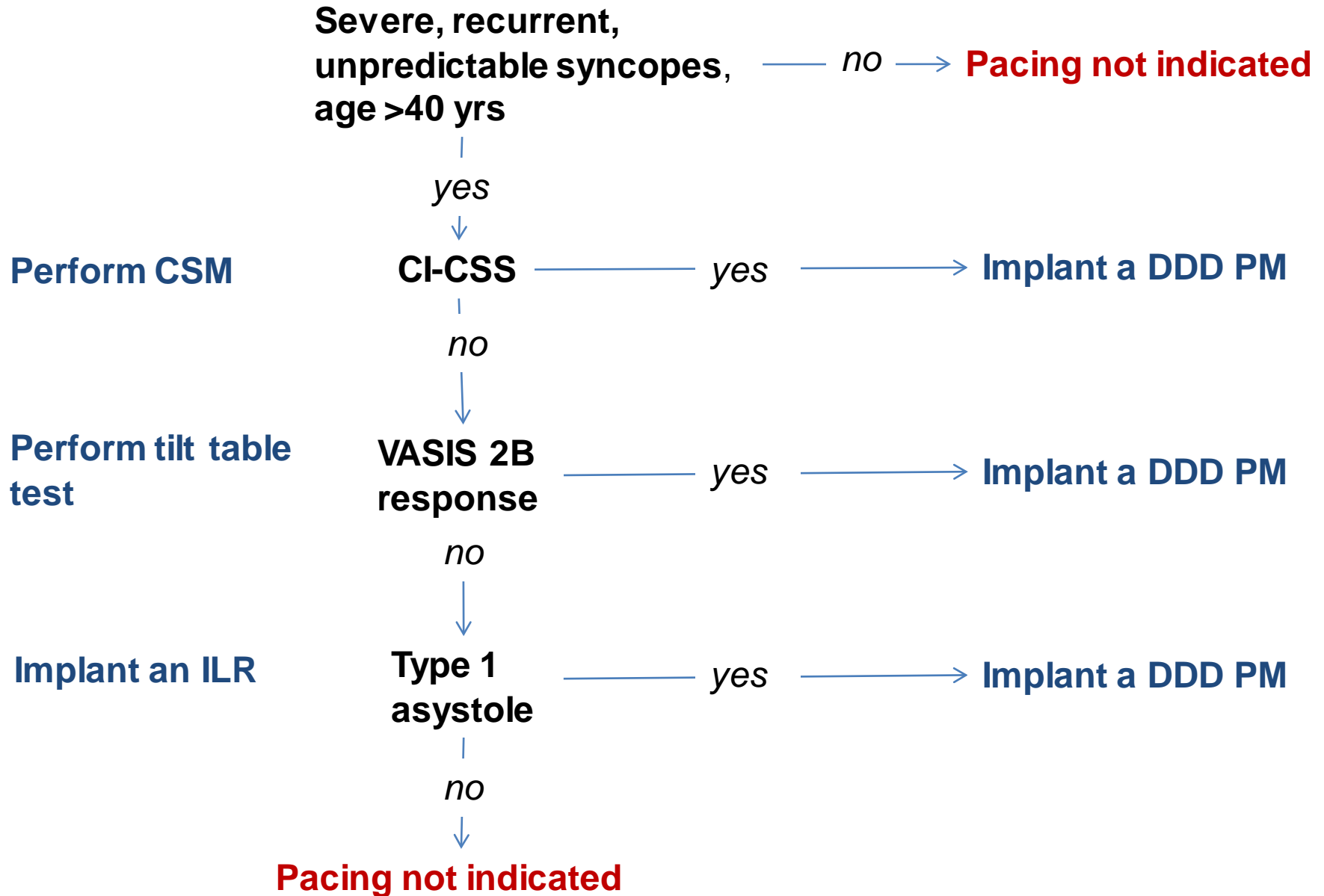
	ILR	Conventional	Total
Pacemaker	16	3	19
Lifestyle modification	12	1	13
Drug therapy	8	1	9
Drug cessation	2	1	3
Awaiting therapy	2	0	2
RF ablation	1	0	1
ICD	0	1	1
Tilt training	1	0	1
Psychiatry reference	1	0	1
Total	43	7	50

