Supplemental Appendix: Prospective Validation of Prognostic and Diagnostic Syncope Scores in the Emergency Department

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Supplemental Methods:

Adjudication of the final diagnosis

The first step in the adjudication process was to decide whether there was syncope or not. If the criteria for a true syncope were not fulfilled, a distinction between the following non-syncopal disorders was made: pre-syncope; falls; stroke/TIA; epilepsy; metabolic disorders: e.g. hypoglycaemia, hypoxia, hyperventilation; intoxication: e.g. alcohol, benzodiazepines, opiates; functional (psychogenic pseudosyncope); others.

The classification of syncope is based on pathophysiological considerations. The following predefined differential diagnoses were used:

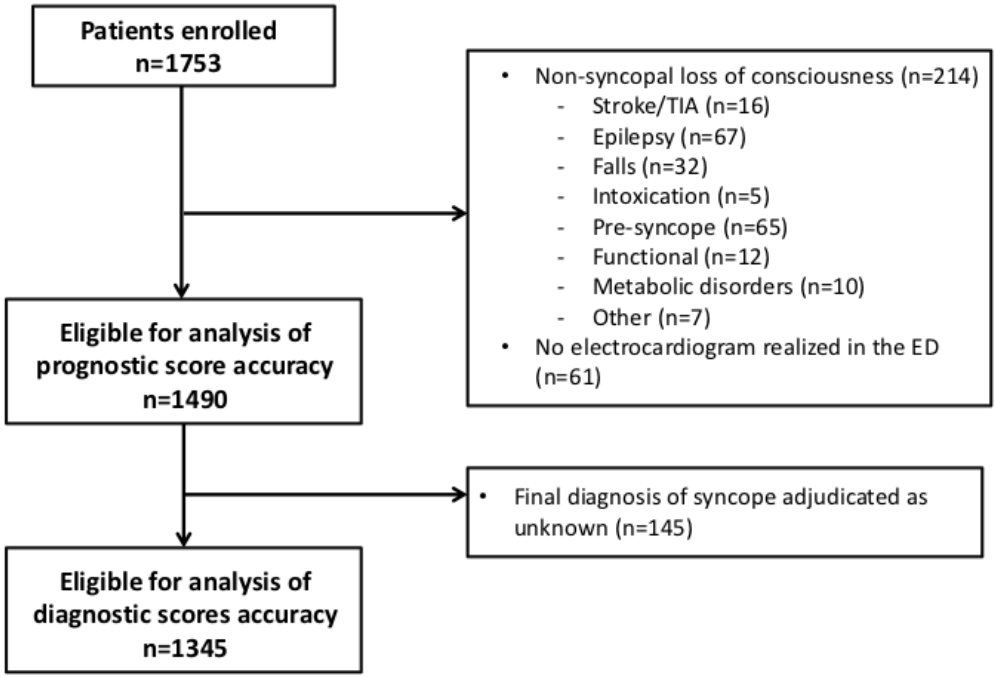
1) Cardiac syncope: We distinguished between:
    a. Arrhythmia as primary cause: Arrhythmias are the most common cause of syncope; Bradycardia: sinus node dysfunction, atrioventricular conduction system disease, implanted device malfunction or drug-induced; Tachycardia: supraventricular or ventricular.
    b. Structural heart disease: structural heart diseases can cause syncope when circulatory demands outweigh the impaired ability of the heart to increase output. However, in some cases syncope may not solely be the result of restricted cardiac output, but be in part due to an inappropriate reflex. However, when a structural heart disease was the primary cause or contributed most to syncope, it was classified as cardiovascular syncope.
    c. Others: pulmonary embolism, acute aortic dissection, pulmonary hypertension or any other cause for a cardiovascular syncope.
2) Reflex (neutrally-mediated) syncope: This syncope is characterized by cardiovascular reflexes which are normally useful in controlling circulation but become intermittently inappropriate in response to a trigger. The reflex results in vasodilation and/or bradycardia which lead to a fall in arterial blood pressure and consequently to cerebral hypoperfusion. Identifying a trigger is central when diagnosing a reflex syncope. Typically symptoms as lightheadedness, nausea, sweating, weakness or visual disturbances precede reflex syncope. We distinguished between:
    a. Vasovagal: “common faint”, triggered by emotional distress/ pain or mediated by orthostatic stress.
    b. Situational: refers to reflex syncope associated with some specific circumstances, e.g. post-micturition, post-prandial, gastrointestinal stimulation, cough.
    c. Carotid sinus syncope: triggered by mechanical manipulation of the carotid sinus. It can be diagnosed by carotid sinus massage.
    d. Atypical forms: reflex syncope occurring with uncertain or apparently absent triggers.
3) Syncope due to orthostatic hypotension: Orthostatic hypotension is defined as an abnormal decrease in systolic blood pressure after changing from supine to standing position. Key can be syncope immediately after standing up or a pathological Schellong test. We distinguished between:

