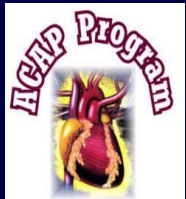


# Short and Long Term Outcomes of Patients Admitted with Unexplained Syncope Using a Simple Novel SELF-Pathway

Eyal Herzog MD, FACC, Chaithanya K Pamidimukala, MBBS, Ammy Malinay, RN, Alexandre M Benjo, MD PhD, Urvi V Pai, MBBS, Joseph H Bastawrose, MBBS, Shuaib Mohamed, MBBS, Matthew Pierce, MD, Balaji Pratap, MD, Emad F Aziz, DO, FACC



St. Luke's and Roosevelt Hospitals  
Columbia University College of Physicians and Surgeons  
New York City, New York





Disclosures: None for all authors



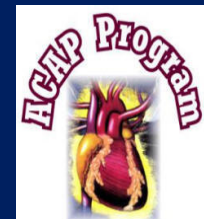
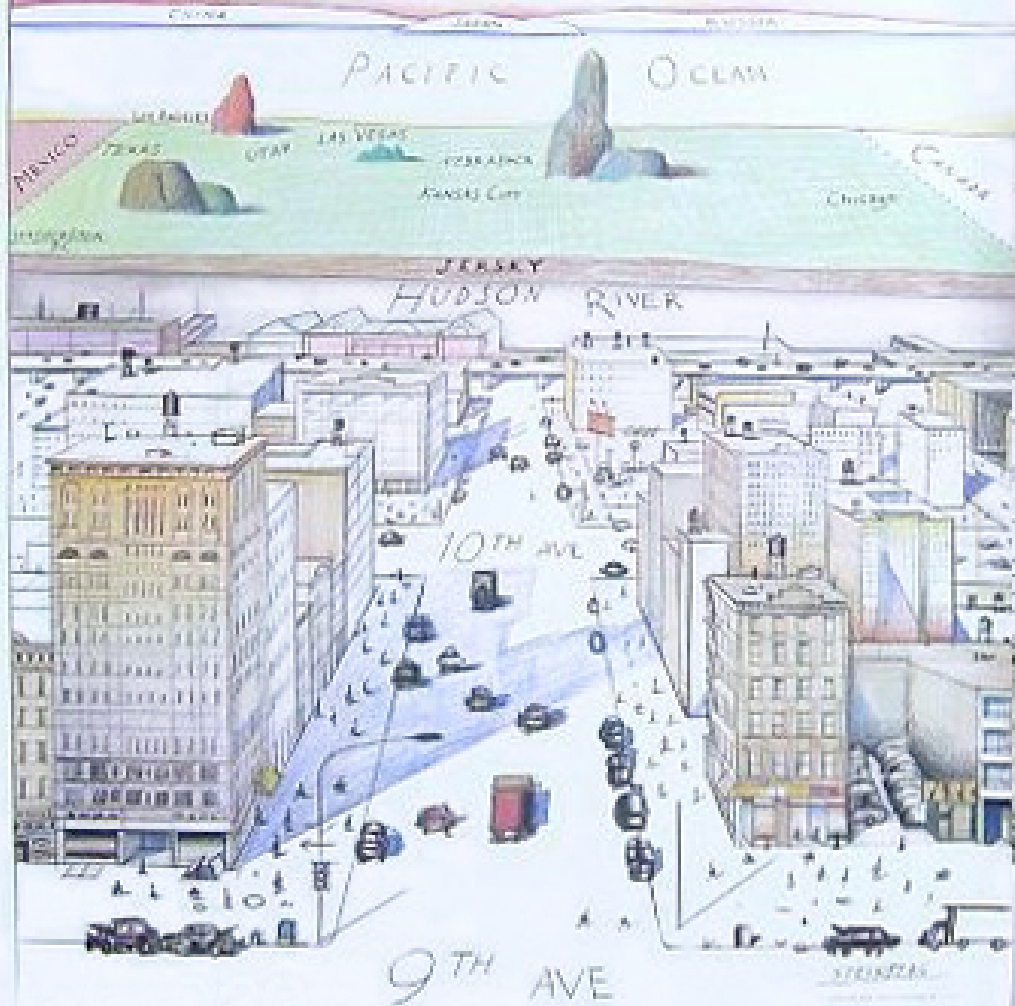
# ACAP Program at SLR

# St. Luke's Hospital



Program at SLR

# THE NEW YORKER



# Introduction

- Syncope is a syndrome consisting of a relatively short period of self-limited loss of consciousness caused by transient diminution of blood flow to the brain<sup>1,2</sup>.
- The incidence of self-reported syncope is 6.2 per 1000 person-years in the Framingham study with a cumulative incidence of approximately 3% to 6% over 10 years.
- In selected patient populations, the lifetime prevalence of syncope could reach almost 50%.
- In the United States, 1 to 2 million patients are evaluated for syncope annually, making up 3% to 5% of emergency department visits, and 1% to 6% of urgent hospital admissions<sup>3</sup>.

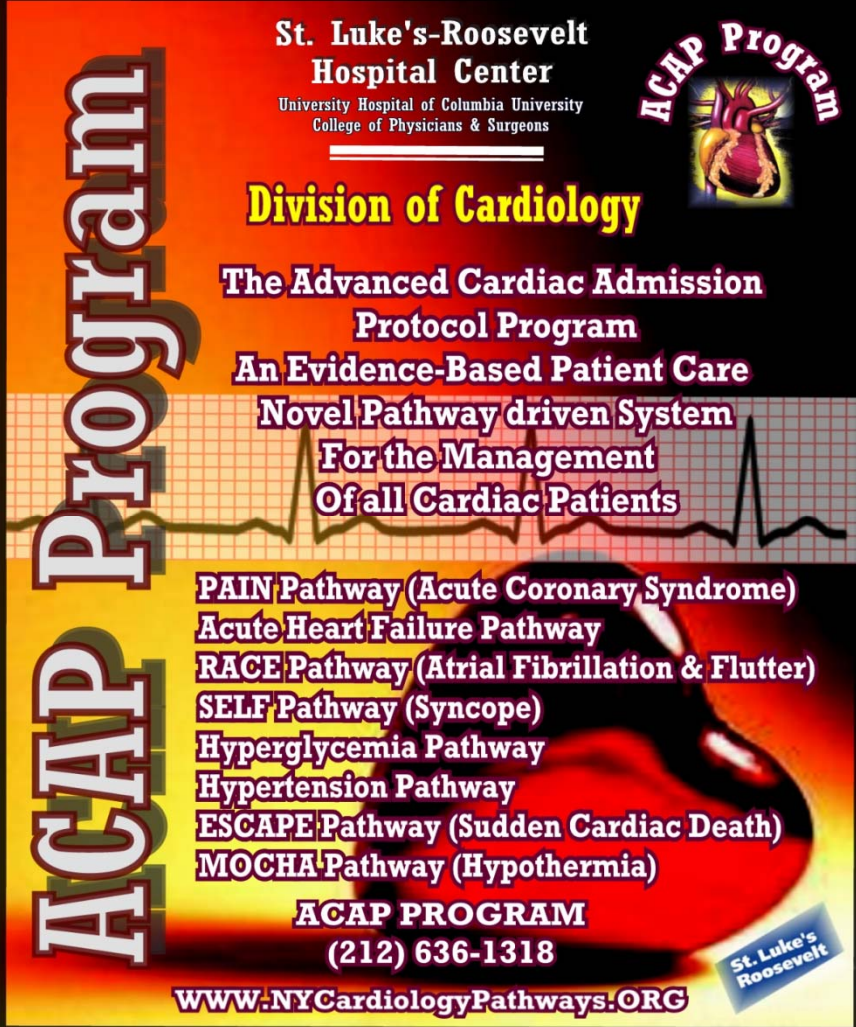
1. Benditt DG., MD, Van Dijk G J, MD, PhD, Sutton R, et. al. Syncope: Curr Probl Cardiol, April 2004; 152-229.