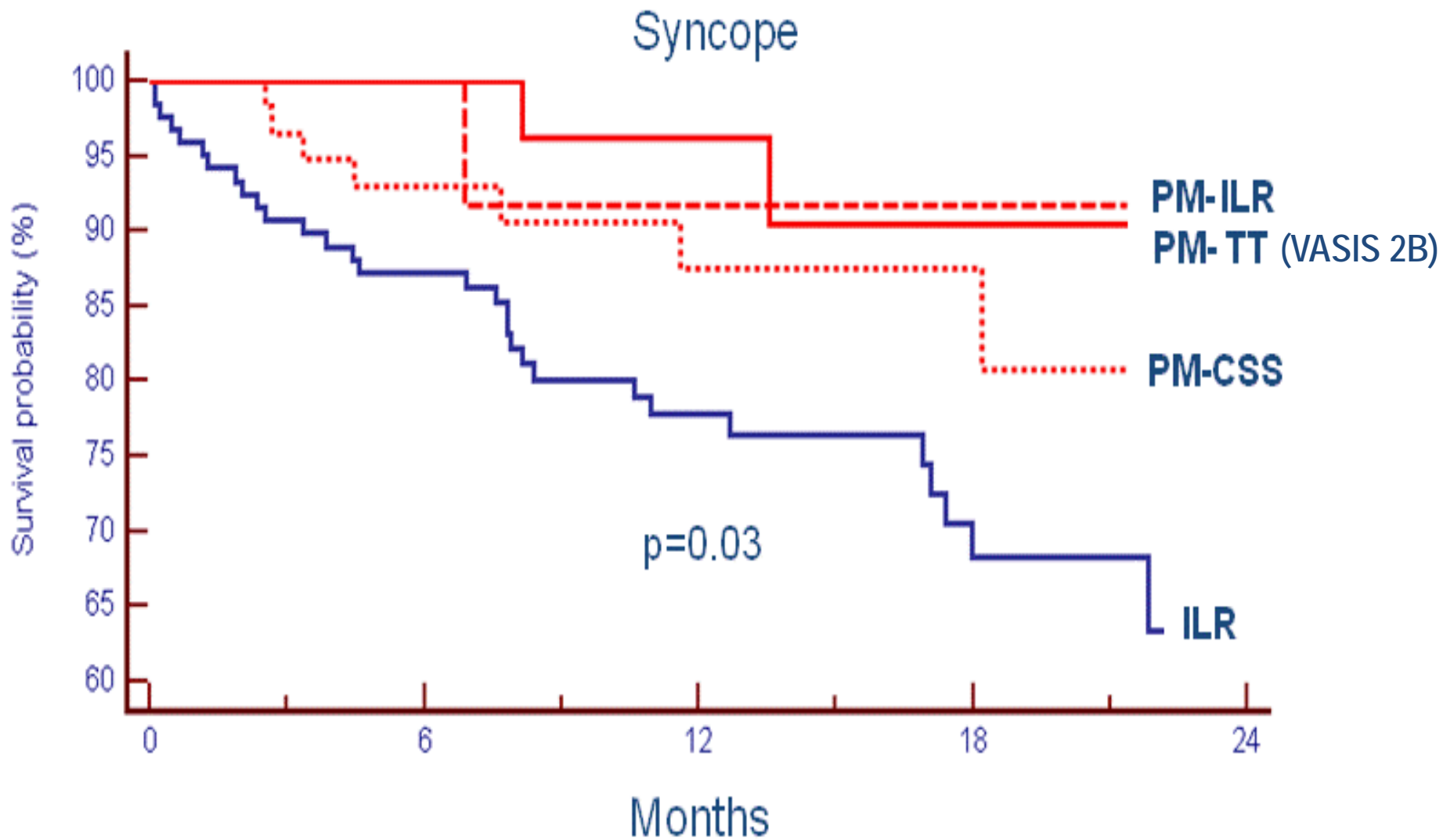


Long term outcome after specific therapy guided by ILR Arrhythmologic Centre - Lavagna 2001-2010