    a. Primary autonomic failure: There is an autonomic failure which is clearly a primary part of Parkinson syndrome as idiopathic Parkinson disease or atypical Parkinson syndrome (multiple system atrophy, progressive supranuclear oculomotoric paresis, corticobasal degeneration or lewy body dementia).
    b. Secondary autonomic failure: autonomic failure may be due to circumstances such as diabetes, uraemia, amyloidosis or spinal cord injuries
    c. Drug-induced orthostatic hypotension: orthostatic hypotension is due to drugs which can lead to orthostatic hypotension such as diuretics, antidepressants, vasodilators, alcohol
    d. Volume depletion: orthostatic hypotension is caused by a hypovolemia due to haemorrhage, diarrhoea, vomiting or fever
    e. Others: sometimes the pathophysiology remains unclear.
4) Others, non-cardiac syncope: Sometimes the underlying pathophysiological mechanism of syncope remains unclear, but a cardiac syncope is ruled-out.
5) Syncope of unknown etiology (cardiac syncope possible): the etiology of syncope still remained unknown and a cardiac syncope was considered to be a possible cause.

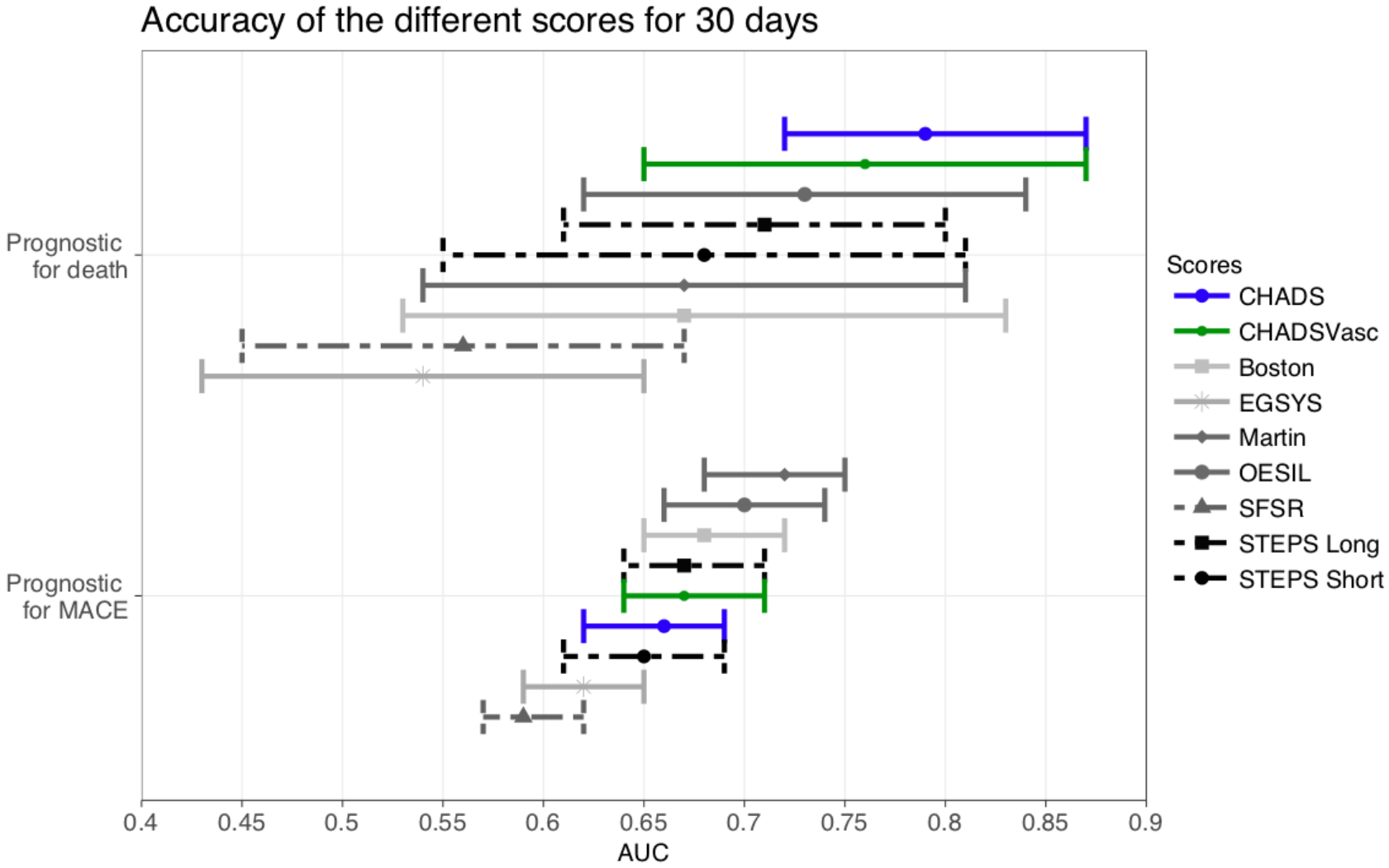
Supplemental Figures:

Supplemental figure 1 : Patient flow-chart.