2. Brignole M, Alboni P, Benitt DG, Bergfeldt L, Blanc JJ, Bloch PE, et al. Guidelines on management (diagnosis and treatment) of syncope. Eur Heart J 2001; 22:1256-1306.

3. Win K, Shen, MD; Wyatt W, Decker, MD; Peter A, Smars, MD; Deepi G, Goyal, MD; et al. Syncope Evaluation in the Emergency Department Study (SEEDS). A Multidisciplinary Approach to Syncope Management: Circulation 2004; 110:3636-3645.

# Advanced Cardiac Admission Program (ACAP)

- In 2004 The “Advanced Cardiac Admission Program” (ACAP) was developed and implemented at St. Luke’s and Roosevelt Hospitals, New York, NY.
- ACAP consists of tools and strategies for implementing ACC/AHA guidelines.
- Up-to-date the ACAP program includes 9 state of the art pathways for the management of cardiovascular diseases.



The graphic is a vertical poster for the ACAP Program. On the left, the text 'ACAP Program' is written vertically in large, bold, white letters with a black outline. The background is a gradient of red and orange, with a white grid pattern. At the top right, there is a logo for the 'ACAP Program' featuring a stylized heart. Below the logo, the text reads: 'St. Luke's-Roosevelt Hospital Center', 'University Hospital of Columbia University College of Physicians & Surgeons', 'Division of Cardiology', 'The Advanced Cardiac Admission Protocol Program', 'An Evidence-Based Patient Care Novel Pathway driven System For the Management Of all Cardiac Patients'. A list of pathways is provided: 'PAIN Pathway (Acute Coronary Syndrome)', 'Acute Heart Failure Pathway', 'RACE Pathway (Atrial Fibrillation & Flutter)', 'SELF Pathway (Syncope)', 'Hyperglycemia Pathway', 'Hypertension Pathway', 'ESCAPE Pathway (Sudden Cardiac Death)', and 'MOCHA Pathway (Hypothermia)'. At the bottom, it says 'ACAP PROGRAM (212) 636-1318' and 'WWW.NYCardiologyPathways.ORG'. A small blue logo for 'St. Luke's Roosevelt' is in the bottom right corner.

St. Luke's-Roosevelt  
Hospital Center  
University Hospital of Columbia University  
College of Physicians & Surgeons

**ACAP Program**

**Division of Cardiology**

**The Advanced Cardiac Admission  
Protocol Program**  
**An Evidence-Based Patient Care  
Novel Pathway driven System  
For the Management  
Of all Cardiac Patients**

**PAIN Pathway (Acute Coronary Syndrome)**  
**Acute Heart Failure Pathway**  
**RACE Pathway (Atrial Fibrillation & Flutter)**  
**SELF Pathway (Syncope)**  
**Hyperglycemia Pathway**  
**Hypertension Pathway**  
**ESCAPE Pathway (Sudden Cardiac Death)**  
**MOCHA Pathway (Hypothermia)**

**ACAP PROGRAM**  
**(212) 636-1318**

**WWW.NYCardiologyPathways.ORG**

St. Luke's  
Roosevelt

# ACAP Main Projects

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- **PAIN** Pathway including STEMI and NSTEMI patients.
- **Heart Failure** Pathway for Acute management of Heart Failure
- **RACE** Pathway for Atrial fibrillation & Flutter.
- **Hyperglycemia** Pathway for management in Critical & Cardiac Care Units.
- **SELF** Pathway for management of Syncope patients.
- **Hypertension** Pathway for management of hypertensive patients .
- **ESCAPE** Pathway, for Sudden Cardiac Death Prevention.
- **MOHCA** Pathway for the management of out of hospital cardiac arrest.
- **CHASER** Pathway for the management of pericardial disease.

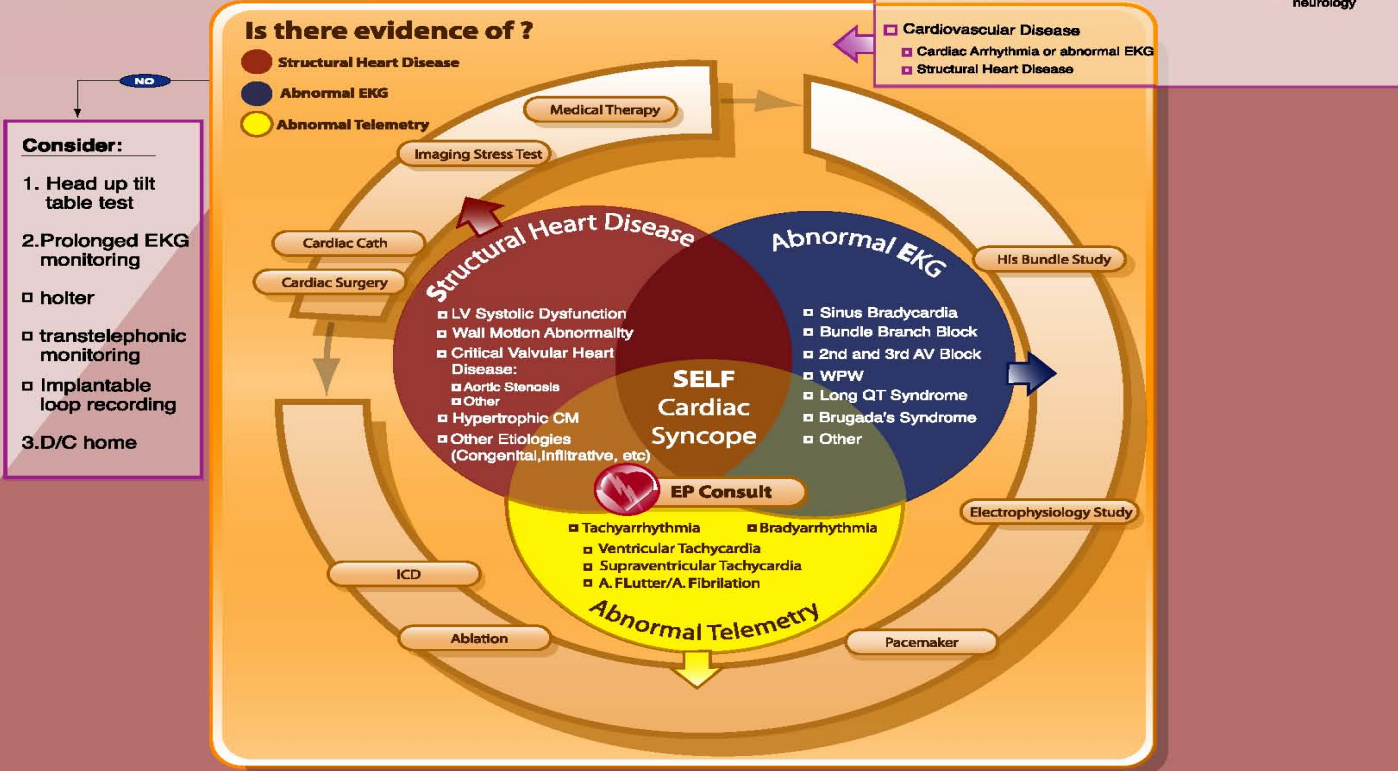
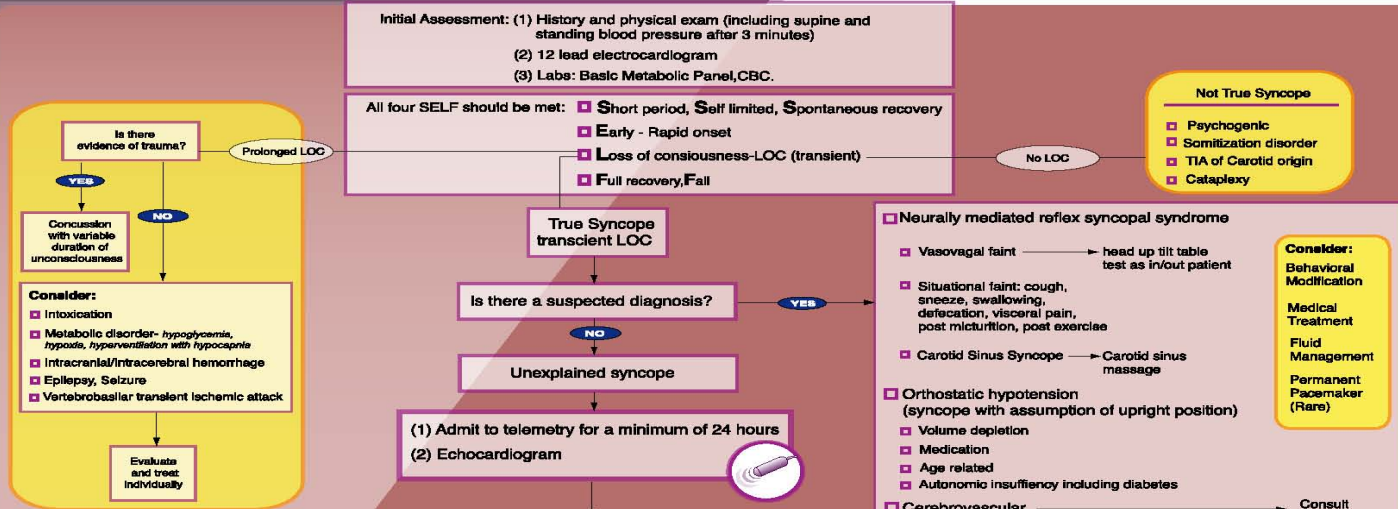