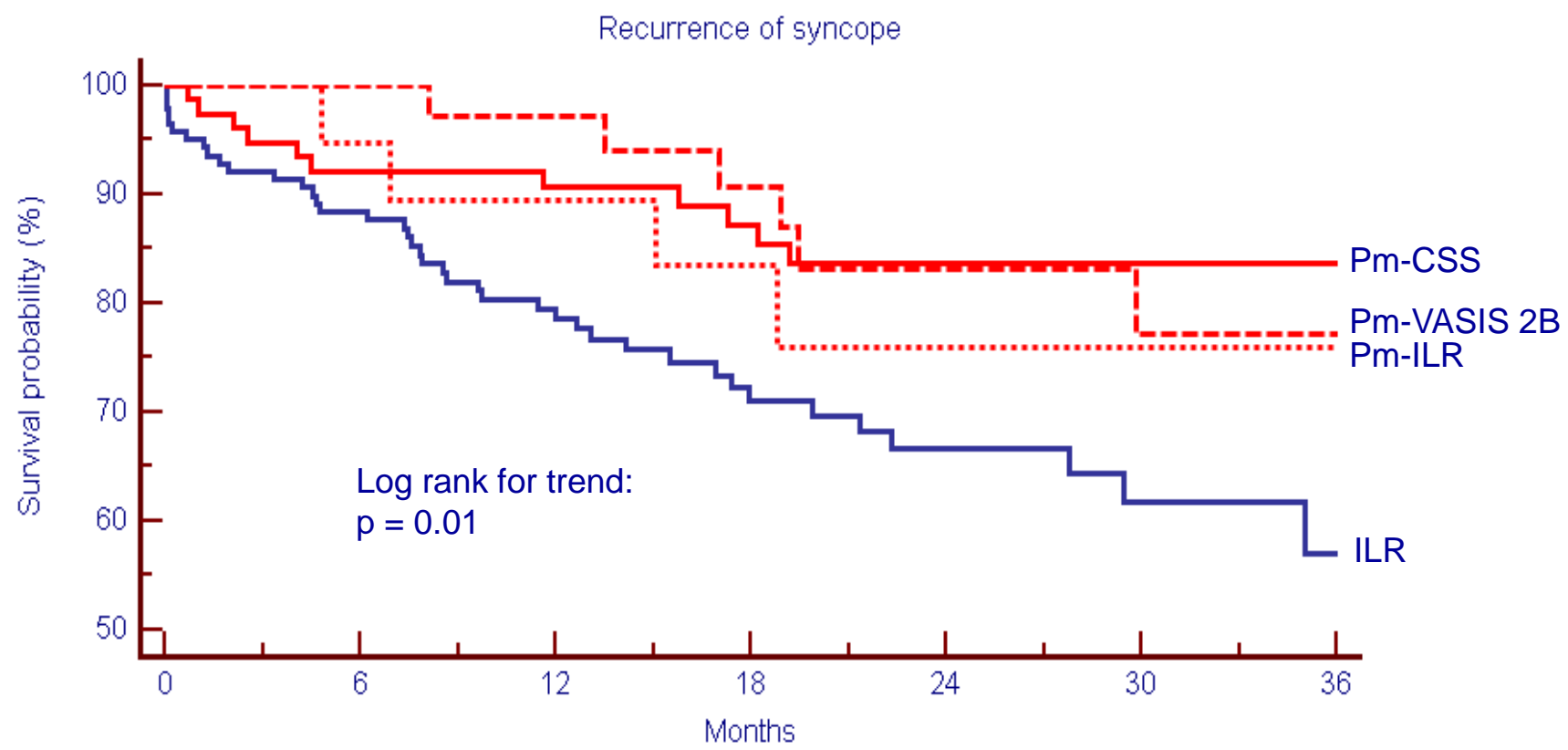


Total patients	45	28	22	17	13	9	8	6
Pacemaker	34	20	15	11	9	7	6	4





SUP 2 study: 3-years extended follow-up



Number at risk

Group	0	6	12	18	24	30	36
Group: ILR	142	115	90	58	37	22	10
Group: PM-CSS	78	69	61	51	40	26	17
Group: PM-ILR	21	18	17	11	8	6	1
Group: PM-VASIS 2B	38	37	32	26	21	13	6

Diagnosis by mechanism

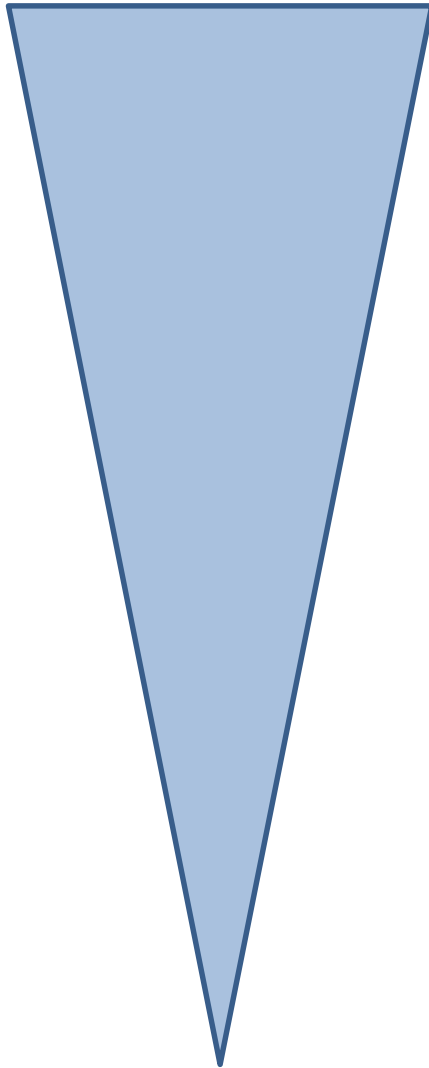
- Bradycardia/tachycardia
- **Hypotension**

Tilt table testing: limitations

- Too often negative in pts with likely VVS (*“low sensitivity”*)
- Too often positive in pts without VVS syncope (*“low specificity”*)
- No value in assessing efficacy of treatment with drugs or pacemaker

**Someone stopped to perform it
(*“clinical history better than tilt table testing”*)**

Tilt testing: positivity rate



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



Twenty-eight years of research permit reinterpretation of tilt-testing: hypotensive susceptibility rather than diagnosis

Richard Sutton^{1*} and Michele Brignole²

A positive tilt test suggests the presence of a **hypotensive susceptibility**, which plays a role in causing syncope irrespective of the etiology and mechanism of syncope.