ED = Emergency Department.


Patients enrolled
n=1753
Non-syncopal loss of consciousness (n=214)
Stroke/TIA (n=16)
Epilepsy (n=67)
Falls (n=32)
Intoxication (n=5)
Pre-syncope (n=65)
Functional (n=12)
Metabolic disorders (n=10)
Other (n=7)
No electrocardiogram realized in the ED (n=61)
Eligible for analysis of prognostic score accuracy
n=1490
Final diagnosis of syncope adjudicated as unknown (n=145)
Eligible for analysis of diagnostic scores accuracy
n=1345

Supplemental figure 2: Accuracy of the analyzed scores for the prediction of death or MACE at 30 days, as given by value the Area Under the Curve.



Whiskers represent the 95%-confidence intervals.

Supplemental Tables :

Supplemental table 1 : Details of the score computation

Score	Variable	Definition of the variable	Computation with our data	Computation oft he score
$CHADS_2$	Congestive heart failure	Patients with clinical diagnostic of heart failure or LVEF<40% or NYHA Class II-IV	If the patient had a clinical history of heart failure (NYHA II-IV) or an EF of <40% on the TTE	+1
	Hypertension	BPSys>140 or BPdiast>90 or 1 anti-hypertensive med.	If the patient had a history of hypertension or if he was under a chronic treatment of at least one alphablocker and/or one diuretic and/or one ACE-inhibitor and/or one AT-II blocker and/or one betablocker and/or one calcium antagonist.	+1
	Age > 75yo		If age >75yo	+1
	DM	Previous diagnosis or use of antidiabetic medications	If the patient had a diagnosis of diabetes or was using antidiabetics, including insulin.	+1
	History of Stroke or TIA		If the patient had a previous diagnosis of stroke or TIA	+2
CHA_2DS_2VASc	Age >65yo		Age>65yo.	+1
	Vascular disease	History of myocardial infarction, peripheral artery disease or vascular plaques, including previous surgery for vessels or previous arterial and venous thrombosis.	If the patient had a diagnosis of peripheral artery disease, a history of a previous myocardial infarction, deep vein thrombosis, a coronary artery bypass or a percutaneous coronary revascularisation.	+1
	Sex	Female	If the patient was a woman	+1
OESIL score	Cardiovascular disease	1. Previous clinical or laboratory diagnosis of any form of structural heart disease, including ischemic heart disease, valvular dysfunction and primary myocardial disease, 2. Previous diagnosis or clinical evidence of congestive heart failure, 3. Previous diagnosis or clinical evidence of peripheral arterial disease, 4. Previous diagnosis of stroke or transient ischemic attack.	If the patient had a history of congestive heart failure (NYHA II-IV), a known valvular disease, a previous history of stroke or TIA, myocardial infarction, bypass operation, percutaneous coronary revascularisation or a diagnosis of peripheral artery disease.	+1
	No prodromi	No prodromal symptoms such as light-headedness, nausea, diaphoresis, weakness, and visual disturbances	If the patients had no prodromal symptoms such as light-headedness, nausea, vomiting, diaphoresis, weakness, and visual disturbances.	+1
	Abnormales EKG	The tracings were considered abnormal in the following cases:	The tracings were considered abnormal in the following cases: 1. Rhythm abnormalities : Atrial fibrillation, atrial flutter,	+1