# Key features of the ACAP program

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- Building partnership between emergency room physicians, internists, cardiologists and intensivists.
- Tools derived directly from published guidelines
- Involvement of caregivers across the continuum of care, not only physicians, - nurses, social workers and administrators
- Involvement of patients in their care
- Use of champions/opinion leaders (attending, specialists)
- Flexibility to allow local adaptation
- Use of data to change behavior and measure effectiveness of the approach.

# The SELF Pathway for the Management of Syncope



Initial Assessment: (1) History and physical exam (including supine and standing blood pressure after 3 minutes)  
(2) 12 lead electrocardiogram  
(3) Labs: Basic Metabolic Panel, CBC.

All four SELF should be met:

- **S**hort period, **S**elf limited **S**pontaneous recovery
- **E**arly - Rapid onset
- **L**oss of consciousness-LOC (transient)
- **F**ull recovery, **F**all

# SELF-1 Criteria requirements

- Initial assessment of a patient with syncope
- Definition of true syncope (**SELF-1 Criteria**)

All four SELF should be met:

- **S**hort period, **S**elf limited, **S**pontaneous recovery
- **E**arly - Rapid onset
- **L**oss of consciousness-LOC (transient)
- **F**ull recovery, **F**all

- To be SELF-1 Positive, Subjects have to meet **ALL** the criteria
- If the subjects do not meet either one of the SELF-1 criteria they are categorized as SELF-1 negative

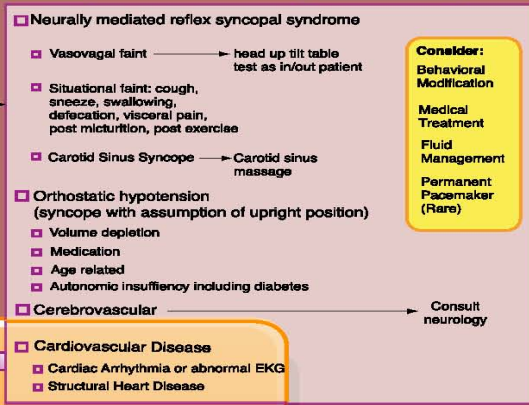
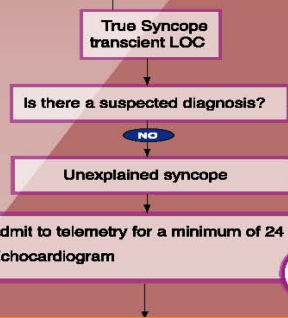
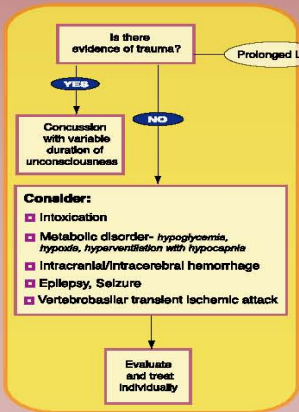
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**Not True Syncope**

- Psychogenic
- Somization disorder
- TIA of Carotid origin
- Catalepsy

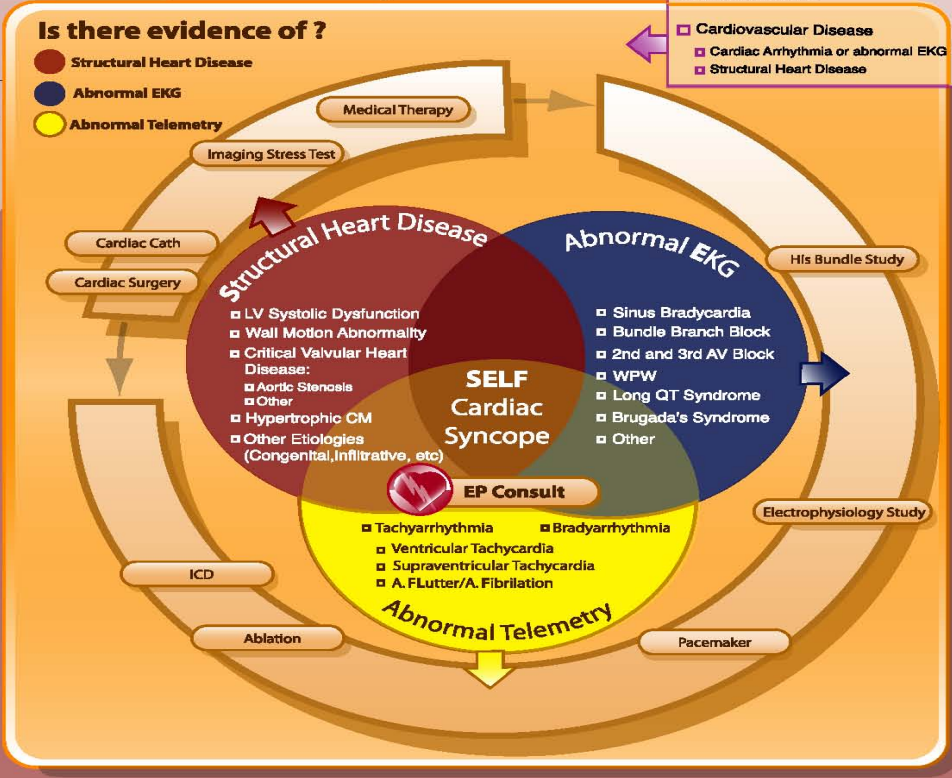


**Consider:**

- Head up tilt table test
- Prolonged EKG monitoring

- holter
- transtelephonic monitoring
- Implantable loop recording

- D/C home



True Syncope  
transient LOC

Is there a suspected diagnosis?