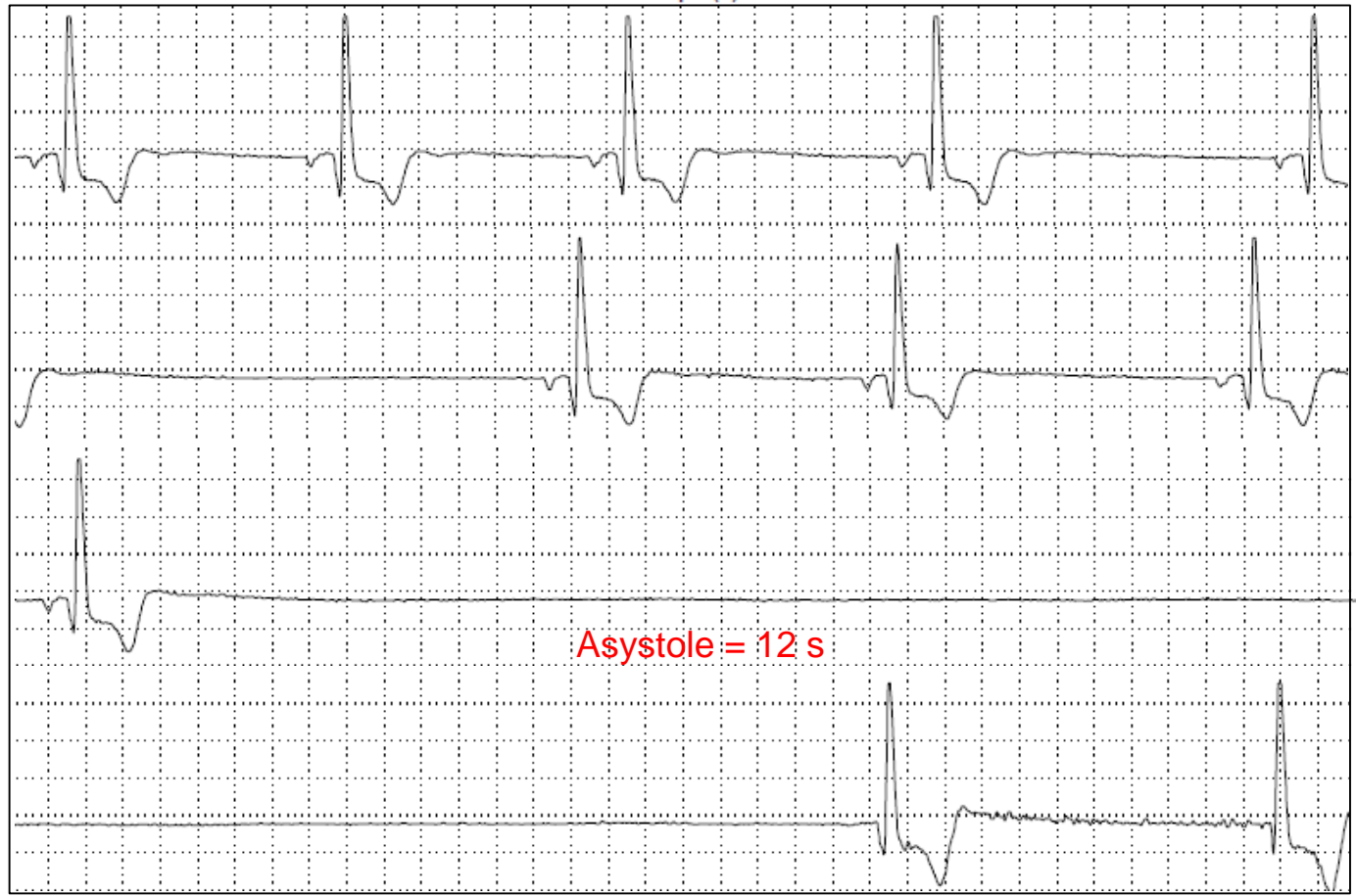