		1. Rhythm abnormalities (atrial fibrillation or flutter, supraventricular tachycardia, multi- focal atrial tachycardia, frequent or repetitive premature supraventricular or ventricular com- plexes, sustained or non-sustained ventricular tachycardia, paced rhythms), 2. Atrioventricular or intraventricular conduction disorders (complete atrioventricular block, Mobitz I or Mobitz II atrioventricular block, bundle branch block or intraventricular conduction delay), 3. Left or right ventricular hypertrophy, 4. Left axis deviation, 5. Old myocardial infarction, 6. ST segment and T wave abnormalities consistent with or possibly related to myocardial ischemia. Electrocardiographic recordings showing non- specific repolarization abnormalities were not considered as abnormal.	atrial ectopic rhythm, ventricular ectopic rhythm 2. Atrioventricular block Mobitz I and II, complete atrioventricular block or higher atrioventricular blocks, right, left left-anterior hemi- and bundle branch block 3. Left ventricular hypertrophy 4. Left axis deviation 5. Presence of significant Q-waves 6. ST segments modification and T wave abnormalities possibly related to myocardial ischemia	
	Age >65yo		Age >65yo	
EGSYS score	Palpitation preceding syncope		If the patient reported palpitations preceding the event.	+4
	History of Heart disease or abnormal ECG in the ED	ECG abnormality was considered as the presence of one or more of the following abnormalities: bradycardia (<40 beat/minute), ST changes (>1 mm elevation or depression), QT prolongation (440ms), ventricular tachycardia, atrioventricular block (second or third degree), sick sinus syndrome, ventricular and rapid paroxysmal supraventricular arrhythmias, sinus pauses, and pace malfunction. No precisions given regarding the “history of heart disease” component.	The tracings were considered abnormal in the following cases: 1. Bradycardia <40bpm 2. Rhythm abnormalities : Atrial fibrillation, atrial flutter, atrial ectopic rhythm, ventricular ectopic rhythm and pacemaker rhythm 3. Sicksinus syndrome 4. Atrioventricular block Mobitz I and II, complete atrioventricular block or higher atrioventricular blocks 5. ST segments modification and T wave abnormalities possibly related to myocardial ischemia 6. QT prolongation (440ms) A history of heart disease was positive if the patient had a diagnosis of congestive heart failure (NYHA II-IV), of valve disease, a previous history of myocardial infarction, bypass surgery, percutaneous coronary intervention.	+3
	Syncope during effort		If the patient reported syncope during effort.	+3
	Syncope while supine		If the patient reported syncope while supine.	+2
	Precipitating or	Predisposing or precipitating factors were considered	If the patient reported syncope while standing, sitting, while	-1

	predisposing factor	as the presence of one or more of the following abnormalities: Warm-crowded place/prolonged orthostasis/fear–pain–emotion	standing up or accompanied by weakness.	
	Autonomic prodromi	Prodromal symptoms and signs were considered as the presence of one or more of the following abnormalities: nausea/vomiting	If the patients had no prodromal symptoms such as light-headedness, nausea, vomiting, diaphoresis, weakness, and visual disturbances.	-1
Martin Score	Age >45		Age >45yo	1
	History of congestive heart failure		If the patient had a known history of congestive heart failure (NYHA II-IV)	1
	Arrhythmia	Definition of arrhythmia: ventricular tachycardia (VT) of three or more beats; sinus pauses of 2 seconds or longer and those pauses that were symptomatic; symptomatic sinus bradycardia ("symptomatic" for the purposes of this study refers to the simultaneous occurrence of dizziness, lightheadedness, or syncope and an arrhythmia on ECG monitoring); supra-ventricular tachycardia (SVT) with symptoms or associated with hypotension (systolic blood pressure less than 90 mm Hg); atrial fibrillation with slow ventricular response (RR interval longer than 3 seconds); complete atrioventricular block; Mobitz II atrioventricular block; and evidence of pacemaker malfunction. Isolated, asymptomatic premature ventricular contractions (PVCs), couplets, asymptomatic premature atrial contractions, brief asymptomatic runs of SVT, chronic atrial fibrillation, and atrial flutter were not included in the definition of arrhythmias unless they were associated with symptoms (dizziness, lightheadedness, or syncope).	If the patient had any known history of arrhythmia.	1
	Abnormal ECG:	ECG reports and tracings (from ED ECG, Holter monitoring, or bedside ECG monitoring in the CCU) were reviewed for identification and verification of arrhythmias. Two definitions of clinically important arrhythmias were considered. It was not required that these arrhythmias were the cause of the syncope. Rhythm abnormalities were : atrial fibrillation or flutter, multifocal atrial tachycardia, junctional or paced rhythms; frequent or repetitive PVCs (including VT), conduction disorders (ie, left axis deviation, bundle branch block, intraventricular conduction delay), left or	ECG reports from the ED ECG, Holter monitoring and telemetry monitoring data were review. Abnormal parameters on the ECG were considered to be : 1. Rhythm abnormalities : Atrial fibrillation, atrial flutter, atrial ectopic rhythm, ventricular ectopic rhythm 2. Atrioventricular block Mobitz I and II, complete atrioventricular block or higher atrioventricular blocks, right, left left-anterior hemi- and bundle branch block or a PQ-time <0.10sec 3. Left ventricular hypertrophy 4. Left axis deviation	1

