

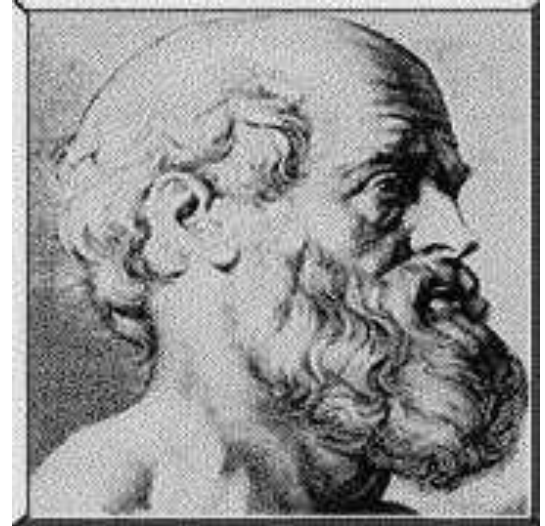
# Synkope (og svimmelhet)

sett med en kardiologs øyne

P Schuster

# Hva

- Synkope (gresk)
- Symptom (ikke sykdom)
  - forbigående
  - selvbegrensende
  - tap av bevissthet
    - vanligvis med fall
    - raskt innsettende
    - komplett tilbakegang



# Hvorfor

- Mekanisme

- Forbigående global cerebral hypoperfusion

- Redusert cerebral blod flow

- Redusert oksygen metning

- Systemisk blodtrykk

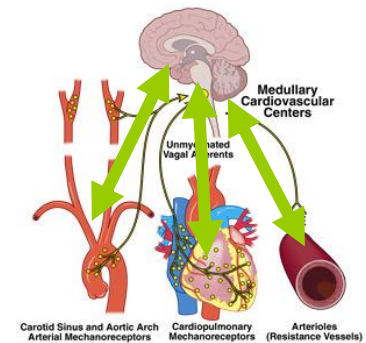
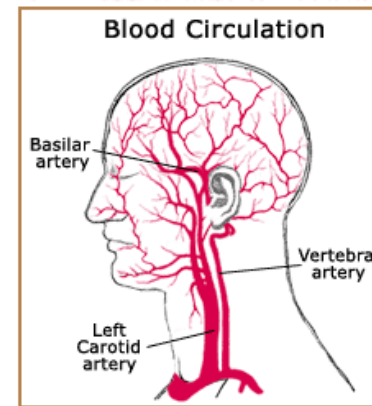
- 'Cardiac output'

- » Venøs fylling (pre-load)

- » Rytme

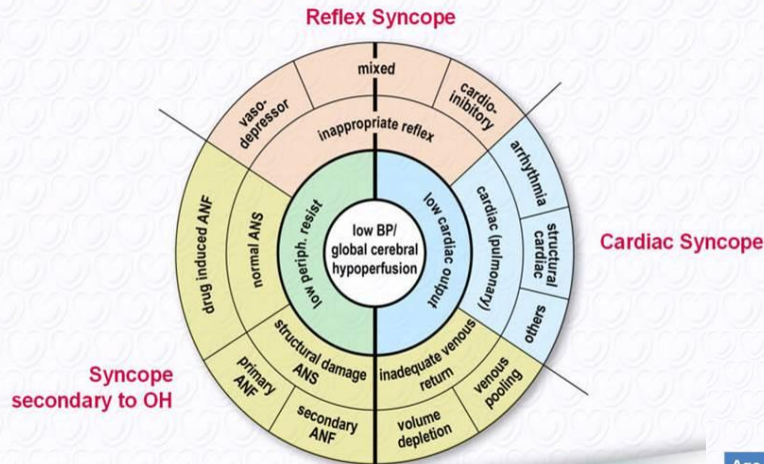
- » Hjerte struktur/pumpeevne

- Total perifer karmotstand



# Classification and pathophysiology

## Pathophysiological basis of the classification



OBS !