NO

YES

☐ Neurally mediated reflex syncopal syndrome

- ☐ Vasovagal faint → head up tilt table test as in/out patient
- ☐ Situational faint: cough, sneeze, swallowing, defecation, visceral pain, post micturition, post exercise
- ☐ Carotid Sinus Syncope → Carotid sinus massage

☐ Orthostatic hypotension (syncope with assumption of upright position)

- ☐ Volume depletion
- ☐ Medication
- ☐ Age related
- ☐ Autonomic insufficiency including diabetes

☐ Cerebrovascular → Consult neurology

☐ Cardiovascular Disease

- ☐ Cardiac Arrhythmia or abnormal EKG
- ☐ Structural Heart Disease

**Consider:**  
Behavioral Modification  
Medical Treatment  
Fluid Management  
Permanent Pacemaker (Rare)



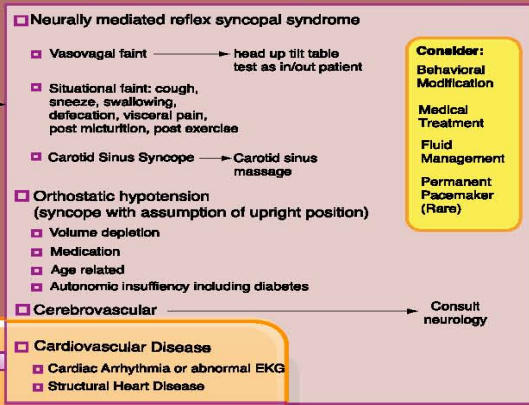
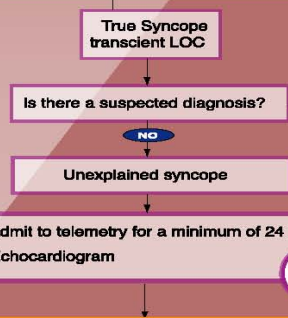
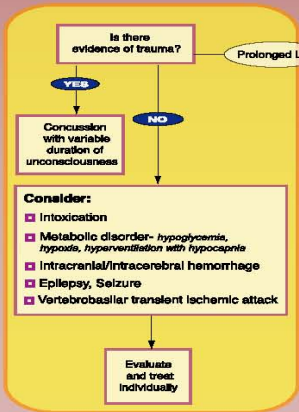
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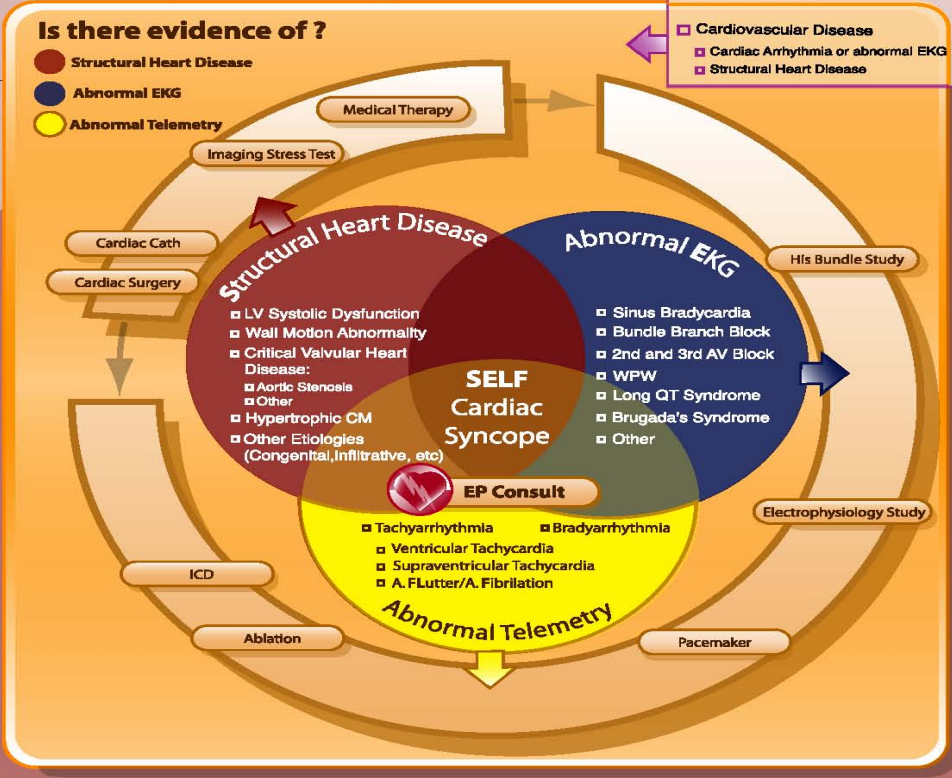