		right ventricular hypertrophy (LVHor RVH), short PRinterval (less than 0.10sec), old myocardialinfarction, and atrioventricular block (ie, complete atrioventricular block, Mobitz II, or Mobitz I with other abnormalities present). Not abnormal: normal (including patients with only sinus bradycardia or sinus tachycardia); nonspecific ST- and T-wave abnormalities (NST) for patients with NST as the only abnormality	5. Presence of significant Q-waves 6. ST segments modification and T wave abnormalities possibly related to myocardial ischemia 7. Presence of nonsustained ventricular tachycardia Abnormal parameters on the Holter analysis were considered to be: 1. Rhythm abnormalities : Atrial fibrillation, atrial flutter, atrial ectopic rhythm, ventricular ectopic rhythm 2. Atrioventricular block Mobitz I and II, complete atrioventricular block or higher atrioventricular blocks 3. Incomplete and complete right, left blocks or combinations. 4. Any pause >2.5 sec The telemetry monitoring data were considered abnormal if any pause of >2.5sec occurred.	
SFSR	Abnormal ECG	New abnormal ECG	All ECGs upon arrival in the ED were compared with previously realized ECGs (anytime). A new pathology was considered when the ECG upon arrival but not the previous ECG displayed at least one of: 1. Atrioventricular block Mobitz I and II, complete atrioventricular block or higher atrioventricular blocks, right, left left-anterior hemi- and bundle branch block 2. Left ventricular hypertrophy 3. Left axis deviation 4. Presence of significant Q-waves 5. ST segments modification and T wave abnormalities possibly related to myocardial ischemia 6. Presence of nonsustained ventricular tachycardia 7. QTc time >440 8. Sick sinus syndrome Any rhythm abnormality (Atrial fibrillation, atrial flutter, atrial ectopic rhythm, ventricular ectopic rhythm), even already present on the previous ECG, was considered abnormal.	Made the rule positive
	Dyspnea		If the patient reported dyspnea before or after the event.	Made the rule positive
	Hematocrit <30		If the haematocrit upon arrival was <30	Made the rule positive
	Systolic BP <90		If the systolic BP upon arrival was <90	Made the rule positive
	HF		If the patient had a clinical history of heart failure (NYHA II-IV) or an EF of <40% on the TTE	Made the rule positive
STEPS short term	Abnormal ECG	Electrocardiogram (ECG) was defined as abnormal in the presence of any of the following: 1) atrial fibrillation	If any of: 1. Rhythm abnormalities : Atrial fibrillation, atrial flutter	6.9

		or tachycardia; 2) sinus pause >2 s; 3) sinus bradycardia with heart rate ranging between 35 and 45 beats/min; 4) conduction disorders (i.e., bundle branch block, second-degree Mobitz I atrioventricular block); 5) ECG signs of previous myocardial infarction or ventricular hypertrophy; and 6) multiple premature ventricular beats.	or heart rate >100 bpm or <45bpm 2. Atrioventricular block Mobitz I, complete atrioventricular block or higher atrioventricular blocks, right, left left-anterior hemi- and bundle branch block 3. Left ventricular hypertrophy 4. Left axis deviation 5. Presence of significant Q-waves 6. ST segments modification and T wave abnormalities possibly related to myocardial ischemia 7. Presence of nonsustained ventricular tachycardia	
	Trauma		If the patient reported any injury	2.9
	No prodrome		If the patients had no prodromal symptoms such as light-headedness, nausea, vomiting, diaphoresis, weakness, and visual disturbances.	2.4
	Male Sex		Male sex	2.2
STEPS Long term	Age >65 yrs		Age >65yo	3.4
	Coexistence at presentation of neoplasms		If the patient displayed any diagnosis of leucemia, malignant lymphoma or malignant solid tumor.	3.2
	Hx of Cerebrovascular diseases		If the patient had any history of stroke or TIA	2.5
	Structural heart disease		A history of heart disease was positive if the patient had a diagnosis of congestive heart failure (NYHA II-IV), of valve disease, a previous history of myocardial infarction, bypass surgery, percutaneous coronary intervention.	2.3
	Ventricular arrhythmias		If the patient reported any diagnosis of arrhythmia	3.9
Boston	Signs and symptoms of ACS	Complaint of CP Ischemic ECG changes (ST elevation or deep ST depression) Other ECG changes : VT, VF, SVT, rapid AF or new ST/T wave change Complaint of SOB	If the patient reported any complain of chest pain/dyspnea before or after the syncope, if the ECG upon arrival to the ED was showing Q-waves, ST elevation or deep ST depression, VT, VF or AF.	Made the rule positive
	Worrisome cardiac history	Hx of CAD, cardiomyopathy Hx of congestive HF or LV dysfunction Hx of Ventricular tachycardia or VF Hx of PM, ICD Prehosp use of antidysrhythmic meds but not BB or Ca-blockers	If the patient reported any history of arrhythmia, diagnosis of CHF (NYHA II-IV), showed a LV dysfunction in the TTE, had a Pacemaker, ICD or CRT, had a history of AMI, bypass, PCI, were taking antiarrhythmic class I medication or digitalis.	Made the rule positive
	FaHX SCD		If the patient reported any familial history of SCD	Made the rule positive