## Frequency of the causes of syncope according to age

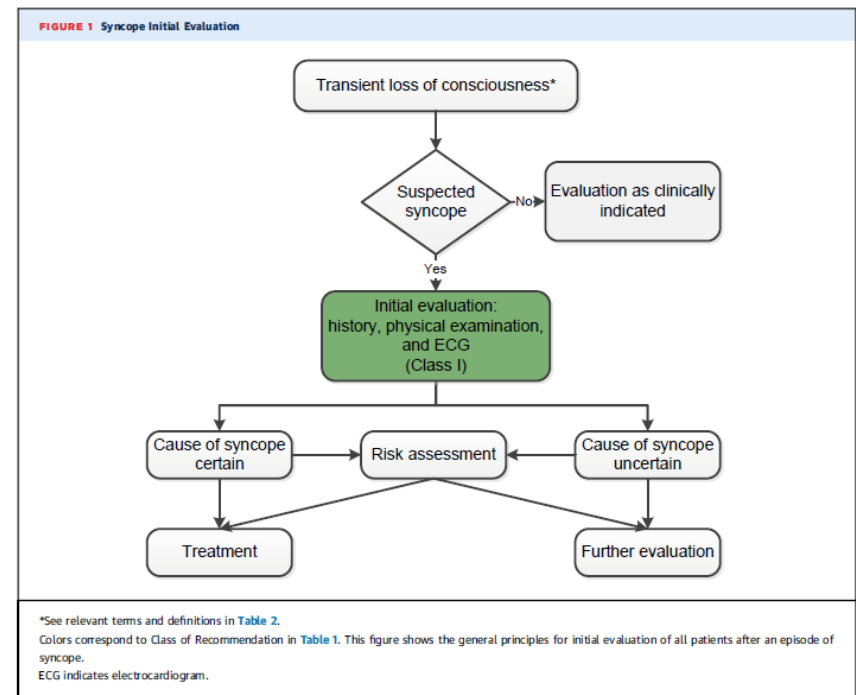
Age	Source	Reflex %	OH %	CV %	Non-Sync. %	Unexplained %	Setting
< 40 yrs	†	51	2.5	1.1	18	27	ED & CPU
40-60 yrs	†	37	6	3	19	34	ED & CPU
< 65 years	‡	68.5	0.5	12		19	CD
60/65 yrs	‡	52	3	34		11	CD
	§	62	8	11		14	GD
	†	25	8.5	13	12.5	41	ED & CPU
> 75 yrs	§	36	30	16		9	GD

† = Olde Norikamp  
 ‡ = Del Rosso  
 § = Ungar

ED = emergency department  
 CPU = chest pain unit  
 CD = cardiology department  
 GD = geriatric department

# Hvordan

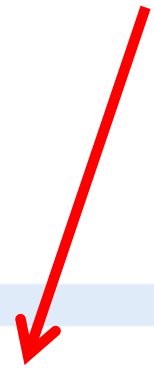
- Anamnese
- Status presens
  - Auskultasjon !
  - EKG !
- (blodprøver)



