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BEACON is:

- A multicenter data collection and follow-up registry
- NOT an investigational study, as PRIME has been approved for clinical use

PRIME is:

- An 80-lead ECG that allows users to quickly evaluate “electrocardiographically silent,” regions of the heart in which ischemia or infarction may go undetected by conventional 12-lead ECG

The BEACON Registry Newsletter is an internal QA effort to promote awareness of the PRIME ECG strengths and limitations as well as to improve understanding of BEACON Registry objectives. Please review cases below.

This registry will provide an opportunity to demonstrate which diagnostic methods facilitate earlier treatment of patients with ACS. It may also demonstrate the clinical and economic value of earlier diagnosis in this cohort.

### Case 1

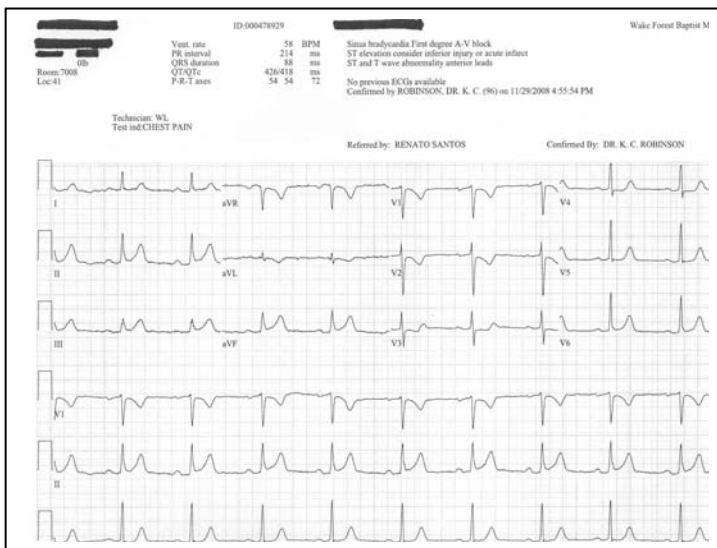
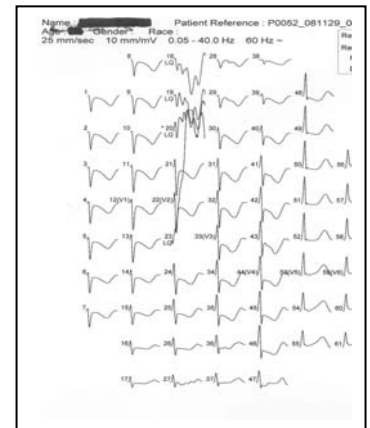
SW is a 59-year old woman with a PMH significant for HLD who presented to the ED after 3 days of central chest pain with associated symptoms. The patient had been seen at an outside hospital 2 days prior, ruled out, and discharged to home. The patient was intermediate risk for ACS given ASA use and ECG changes.

Initial ECG showed inferior ST elevation, which was present but less pronounced on ECG from outside hospital. PRIME ECG was consistent with acute inferior posterior MI.

Cardiology was consulted for evaluation. The patient did not proceed to cath initially. A short time later the patient went into a ventricular fibrillation arrest. She was

intubated and defibrillated with subsequent return of spontaneous circulation. At this point she was taken to the cath lab.

Cath lab findings included a 100% occlusion of the circumflex, 50% blockage in right coronary artery, and 25% blockage to left main artery. The circumflex artery was stented, to follow up in next several months.



### Case 2

TH is a 68-year old male with a PMH significant for hypertension, GERD, asthma, who presented to our ED 9 hours after he developed central chest pain while read reading the newspaper. He was still having pain upon presentation. He is intermediate risk for ACS given his age and ECG findings.

His ECG showed questionable

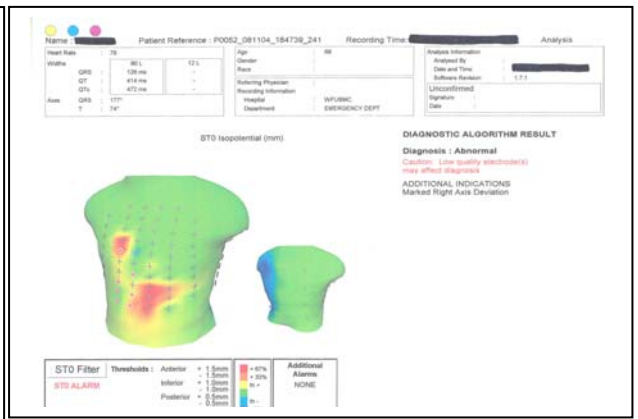
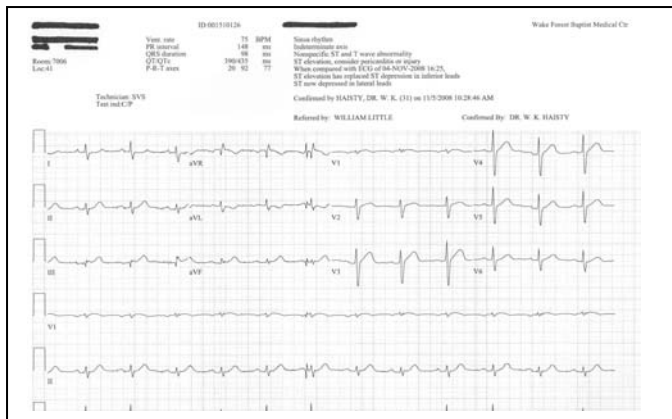
ST elevation inferiorly. Given the patient's ongoing chest pain, risk factors, and ambiguous ECG, PRIME ECG was obtained, that showed right axis deviation with an inferior STEMI.