**Consider:**

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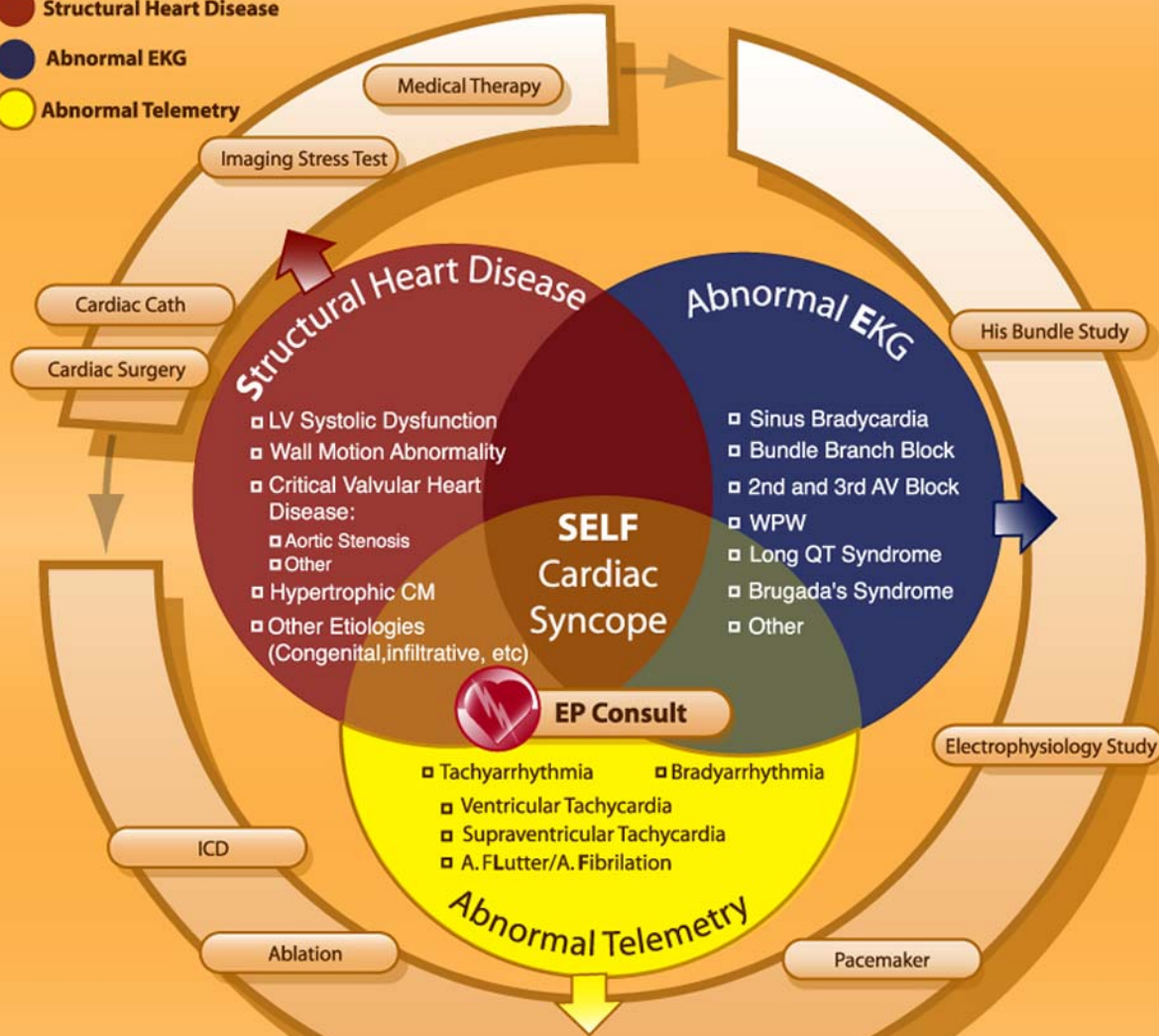
- holter
- transtelephonic monitoring
- Implantable loop recording

- D/C home



# Is there evidence of ?

- Structural Heart Disease
- Abnormal EKG
- Abnormal Telemetry





# SELF-2 Criteria requirements

- SELF 2 includes cardiac etiology for syncope
- **SELF-2 Criteria** : any Structural heart disease, Abnormal EKG, or Abnormal telemetry.
  - S** Structural Heart Disease: includes LV systolic dysfunction, wall motion abnormality, Valvular heart disease, HOCM, others
  - E** Abnormal **EKG**: includes S. Bradycardia, BBB, 2<sup>nd</sup> and 3<sup>rd</sup> AVB, WPW, Long QT & Brugada's Syndromes and others
  - L** Atrial fLutter
  - F** Atrial **F**ibrillation: any of the tachy and bradyarrhythmia including Ventricular tachycardia and Supraventricular tachycardia.
- To be SELF-2 Positive, Subjects have to meet at least **ONE** of the criteria

# Methods-Implementation of the SELF Pathway

- The **SELF** pathway was implemented using focused novel easy to understand pathway, printed color-coded standardized admission and discharge orders, educational lectures and materials which are supplemented to all house staff including emergency department physicians.
- Residents admission notes are collected and entered into an integrated database including all admission labs, admission and discharge medications.

# ACAP Program Admission and Discharge Forms

St. Luke's-Roosevelt Hospital Center

1042 FL  
OFFICE DEPOT  
PROOF 1  
4/2/07

Advanced Cardiac Admissions Protocol (ACAP)  
**ADMISSION NOTE**

To be completed on all Advanced Cardiac Admissions Protocol patients

ADMISSION NOTE AREA

**Demographics:**  
Age: \_\_\_\_\_ Gender: \_\_\_\_\_  
Date of Birth: \_\_\_\_\_ Time of Ingt: \_\_\_\_\_  
Race:  Black  White  Hispanic  Asian  Other \_\_\_\_\_  
Primary care physician: \_\_\_\_\_  
Cardiologist (if any): \_\_\_\_\_  
Admit to:  CCU service  Medicine Team  
Floor: \_\_\_\_\_ Toluemay  Nor Toluemay  CCU  
 Teaching  Non Teaching

**History Of Present Illness:**  
**Cardiovascular Risk Factors:**  
 Hypertension (ys) \_\_\_\_\_  Dyslipidemia (ys) \_\_\_\_\_  
 Diabetes (ys) \_\_\_\_\_ LDL > 130mg/dl  
Family Hx of early CAD \_\_\_\_\_ HDL < 40mg/dl  
Smoking:  Active  Ex-smoker  Non-Smoker  
Others: \_\_\_\_\_  
• Prior MI  Yes  No Date (if yes): \_\_\_\_\_  
• Prior PCI  Yes  No Date (if yes): \_\_\_\_\_  
• Prior CABG  Yes  No Date (if yes): \_\_\_\_\_  
• Known CHD  Yes  No Last pt visit: \_\_\_\_\_  
• Prior Imaging  Yes  No Date (if yes): \_\_\_\_\_  
 2D Echo  Stress Echocardiogram  Nuclear Test  
Results: \_\_\_\_\_

**Past Medical & Surgical History:**  
PHT: \_\_\_\_\_  
Surgical: \_\_\_\_\_  
Allergies: \_\_\_\_\_  
Sensitivities: \_\_\_\_\_  
Medications (Home):  
 Aspirin  Insulin  
 Clopidogrel  Oral hypoglycemics  
 Beta Blocker  Anti Rheumal  
 ACE/ARB  Antibiotics  
 Ca channel blocker  Neurologic/infliximab  
 Diuretic  Corticosteroids  
 Digoxin  NSAIDs  
 Aldosterone antagonist  Statins  
Others (please specify): \_\_\_\_\_

**Physical Exam:**  
Height: \_\_\_\_\_ Weight: \_\_\_\_\_  
Vitals: Pulse \_\_\_\_\_ BP \_\_\_\_\_ RR \_\_\_\_\_ Temp \_\_\_\_\_  
HEENT: \_\_\_\_\_ Extremities: \_\_\_\_\_  
Respiratory System: \_\_\_\_\_  
CVS: \_\_\_\_\_  
Abdomen: \_\_\_\_\_  
CNS: \_\_\_\_\_

**Laboratory:**  
Troponin 1st \_\_\_\_\_ 2nd \_\_\_\_\_ 3rd \_\_\_\_\_  
CPK 1st \_\_\_\_\_ 2nd \_\_\_\_\_ 3rd \_\_\_\_\_  
CE-MB: 1st \_\_\_\_\_ 2nd \_\_\_\_\_ 3rd \_\_\_\_\_  
LHSD: LD \_\_\_\_\_ HD \_\_\_\_\_ Tcholes \_\_\_\_\_  
Triglycerides \_\_\_\_\_

Resident Name: \_\_\_\_\_  
Beyep No: \_\_\_\_\_  
Signature: \_\_\_\_\_

St. Luke's-Roosevelt Hospital Center

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4/2/07

Advanced Cardiac Admissions Protocol (ACAP)  
**Syncope Pathway (SELF)**

To be completed on patients with a diagnosis of Syncope

ADMISSION NOTE AREA

**Syncope History:**  
 Witness  Patient  
 Length of Episode: \_\_\_\_\_  
 Activities prior Syncope: \_\_\_\_\_  
 Prodrome: \_\_\_\_\_  
 After Syncope: \_\_\_\_\_