# EKG

**TABLE 5** Examples of Syncope Risk Scores

Study/Reference	Year	Sample N	Events N (%)	Outcome Definition	ED Events*	Predictors	NPV (%)†
Martin (65)	1997	252	104 (41%)	1-y death/arrhythmia	Yes	Abnormal ECG; >45 y of age; VA; HF	93
Sarasin (54)	2003	175	30 (17%)	Inpatient arrhythmia	Yes	Abnormal ECG; >65 y of age; HF	98
OESIL (47)	2003	270	31 (11%)	1-y death	N/A	Abnormal ECG; >65 y of age; no prodrome; cardiac history	100
SFSR (52)	2004	684	79 (12%)	7-d serious events§	Yes	Abnormal ECG; dyspnea; hematocrit; systolic BP <90 mm Hg; HF	99
Boston Syncope Rule (50)	2007	293	68 (23%)	30-d serious events	Yes	Symptoms of acute coronary syndrome; worrisome cardiac history; family history of SCD; VHD; signs of conduction disease; volume depletion; persistent abnormal vital signs; primary central nervous event	100
Del Rosso (49)	2008	260	44 (17%)	Cardiac etiology	N/A	Abnormal ECG; cardiac history; palpitations; exertional; supine; precipitant (a low-risk factor); autonomic prodrome (low-risk factors)	99
STePS (48)	2008	676	41 (6%)	10-d serious events¶	Yes	Abnormal ECG; trauma; no prodrome; male sex	—
Syncope Risk Score (55)	2009	2,584	173 (7%)	30-d serious events#	No	Abnormal ECG; >90 y of age; male sex; positive troponin; history of arrhythmia; systolic BP >160 mm Hg; near-syncope (a low-risk factor)	97
ROSE (53)	2010	550	40 (7%)	30-d serious events#	Yes	Abnormal ECG; B-natriuretic peptide; hemoglobin; O <sub>2</sub> Sat; fecal occult blood	98



# Hjerte ? Farlig ? Ufarlig ?

**TABLE 3**

**Historical Characteristics Associated With Increased Probability of Cardiac and Noncardiac Causes of Syncope (40,47-55)**

**More Often Associated With Cardiac Causes of Syncope**

- Older age (>60 y)
- Male sex
- Presence of known ischemic heart disease, structural heart disease, previous arrhythmias, or reduced ventricular function
- Brief prodrome, such as palpitations, or sudden loss of consciousness without prodrome
- Syncope during exertion
- Syncope in the supine position
- Low number of syncope episodes (1 or 2)
- Abnormal cardiac examination
- Family history of inheritable conditions or premature SCD (<50 y of age)
- Presence of known congenital heart disease

**More Often Associated With Noncardiac Causes of Syncope**

- Younger age
- No known cardiac disease
- Syncope only in the standing position
- Positional change from supine or sitting to standing
- Presence of prodrome: nausea, vomiting, feeling warmth
- Presence of specific triggers: dehydration, pain, distressful stimulus, medical environment
- Situational triggers: cough, laugh, micturition, defecation, deglutition
- Frequent recurrence and prolonged history of syncope with similar characteristics

SCD indicates sudden cardiac death.

# Viderehenvisning ?

**TABLE 6**
**Examples of Serious Medical Conditions That Might Warrant Consideration of Further Evaluation and Therapy in a Hospital Setting**

Cardiac Arrhythmic Conditions	Cardiac or Vascular Nonarrhythmic Conditions	Noncardiac Conditions
<ul style="list-style-type: none"> <li>■ Sustained or symptomatic VT</li> <li>■ Symptomatic conduction system disease or Mobitz II or third-degree heart block</li> <li>■ Symptomatic bradycardia or sinus pauses not related to neurally mediated syncope</li> <li>■ Symptomatic SVT</li> <li>■ Pacemaker/ICD malfunction</li> <li>■ Inheritable cardiovascular conditions predisposing to arrhythmias</li> </ul>	<ul style="list-style-type: none"> <li>■ Cardiac ischemia</li> <li>■ Severe aortic stenosis</li> <li>■ Cardiac tamponade</li> <li>■ HCM</li> <li>■ Severe prosthetic valve dysfunction</li> <li>■ Pulmonary embolism</li> <li>■ Aortic dissection</li> <li>■ Acute HF</li> <li>■ Moderate-to-severe LV dysfunction</li> </ul>	<ul style="list-style-type: none"> <li>■ Severe anemia/gastrointestinal bleeding</li> <li>■ Major traumatic injury due to syncope</li> <li>■ Persistent vital sign abnormalities</li> </ul>

HCM indicates hypertrophic cardiomyopathy; HF, heart failure; ICD, implantable cardioverter-defibrillator; LV, left ventricular; SVT, supraventricular tachycardia; and VT, ventricular tachycardia.