The patient was not taken to the cath lab at this point, and was admitted to the CCU.

The patient's troponin peaked at 18.6. He had a left heart

catheterization the following day that showed a 98% occlusion to his right coronary artery, with stent placement.

On follow-up, the patient continues to do well.



### Case 3

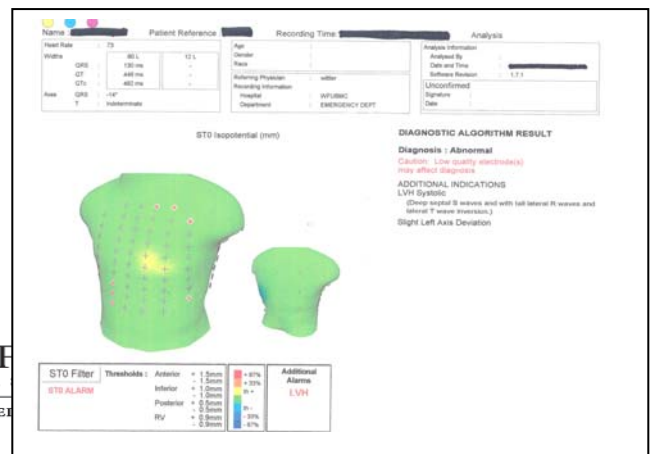
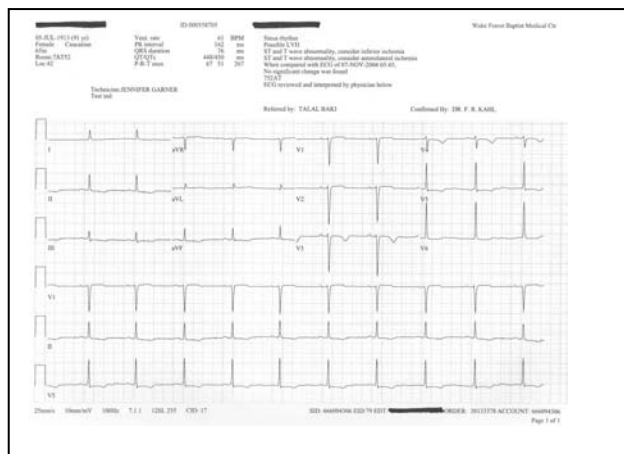
MV is a 95-year old female with a PMH significant for prior STEMI, HTN, CVA, presented to the ED with central and left-sided chest pain that began 5 hours PTA with associated symptoms. She was intermediate risk for ACS. An ECG showed T-wave inversion in lateral leads.

A PRIME ECG was obtained secondary to intermediate risk as

well as ongoing chest pain. The PRIME was interpreted as new LVH and no ischemia or infarction.

The patient was admitted to a cardiology floor and was subsequently ruled out for myocardial infarction. She was discharged, without PCI and had a return visit to the ED a short time later for an unrelated complaint.

The patient failed to follow up for her cardiology clinic appointment, and was found to be expired due to unknown reasons on follow-up.



### *Other Notable PRIME ECG's*

- CG is a 67-year old male, TIMI 3, presenting to our ED with active chest pain
  - ECG: A-fib, intermittently paced, with LBBB, questionable STEMI
  - PRIME: RBBB, acute inferoposterior and RV MI
  - Outcome: Ruled-out for MI. Echocardiogram showed global hypokinesis, patient did not go to cath lab, was discharged to home.
- WM is a 65-year old male, TIMI 3, presenting to the ED with active chest pain.
  - ECG: lateral depression, questionable ST elevation at V1
  - PRIME: anterolateral and inferior ischemia
  - Outcome: stratified to high risk secondary to PRIME findings and positive biomarkers, admitted to CCU.
  - Cath lab findings: 95% LAD, 100% circumflex occlusions, with PTCI
  - Discharge diagnosis: NSTEMI
- BR is a 51-year old female, TIMI 2, presenting to our ED with active chest pain
  - ECG: equivocal, questionable ST depression in inferior leads
  - PRIME: inferior ischemia, old septal MI
  - Outcome: Respiratory failure in ED, found to have valvular thrombosis with subsequent lytics on floor, peak troponin of 8, no cath lab.
- RW is a 65yo female, TIMI 2, presenting to our ED with active chest pain
  - ECG: non-specific ST/T wave changes anteriorly
  - PRIME: no ischemia
  - Outcome: ruled out for MI, with discharge diagnosis of atypical chest pain

### *Summary For This Issue*

Total No. of PRIMEs Reviewed: **18**

Total No. of Maps Generated: **24**