**Admission Reasons:** (Please mark all that apply)  
 History of CHF  Chest Pain or ACS  DBP < 90 mmHg  
 EKG Changes  Arrhythmia  ST Changes  Long QT  
 SOB  History of CAD  Family history of SCD  
 Age > 60  Syncope in young patient with no explanation  
 BP: Supine: \_\_\_\_\_ HR: \_\_\_\_\_ Standing: \_\_\_\_\_ HR: \_\_\_\_\_

**Working Plan:**  
 S Short Period, Self Limited  
 E Early & Rapid Onset  
 L Transient LOC\*  
 F Fall, Full Recovery

**NO LOC** →  Psychogenic  Somatization  
 TIA  Seizure Cataplexy

**Prolonged LOC** → **Is there evidence of trauma?**  
 No  Yes  
Consider:  Consult trauma  
 Intoxication  
 Metabolic disorder  
 Intracranial hemorrhage  
 Seizure  
 Transient Ischemic attack

**Suspected diagnosis** → **CARDIAC SYNCOPE**  
**Unexplained** → **Echo**

**Admit to Telemetry**  YES  NO  
**Is there evidence of?**  
 Structural heart Disease  
 LV Systolic Dysfunction  
 Wall Motion Abnormality  
 Critical Valvular Heart  
 Aortic Stenosis  
 Other: \_\_\_\_\_  
 Abnormal EKG  
 Sinus Bradycardia  
 Bundle Branch Block  
 2nd & 3rd AV Block  
 WPW  
 Long QT Syndrome  
 Brugada's Syndrome  
 Other: \_\_\_\_\_  
 Abnormal Telemetry  
 Torsades  
 SVT  
 A Fib  
 A Flutter  
 Bradycardia

**Neural Mediated reflex syncope syndrome:**  
 Vasovagal → head up tilt table in/out Pt  
 Situational faint:  
Cough, Sneezing, Swallowing  
Defecation, Visceral Pain  
Post micturition, post exercise  
 Carotid Sinus Syncope → Carotid sinus  
\*Perform with patient supine or upright  
Massage\*

**Orthostatic hypotension:**  
 Volume Depletion, IV Hydration  
 Medication  
 Age related  
 Autonomic insufficiency include DM

**Neuro**  
 Seizure → Head CT  
 CVA → Neurology Consult

**Comments:**  
 Head up tilt table test  
 Prolonged EKG monitoring  
 Holter monitoring  
 Transtelephonic monitoring  
 Implantable loop recording  
 DC Home

**EP Consult**  
 Medical Therapy  Full EP Study  
 Imaging Stress Test  Sinus node-His bundle Study  
 Cardiac Cath  Pacemaker  
 Cardiac Surgery  Ablation  
 ICD

**If no evidence of Cardiac disease consider one of these tests**

\* LOC: Loss of Consciousness

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4/2/07

Advanced Cardiac Admissions Protocol (ACAP)  
**Cardiac Discharge Summary**

To be completed on all Advanced Cardiac Admissions Protocol patients

ADMISSION NOTE AREA

**Tests/Procedures:**  
**2-D Echocardiography:** Date: \_\_\_\_\_  
Results: \_\_\_\_\_  
**Stress Test:** Date: \_\_\_\_\_  
Type:  Etc  Nuclear  
Modality:  Exercise  Pharmacological  
Results: \_\_\_\_\_  
**Cardiac Catheterization:** Date: \_\_\_\_\_  
Interventor: \_\_\_\_\_  
**CABG:** Date: \_\_\_\_\_  
**Implantable Cardiac Defibrillator:** Date: \_\_\_\_\_  
**Paacemaker:** Date: \_\_\_\_\_  
Dual Chamber \_\_\_\_\_ Single Chamber \_\_\_\_\_  
Biventricular \_\_\_\_\_  
Other Devices: \_\_\_\_\_

**Heart Failure Discharge Summary:**  
Weight at discharge \_\_\_\_\_ lbs  
Serum Creatinine at discharge \_\_\_\_\_ Date: \_\_\_\_\_  
B-type Natriuretic Peptide (BNP): \_\_\_\_\_ Date: \_\_\_\_\_ (if drawn)  
**Beta Blockers:**  
 Carvedillo (3.125-25 mg) \_\_\_\_\_ mg po q 12 h  
 Toradol XL (12.5-500 mg) \_\_\_\_\_ mg po daily  
 Cannot take beta blocker because: \_\_\_\_\_  
 Advanced Heart Block  Hypotension  Brachycardia Disease  
 Severe Bradycardia  Decompensated (Worsening) CHF

**ACE Inhibitors/ARBs:**  
 Drug \_\_\_\_\_ mg po (daily) q 2h q8h  
 Cannot take ACE/ARBs because: \_\_\_\_\_  
 ACE/ARBs Hypersensitivity  Renal Failure  
 Moderate/Severe Aortic Stenosis  Other \_\_\_\_\_

**Diuretics:**  
 Drug \_\_\_\_\_ mg po (daily) q 2h q8h  
**Digoxin:** (0.125-0.25 mg) \_\_\_\_\_ mg po daily  
**Aldosterone Antagonist:** (Avoid with K > 5.5 mEq Cl > 5.5)  
 Drug \_\_\_\_\_ mg po daily  
In patient's with Heart Failure secondary to ischemic events:  
Assess the patient's need for Antiplatelet & Statin and check the appropriate medication under the Class: Pain Pathway.

**Weight yourself early before breakfast using the same scale. Write your weight in your weight diary and bring it with you to your doctor's office visits.**

**Call your doctor for worsening symptoms:**  
- increased shortness of breath.  
- increased swelling of feet, legs or belly.  
- increased fatigue (more tired than usual).  
- weight gain of 2 pounds in a day or 5 pounds in a week.  
- side effects from medications.

**Antipatelet Agents:** **PLATIN**  
 Aspirin (75-825 mg po enteric coated daily)  
 81 mg  162 mg  325 mg  
Cannot take aspirin because \_\_\_\_\_  
 Clopidogrel (75 mg po daily) **PA**

**Beta Blockers:** **PLATIN**  
 Metoprolol (25-100 mg) \_\_\_\_\_ mg po q 12 h  
 Carvedillo (3.125-25 mg) \_\_\_\_\_ mg po q 12 h  
 Toprol XL (50-200 mg) \_\_\_\_\_ mg po daily  
Cannot take beta blocker because: \_\_\_\_\_  
 Advanced Heart Block  Hypotension  
 Decompensated CHF  Severe Bradycardia  
 Brachycardia disease

**ACE Inhibitors:** **PLATIN**  
 Drug \_\_\_\_\_ mg po (daily) q 2h q8h  
 Cannot take ACEI because \_\_\_\_\_

**Statins:** **PLATIN**  
 Drug \_\_\_\_\_ mg po daily  
 Cannot take statins because \_\_\_\_\_

Have you smoked in the last year (12 Months)?  No  Yes  
I have been advised to stop smoking. Information about smoking cessation including ongoing support, nicotine replacement and avoid second hand smoke has been given to me.  
I have been advised to exercise 3-5 times a week for 30 mins.