	Valvular heart disease	Heart murmur noted on examination or in history	If the patient reported any diagnosis of valvular disease or if a systolic or diastolic murmur was noticed during physical examination.	Made the rule positive
	Signs of conduction disease	Multiple syncopal episodes within the last 6 mo Rapid heart beat by patient history Syncope during exercise QT interval >500 2^{nd} or 3^{rd} degree AV block or intraventricular block	If the patient reported syncope during exercise, any history of palpitations or more than 2 previous syncopal events. If the QTc interval was >500, if the ECG showed any of : 1. Atrioventricular block Mobitz I, complete atrioventricular block or higher atrioventricular blocks, right, left left-anterior hemi- and bundle branch block 2. QTc>500ms	Made the rule positive
	Volume depletion	GI bleeding by haemoccult or history Hct<30 Dehydration not corrected in the ED by physician	If the patient reported any GI bleeding during the last week, if there were signs of GI bleeding upon arrival to the ED or if haematocrit was lower than 30.	Made the rule positive
	Persistent (>15min) abnormal vital signs in the ED	Respiratory rate >24/min O_2 saturation <90% SR <50bpm or >100bpm BP <90mmHg	If respiratory rate >24/min O_2 saturation <90% SR <50bpm or >100bpm BP <90mmHg	Made the rule positive
	Primary CNS event	SAH or stroke	If a bleeding or acute ischemia was present on the cranial CT or if the patients received a discharge diagnosis of stroke or TIA.	Made the rule positive

Supplemental table 2: Effectiveness of the different scores for the risk stratification for death (B) and MACE (C) and for the diagnosis of cardiac syncope (C) when the recommended cut-off is used:

Percentage of patients ruled in and out, sensitivity (SE), specificity (SP), negative predictive value (NPV) and positive predictive value (PPV). There is no recommended cut-off for the CHADSVasc and both STEPS scores.

3A) Effectiveness for the risk stratification for death

Score	Recommended cut-off	% of patients ruled in	% of patients ruled out	SE	SP	NPV	PPV
CHADS	≥1	82,5	17,5	96,8	20,0	97,3	17,2
OESIL	≥2	52,1	47,9	79,9	52,7	93,8	22,6
EGSYS	≥3	14,2	85,8	18,3	86,5	86,0	18,9
Boston	≥1	99,4	0,6	100,0	0,7	100,0	14,8
SFSR	≥1	71,0	29,0	84,0	31,2	91,9	17,4
Martin	≥1	95,8	4,2	100,0	4,9	100,0	15,3

3B) Effectiveness for the risk stratification for MACE

Score	Recommended cut-off	% of patients ruled in	% of patients ruled out	SE	SP	NPV	PPV
CHADS	≥1	82,5	17,5	94,1	20,5	93,1	23,5
OESIL	≥2	52,1	47,9	75,6	54,0	89,5	29,9
EGSYS	≥3	14,2	85,8	18,9	87,0	80,5	27,4
Boston	≥1	99,4	0,6	99,7	0,7	88,9	20,7
SFSR	≥1	71,0	29,0	85,7	32,8	89,8	24,9
Martin	≥1	95,8	4,2	99,7	5,2	98,4	21,4

3C) Effectiveness for the diagnosis of cardiac syncope

Score	Recommended	% of patients	% of patients	SE	SP	NPV	PPV

	cut-off	ruled in	ruled out				
CHADS	≥1	81,0	19,0	93,1	21,3	94,1	18,4
OESIL	≥2	49,4	50,6	74,5	55,4	91,9	24,2
EGSYS	≥3	14,3	85,7	23,6	87,4	85,7	26,4
Boston	≥1	99,3	0,7	100,0	0,8	100,0	16,2
SFSR	≥1	70,0	30,0	89,4	33,7	94,3	20,5
Martin	≥1	95,5	4,5	100,0	5,3	100,0	16,8

Supplemental table 3: Details of the performance for $CHADS_2$, OESIL, EGSYS and Martin when different cut-offs are assessed.