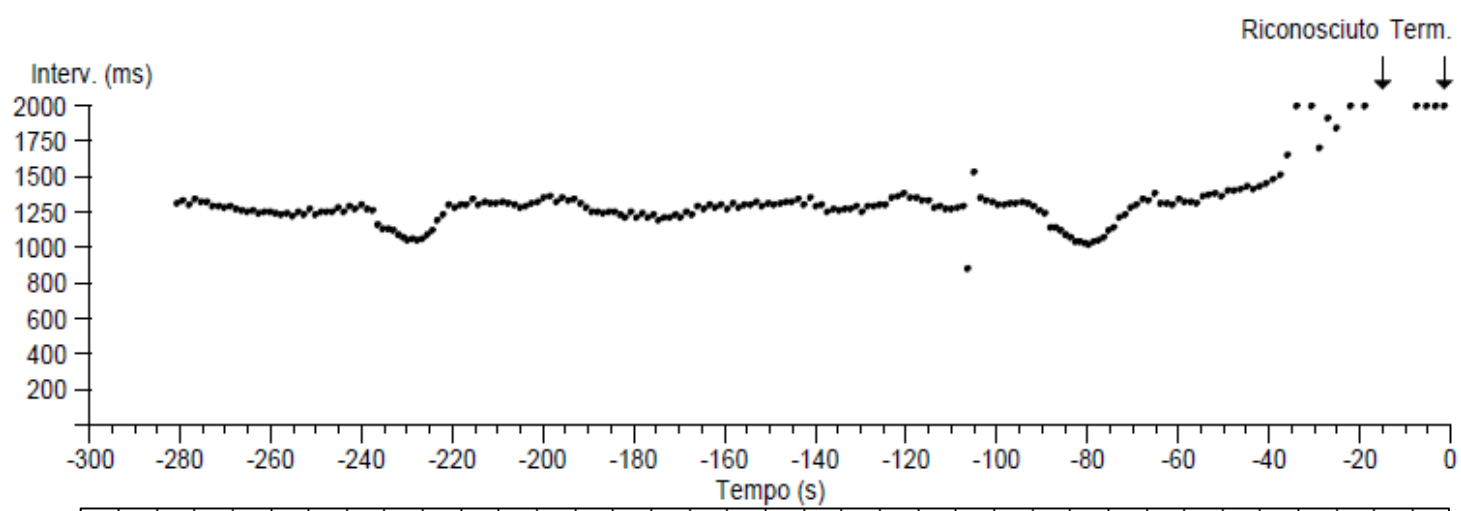