Patient's Signature: \_\_\_\_\_  
Patient's Phone: \_\_\_\_\_  
RN Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
House Staff Name: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# Study Design

- According to our study design, subjects are risk stratified twice in the SELF pathway.
- Group **A** defined as those who are both SELF 1 (true syncope) and SELF 2 (any one of the cardiac etiologies) positive.
- Group **B** defined as those who are both SELF 1 and 2 negative, i.e., who do not have a true syncope and do not have any one of the cardiac etiologies.

	<b>SELF - 1</b>	
<b>SELF - 2</b>	<b>Group A</b> + / + 746	+ / - 539
	- / + 675	<b>Group B</b> - / - 960

# Study Aim

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- The objective of our study was to assess the short and long-term outcomes in patients presenting to the emergency department with unexplained syncope using the SELF criteria.
- The primary endpoint was a composite of all-cause mortality, STEMI, NSTEMI/UA, syncope and stroke.
- Follow-up period was  $394 \pm 140$  days

# Patient Population

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- According to our standardized care under the ACAP program, all patients presenting with the diagnosis of unexplained syncope to the hospital are included in a prospective institutional registry and consented for follow-up.
- **2920** consecutive patients admitted with unexplained syncope between September 2007 and August 2012 are included in this analysis (*Current enrollment is 3050*).
- Patients therapeutics, diagnostic tools, and Outcomes were reviewed and analyzed.

# Statistical Analysis

- Statistical analysis performed using a standard statistical software package (SPSS for Windows, version 17; SPSS, Inc., Chicago, Illinois).
- Patient groups were compared using student *t*-test for continuous variables, chi-square test for categorical variables and Analysis of Variance for independent groups.
- Cox proportional hazard model was used to assess the effect of the implementation of the pathway on the patient outcomes.
- $P < 0.05$  was used to denote statistical significance.

# Baseline Characteristics

<b>Variable</b>	<b>Group A (%) SELF +/- N = 726 (26)</b>	<b>Group B (%) SELF -/- N = 960 (33)</b>	<b>p</b>
Age, Yrs.	73 ± 16	59 ± 22	< 0.0001
Sex, Female, %	373 (50)	539 (56)	0.016
Hypertension, %	547 (73)	449 (47)	< 0.0001
Diabetes Mellitus, %	190 (26)	170 (18)	< 0.0001
Dyslipidemia, %	254 (34)	170 (18)	< 0.0001
Smoking, %	272 (37)	226 (24)	< 0.0001
PMHx MI, %	90 (12)	51 (5)	< 0.0001
Heart Failure, %	116 (16)	56 (6)	< 0.0001
Arrhythmia History, %	120 (16)	57 (6)	< 0.0001



# Baseline Home Medications

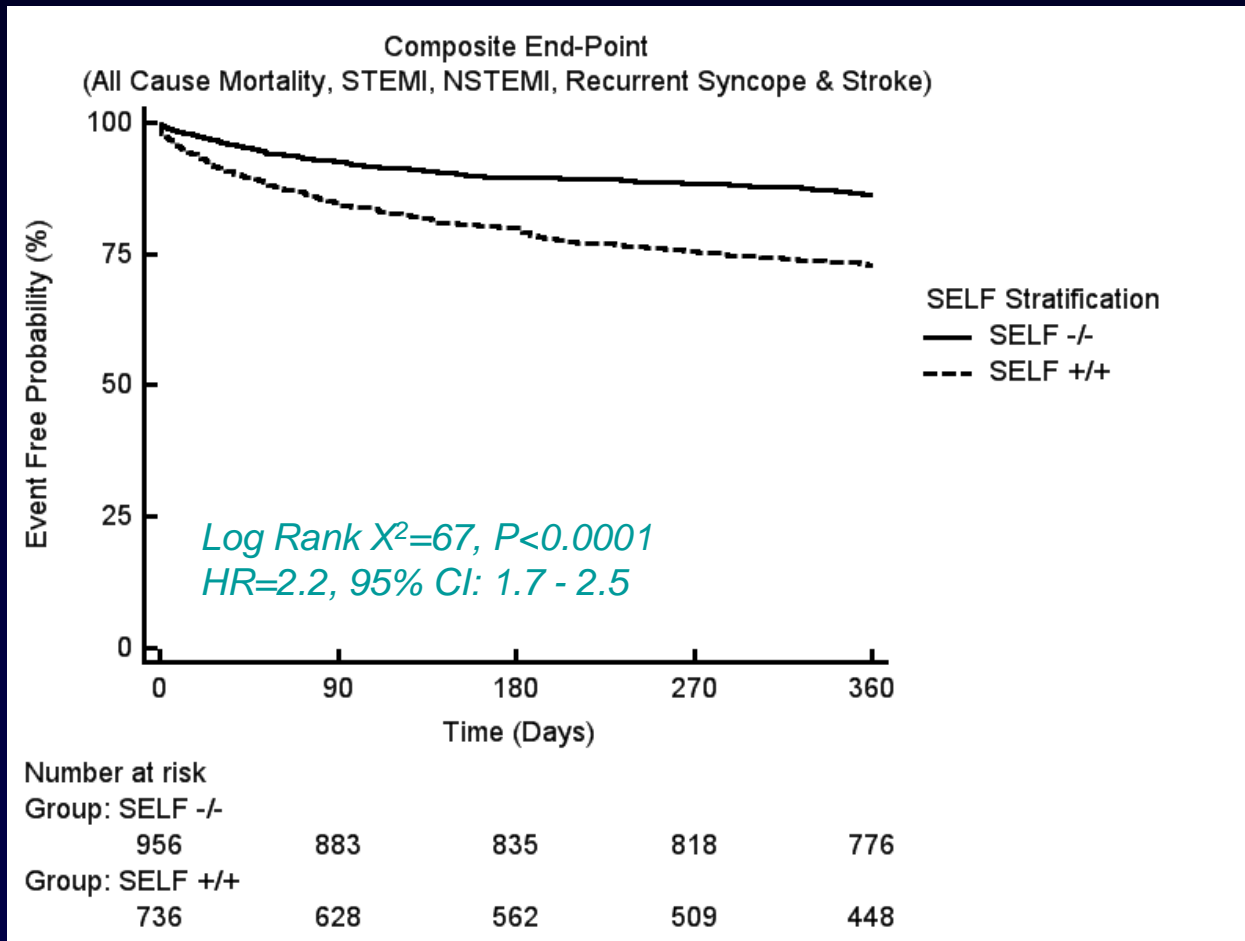
<b>Variable</b>	<b>Group A (%) SELF +/- N = 726 (26)</b>	<b>Group B (%) SELF -/- N = 960 (33)</b>	<b>p</b>
Aspirin, %	331 (44)	192 (20)	< 0.0001
BB, %	291 (39)	205 (21)	< 0.0001
CCB, %	182 (25)	136 (14)	< 0.0001
Diuretic, %	185 (25)	120 (13)	< 0.0001
ACEi / ARB, %	285 (38)	217 (23)	< 0.0001
Statin, %	285 (38)	189 (20)	< 0.0001

BB = Beta Blockers, CCB = Calcium Channel Blockers, ACEi = angiotensin-converting enzyme inhibitors, ARB = Angiotensin II Receptor Blockers

