**Research Protocol**

Sensitivity  
Specificity  
Positive predictive value

Negative predictive value

Accuracy

Validation

Inpatients or Outpatients

Exclusion criteria:   
1. Congenital heart disease  
2. Primary valvular heart disease  
3. Massive pericardial effusion  
4. All type of ACS  
5. Severe pulmonary disorders (cor pulmonale, pneumothorax  
6. Pace maker therapy

Heart failure

Echocardiography, ECG

HFrEF

HFpEF

ECG analysis

Scoring system

**Figure.** Research scheme