Introduction:
The diagnostic performance of the five main emergency department (ED) triage systems has been shown to be poor in distinguishing acute coronary syndromes (ACS) from mild severity diseases in chest pain patients. These ED triage systems are either clinically-based, being more sensitive or ECG-based, more specific [1]. The goal of the study was to evaluate if incorporation of cardiovascular risk factors (CVRF) into ECG-based triage could increase his diagnostic performance.

Methods:
CECIDOC is a prospective, observational, single-center study in an academic Hospital. All consecutive adult patients admitted for acute chest pain were included. We compared the ECG-based FRENCH triage system [2] to a modified system upgrading patients with a normal ECG but significant cardiovascular risk from a low acuity triage score (waiting period before medical assessment of max. 60 min.) to a high acuity triage score (waiting period before medical assessment of max. 20 min.). The final diagnosis was determined after a 30-day follow-up. We predefined as being adequate a high-acuity triage score (level 1 or 2) for ACS and a low-acuity score (level 3, 4 or 5) for mild severity diseases.

Results:
A total of 190 patients was enrolled over a 5-month period (age 56,8 ±16,4; M/F ratio 1,7). Triage scores of 35 patients (18,4%) with ACS were compared to 103 patients (54,2%) with mild severity diseases. Taking into account CVRF, the sensitivity of the triage system increased from 60 to 80% whereas the specificity decreased from 74 to 61%. Area Under the ROC Curve (AUC) went from 0,69 to 0,72 (Figure).

Conclusion:
For chest pain triage at ED, addition of cardiovascular risk factors into ECG-based triage increases his diagnostic performance.

References:
Diagnostic performances of the triage systems