ISSUE 3

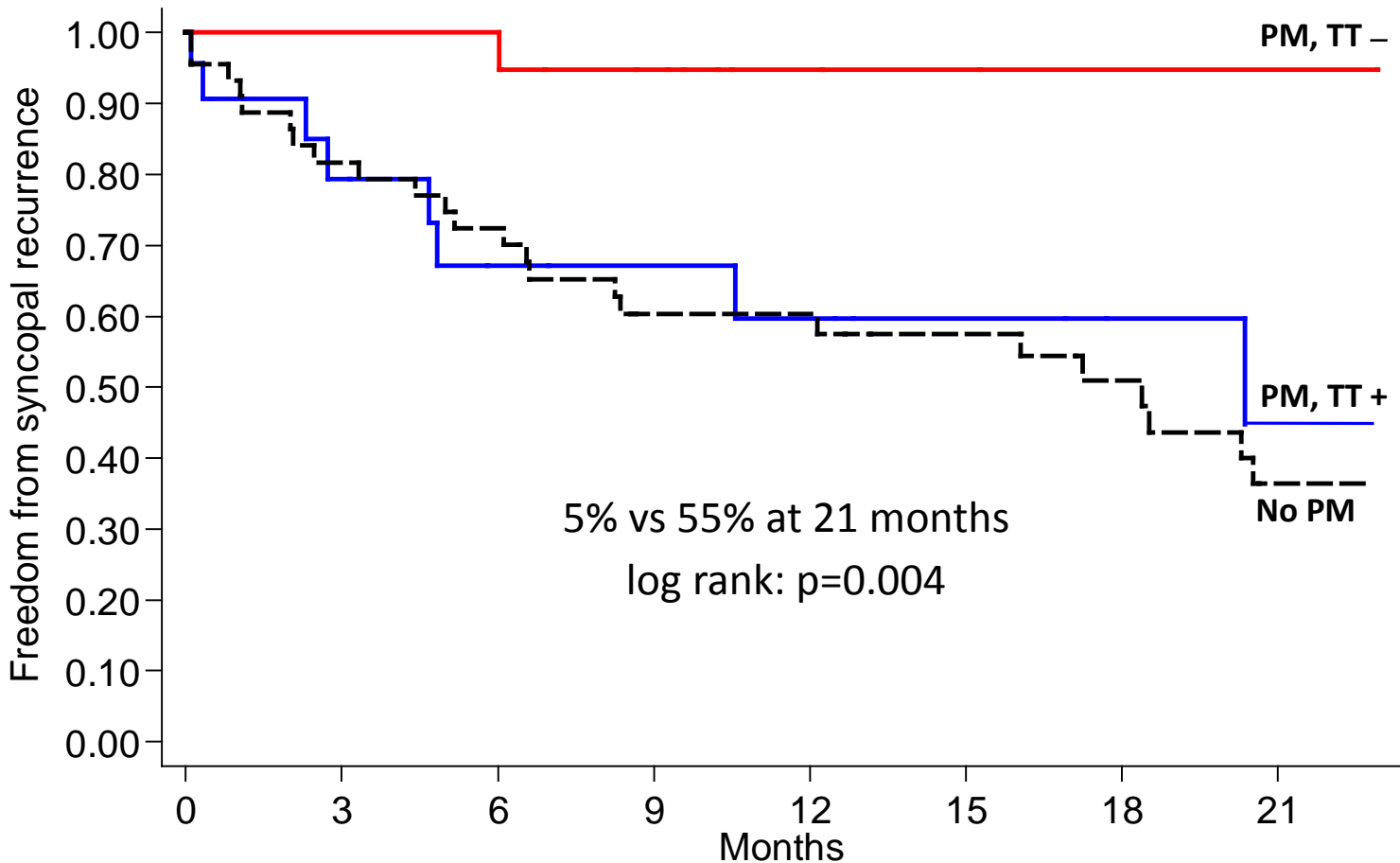
International **S**tudy on **S**yncope of **U**ncertain **E**tiology **3**