# EKG & Echo Characteristics

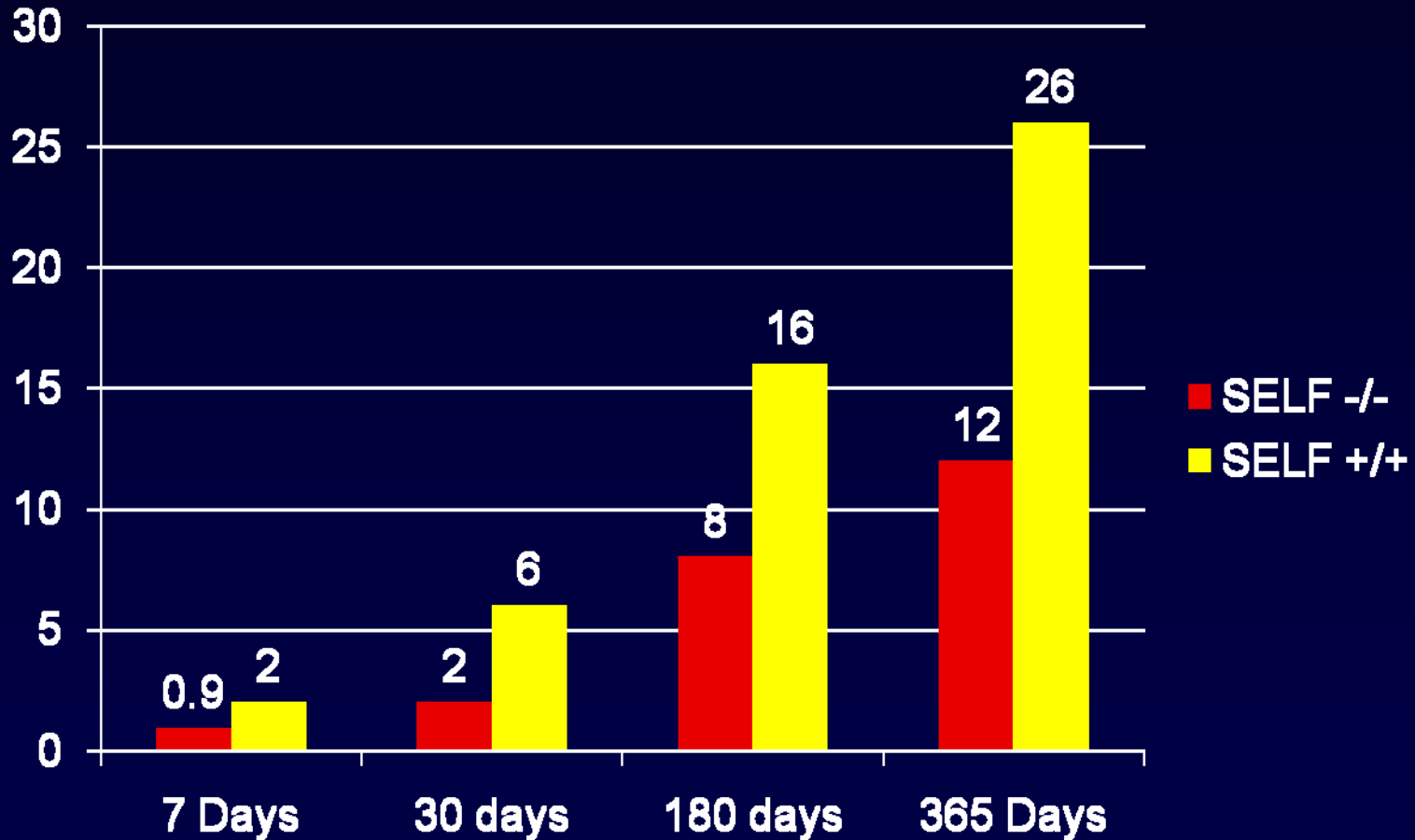
<b>Variable</b>	<b>Group A (%) SELF +/+ N = 726 (26)</b>	<b>Group B (%) SELF -/- N = 960 (33)</b>	<b>p</b>
<b>EKG</b>			
Heart Rate, bpm	75 ± 21	76 ± 15	0.57
PR Interval, msec	171 ± 37	159 ± 30	< 0.0001
QRS Interval, msec	105 ± 37	91 ± 21	< 0.0001
QT Interval, msec	413 ± 59	394 ± 45	< 0.0001
QTc Interval, msec	452 ± 41	437 ± 35	< 0.0001
<b>Echocardiography</b>			
Mean LVEF, %	57 ± 15	61 ± 10	< 0.0001
LVEF < 35%, n, %	63 (8)	22 (2)	0.0004

# Events free Survival Curve



*After Adjusting for Age, Medication, Risk Factors, & Device Therapy*

# Short & Long-term Outcomes (%) of the SELF Groups



# Multivariate Logistic Regression Predictors of Outcomes\*

Variable	OR	95% CI	<i>p</i>
Age	1.02	1.02 – 1.03	<i>&lt;0.0001</i>
CHF	2.1	1.66 – 2.69	<i>&lt;0.0001</i>
Diabetes	1.32	1.07 – 1.63	<i>0.007</i>
CAD	1.45	1.13 – 1.84	<i>0.0033</i>
SELF Criteria	1.31	1.07 – 1.60	<i>0.008</i>

\* Over all Model Chi-square Fit= 174;  $p < 0.0001$

CAD = Coronary Artery Disease, CHF = Congestive Heart Failure

# Summary

- Although several guidelines have been published for the diagnostic approach to patients with syncope, none has been validated prospectively and none applies to every clinical situation encountered.
- Most guidelines do not specify the level of detail needed to create a structural evaluation tool for these patients, thus, providing only a framework to approach the diagnostic evaluation of this difficult problem.
- The novel **SELF** pathway is comprehensive, yet simple, and provides guidelines for the management of all patients presenting to emergency departments with a complaint of syncope

# Conclusion

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- Routine utilization of a standardized clinical pathway for patients presenting with unexplained syncope effectively identifies patients who merit hospitalization for further work-up.
- This has important implications for the evaluation and the management of a common disease that poses a significant economic burden on healthcare utilization.

# Thank You

The ACAP Cardiac Research Group

[www.NYCardiologyPathways.Org](http://www.NYCardiologyPathways.Org)





# NY Cardiology Critical Pathways

St. Luke's and Roosevelt Hospitals

University Hospital of Columbia University

College of Physicians and Surgeons

New York, New York

**Website: [NYCARDIOLOGYPATHWAYS.ORG](http://NYCARDIOLOGYPATHWAYS.ORG)**

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Acute coronary syndrome (ACS) is among the most common causes of emergency hospital admission and a major cause of morbidity and mortality worldwide. There is approximately 1.8 million hospitalizations for ACS in the United States; out of the eight million presenting with chest pain in the emergency departments, which suggests an ischemic origin. The large numbers of coronary artery disease (CAD) hospitalization resulted in large-scale clinical trials and registries which have provided abundant data on hundreds of thousands of patients which resulted in defining guidelines through evaluation of the quality of care and outcomes for patients with ACS. These guidelines are dedicated to the assessment of patients with ACS, have existed in the United States since 1994.

Despite considerable investment in the development and nationwide distribution of guidelines, the Center for Medicare and Medicaid Services Cooperative Cardiovascular Project reported the quality of care for Medicaid beneficiaries with acute myocardial infarction (AMI) was far from optimal. Many subsequent studies have also shown similar disappointing adherence to the therapeutic recommended in published guidelines.



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