A) Characteristics of the scores for the prediction of death

CHADS								
Cutoff	**% ruled-in**	**% ruled-out**	**SE**	**SP**	**NPV**	**PPV**	**% with events in rule-in**	**% with events in rule-out**
≥0	82,5	17,5	96,8	20	97,3	17,2	14,2	0,5
≥1	50,7	49,3	84	55	95,2	24,3	12,3	2,3
≥2	19,2	80,8	34,7	83,5	88,1	26,6	5,1	9,6
≥3	7,5	92,5	11,4	93,2	85,9	22,3	1,7	13
≥4	1,7	98,3	1,8	98,3	85,3	15,4	0,3	14,4
≥5	0,2	99,8	0,5	99,8	85,3	33,3	0,1	14,6
≥6	0	100	0	100	85,3	#N/A	0	14,7

OESIL								
Cutoff	**% ruled-in**	**% ruled-out**	**SE**	**SP**	**NPV**	**PPV**	**% with events in rule-in**	**% with events in rule-out**
≥0	100	0	100	0	#N/A	14,7	14,7	0
≥1	79	21	95,9	23,9	97,1	17,8	14,1	0,6
≥2	52,1	47,9	79,9	52,7	93,8	22,6	11,7	3
≥3	25,6	74,4	46,6	78	89,4	26,8	6,8	7,9
≥4	5,6	94,4	13,7	95,8	86,6	36,1	2	12,7

EGSYS								
Cutoff	**% ruled-in**	**% ruled-out**	**SE**	**SP**	**NPV**	**PPV**	**% with events in rule-in**	**% with events in rule-out**
≥-2	100	0	100	0	#N/A	14,7	14,7	0
≥-1	100	0	100	0	#N/A	14,7	14,7	0
≥0	69,2	30,8	84	33,4	92,4	17,8	12,3	2,3
≥1	69,1	30,9	84	33,4	92,4	17,9	12,3	2,3
≥2	68,7	31,3	83,6	33,9	92,3	17,9	12,3	2,4

≥3	14,2	85,8	18,3	86,5	86	18,9	2,7	12
≥4	11,5	88,5	16	89,3	86,1	20,5	2,3	12,3
≥5	10,3	89,7	13,7	90,3	85,9	19,6	2	12,7
≥6	4,5	95,5	4,6	95,5	85,3	14,9	0,7	14
≥8	0,4	99,6	0,9	99,7	85,4	33,3	0,1	14,6
≥9	0,4	99,6	0,9	99,7	85,4	33,3	0,1	14,6
≥10	0	100	0	100	85,3	#N/A	0	14,7

Martin								
Cutoff	**% ruled-in**	**% ruled-out**	**SE**	**SP**	**NPV**	**PPV**	**% with events in rule-in**	**% with events in rule-out**
≥0	95,8	4,2	100	4,9	100	15,3	14,7	0
≥1	56,8	43,2	78,1	46,8	92,5	20,2	11,5	3,2
≥2	22,8	77,2	42,5	80,6	89,1	27,4	6,2	8,5
≥3	4,1	95,9	9,6	96,9	86,1	34,4	1,4	13,3
≥4	0	100	0	100	85,3	#N/A	0	14,7

B) Characteristics of the scores for the prediction of MACE

CHADS								
Cutoff	**% ruled-in**	**% ruled-out**	**SE**	**SP**	**NPV**	**PPV**	**% with events in rule-in**	**% with events in rule-out**
≥0	82,5	17,5	96,8	20	97,3	17,2	14,2	0,5
≥1	50,7	49,3	84	55	95,2	24,3	12,3	2,3
≥2	19,2	80,8	34,7	83,5	88,1	26,6	5,1	9,6
≥3	7,5	92,5	11,4	93,2	85,9	22,3	1,7	13
≥4	1,7	98,3	1,8	98,3	85,3	15,4	0,3	14,4
≥5	0,2	99,8	0,5	99,8	85,3	33,3	0,1	14,6
≥6	0	100	0	100	85,3	#N/A	0	14,7

OESIL								
Cutoff	**% ruled-in**	**% ruled-out**	**SE**	**SP**	**NPV**	**PPV**	**% with events**	**% with events**

							in rule-in	in rule-out
≥0	100	0	100	0	#N/A	20,6	20,6	0
≥1	79	21	94,5	25	94,6	24,6	19,5	1,1
≥2	52,1	47,9	75,6	54	89,5	29,9	15,6	5
≥3	25,6	74,4	46,9	80	85,3	37,8	9,7	10,9
≥4	5,6	94,4	11,7	96	80,7	43,4	2,4	18,2

EGSYS

Cutoff	% ruled-in	% ruled-out	SE	SP	NPV	PPV	% with events in rule-in	% with events in rule-out
≥-2	100	0	100	0	#N/A	14,7	14,7	0
≥-1	100	0	100	0	#N/A	14,7	14,7	0
≥0	69,2	30,8	84	33,4	92,4	17,8	12,3	2,3
≥1	69,1	30,9	84	33,4	92,4	17,9	12,3	2,3
≥2	68,7	31,3	83,6	33,9	92,3	17,9	12,3	2,4
≥3	14,2	85,8	18,3	86,5	86	18,9	2,7	12
≥4	11,5	88,5	16	89,3	86,1	20,5	2,3	12,3
≥5	10,3	89,7	13,7	90,3	85,9	19,6	2	12,7
≥6	4,5	95,5	4,6	95,5	85,3	14,9	0,7	14
≥8	0,4	99,6	0,9	99,7	85,4	33,3	0,1	14,6
≥9	0,4	99,6	0,9	99,7	85,4	33,3	0,1	14,6
≥10	0	100	0	100	85,3	#N/A	0	14,7