**Tilt Test & ILR:
insights from ISSUE 3 trial & registry**

ISSUE 3
population

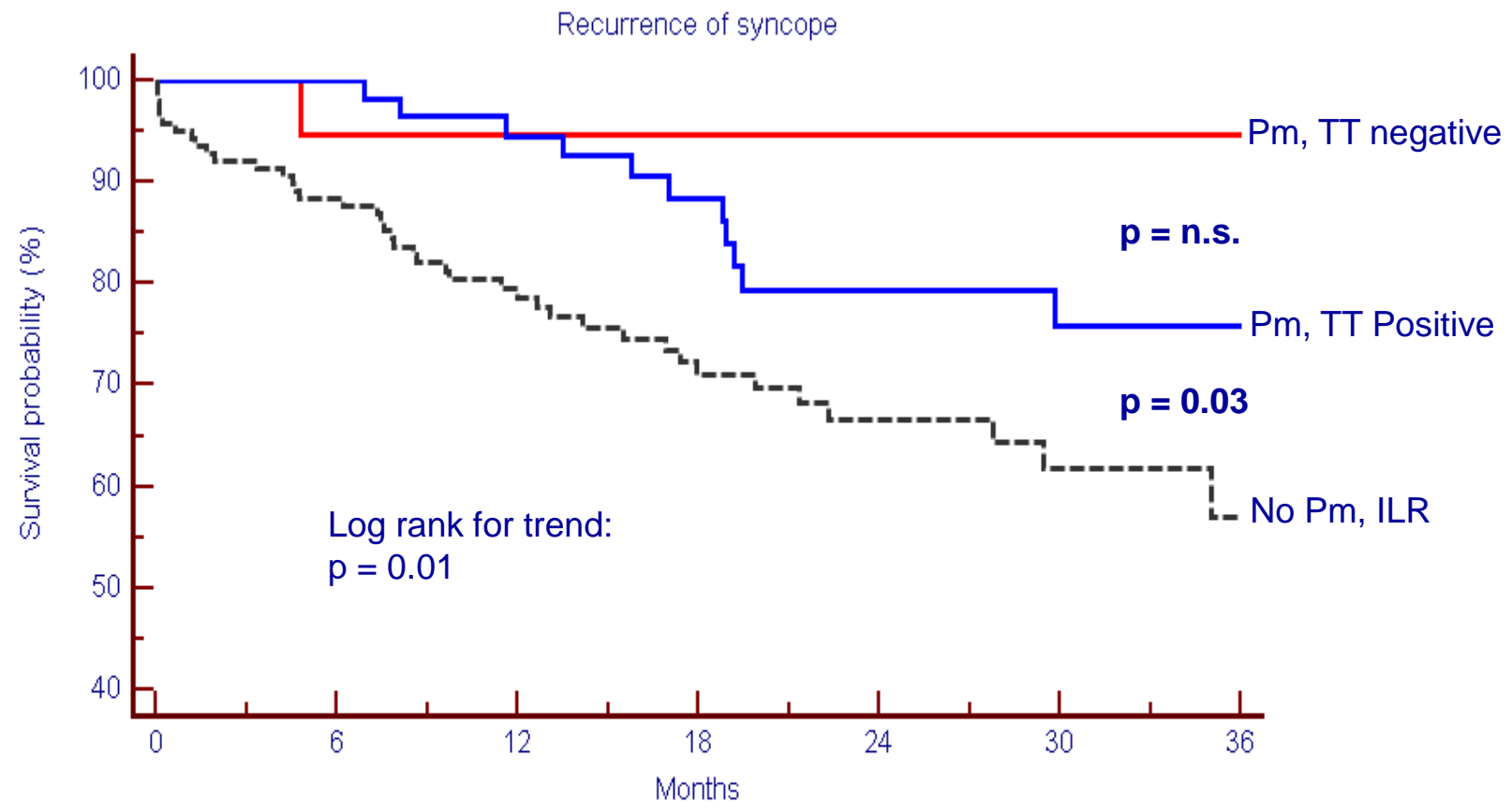


Syncope recurrence after PM therapy according to tilt test results



	Number at risk							
	0	3	6	9	12	15	18	21
PM TT+	26	14	10	9	8	6	4	3
PM TT-	26	19	19	15	11	10	9	9
NO THER	45	35	31	22	22	18	14	9

SUP 2 study: 3-years extended follow-up



Number at risk

Group:	0	6	12	18	24	30	36
Group: 1	20	18	17	12	11	6	4
Group: 2	61	57	50	41	30	21	8
Group: ILR	142	115	90	58	37	22	10

Reflex syncope: Dual-action model

1) Hypotensive susceptibility

YES (Tilt +)
Low reflex threshold

NO (Tilt -)
High reflex threshold

+

2) Trigger
(neuro and/or humoral)

+++

Vasovagal syncope
(hypotension-bradycardia)

Cardio-inhibitory
reflex syncope

Hypotension phenotype domain
(*pacing low responder*)

Bradycardia phenotype domain
(*pacing high-responder*)

Changed indications for Tilt Table Testing

Old (initial) indications	New indications
Diagnosis of VVS	Susceptibility to orthostatic stress, irrespective of the etiology of syncope
Identification of candidates for permanent pacing (CI form)	Identification of non-responder to cardiac pacing (any positive response)

Therapy based on Tilt Table Test results

Old (initial) indications	New indications
Vasoconstrictor drugs for mixed/VD forms	Discontinuation of vasoactive therapies in positive forms
	Elastic stockings and vasoactive drugs in delayed orthostatic hypotension
	As part of the “Biofeedback training “ program for Counterpressure manoeuvre therapy
Cardiac pacing in CI forms	To discourage cardiac pacing when TT is positive

Challenge 2015

The ultimate goal of syncope evaluation is not diagnostic yield (which is somehow a surrogate goal) but rather the prevention of syncope recurrences