**Table 8** Risk stratification at initial evaluation in prospective population studies including a validation cohort

Study	Risk factors	Score	Endpoints	Results (validation cohort)
<b>S. Francisco Syncope Rule<sup>44</sup></b>	-Abnormal ECG -Congestive heart failure -Shortness of breath -Haematocrit <30% -Systolic blood pressure <90 mmHg	No risk = 0 item Risk = ≥ 1 item	Serious events at 7 days	98% sensitive and 56% specific
<b>Martin et al.<sup>40</sup></b>	-Abnormal ECG -History of ventricular arrhythmia -History of congestive heart failure -Age >45 years	0 to 4 (1 point each item)	1-year severe arrhythmias or arrhythmic death	0% score 0 5% score 1 16% score 2 27% score 3 or 4
<b>OESIL score<sup>41</sup></b>	-Abnormal ECG -History of cardiovascular disease -Lack of prodrome -Age >65 years	0 to 4 (1 point each item)	1-year total mortality	0% score 0 0.6% score 1 14% score 2 29% score 3 53% score 4
<b>EGSYS score<sup>42</sup></b>	-Palpitations before syncope (+4) -Abnormal ECG and/or heart disease (+3) -Syncope during effort (+3) -Syncope while supine (+2) -Autonomic prodrome <sup>a</sup> (-1) -Predisposing and/or precipitating factors <sup>b</sup> (-1)	Sum of + and - points	2-year total mortality  ..... Cardiac syncope probability	2% score <3 21% score ≥ 3  ..... 2% score <3 13% score 3 33% score 4 77% score >4

This table shows several different studies that have analysed the impact of different clinical data on the follow-up of patients presenting with syncope. Overall, the presence of abnormal ECG, increased age, or data suggestive of heart disease imply a worse prognosis at 1–2 year follow-up

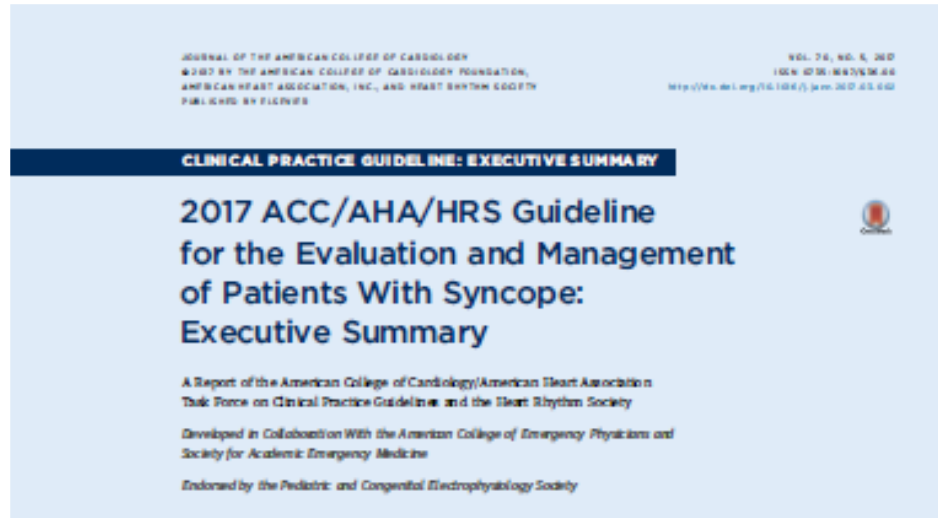
<sup>a</sup>Nausea/vomiting

<sup>b</sup>Warm-crowded place/ prolonged orthostasis/fear–pain–emotion.

ECG = electrocardiogram

# Oppsummering

- Synkope ?
  - Ja-Nei
- Anamnese
- Somatisk status
  - Auskultasjon
- Hjertesykdom ? : **EKG**
  - Ja-Nei
- Blodprøver ?



- Ars medica in observationibus
  - The art of medicine consists in amusing the patient while nature cures the disease (Voltaire)