Martin

Cutoff	% ruled-in	% ruled-out	SE	SP	NPV	PPV	% with events in rule-in	% with events in rule-out
≥0	100	0	100	0	#N/A	20,6	20,6	0
≥1	95,8	4,2	99,7	5,2	98,4	21,4	20,5	0,1
≥2	56,8	43,2	84,4	50,3	92,5	30,6	17,4	3,2
≥3	22,8	77,2	43,6	82,7	85	39,5	9	11,6
≥4	4,1	95,9	8,5	97	80,3	42,6	1,7	18,9

C) Characteristics of the scores for the diagnosis of cardiac syncope

CHADS

Cutoff	% ruled-in	% ruled-out	SE	SP	NPV	PPV	% with events in rule-in	% with events in rule-out
≥0	100	0	100	0	#N/A	16,1	16,1	0
≥1	81	19	93,1	21,3	94,1	18,4	14,9	1,1
≥2	48	52	69,4	56,1	90,6	23,2	11,2	4,9
≥3	17,7	82,3	27,3	84,1	85,8	24,8	4,4	11,7
≥4	6,9	93,1	11,1	93,9	84,7	25,8	1,8	14,3
≥5	1,6	98,4	3,2	98,7	84,2	31,8	0,5	15,5
≥6	0,2	99,8	0,5	99,8	84	33,3	0,1	16

OESIL

Cutoff	% ruled-in	% ruled-out	SE	SP	NPV	PPV	% with events in rule-in	% with events in rule-out
≥0	100	0	100	0	#N/A	16,1	16,1	0
≥1	77,2	22,8	93,1	25,8	95,1	19,3	14,9	1,1
≥2	49,4	50,6	74,5	55,4	91,9	24,2	12	4,1
≥3	23,8	76,2	53,7	81,9	90,2	36,2	8,6	7,4
≥4	5,1	94,9	13	96,5	85,3	41,2	2,1	14

EGSYS

Cutoff	% ruled-in	% ruled-out	SE	SP	NPV	PPV	% with events in rule-in	% with events in rule-out
≥-2	100	0	100	0	#N/A	16,1	16,1	0
≥-1	100	0	100	0	#N/A	16,1	16,1	0
≥0	67,7	32,3	90,3	36,6	95,2	21,4	14,5	1,6
≥1	67,7	32,3	90,3	36,7	95,2	21,4	14,5	1,6
≥2	67,3	32,7	89,8	37	95	21,4	14,4	1,6
≥3	14,3	85,7	23,6	87,4	85,7	26,4	3,8	12,3
≥4	11,4	88,6	21,8	90,5	85,8	30,5	3,5	12,6

≥5	10,2	89,8	19,9	91,7	85,7	31,4	3,2	12,9
≥6	4,6	95,4	6,9	95,8	84,3	24,2	1,1	14,9
≥8	0,4	99,6	0,9	99,6	84	33,3	0,1	15,9
≥9	0,4	99,6	0,9	99,6	84	33,3	0,1	15,9
≥10	0	100	0	100	83,9	#N/A	0	16,1
Martin								
Cutoff	**% ruled-in**	**% ruled-out**	**SE**	**SP**	**NPV**	**PPV**	**% with events in rule-in**	**% with events in rule-out**
≥0	100	0	100	0	#N/A	16,1	16,1	0
≥1	95,5	4,5	100	5,3	100	16,8	16,1	0
≥2	55,3	44,7	89,4	51,2	96,2	25,9	14,3	1,7
≥3	21,9	78,1	48,1	83,1	89,3	35,3	7,7	8,3
≥4	3,9	96,1	8,3	97	84,7	34,6	1,3	14,7

#N/A = not applicable

Supplemental Table 4: Comparison of the added value of different scores on top of the Clinical judgement of the ED physician for the prediction of cardiac syncope.

Score	AUC
Clinical judgment	0.868 (95%-CI 0.840-0.897)
Clinical judgment +CHADS	0.871 (95%-CI 0.845-0.898) (p=0.89)
Clinical judgment + CHADSVasc	0.874 (95%-CI 0.848-0.899) (p=0.79)
Clinical judgment +OESIL	0.880 (95%-CI 0.855-0.905) (p=0.54)
Clinical judgment +Martin	0.880

	(95%-CI 0.855-0.905) (p=0.54)

* p are given for the comparison with the clinical judgment alone.