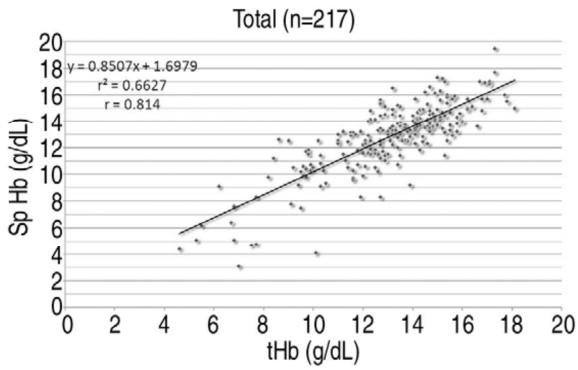
Noninvasive Hemoglobin Measurement in Emergency Patients.
Chung J.W., Park J.S., Kim A.J., Shin D.W., Roh J.Y. Kim K. H., Lee K.M., *Korean J of Emerg Med*. 2010 21(1): 67-72.

Purpose
At present, the hemoglobin count is one of the most commonly performed clinical laboratory tests in the emergency department. However, the conventional method is invasive and permits only intermittent assessments. The aim of this study was to determine whether non-invasive hemoglobin measurements (SpHb) produce comparably accurate results to laboratory hemoglobin tests (tHb) in patients presented to the emergency department.

Methods
From May to July 2009, 217 patients who required hemoglobin tests after presenting to the emergency department of a hospital were enrolled. We measured hemoglobin values using the conventional method (tHb), and the non-invasive method (SpHb). The study population was classified into two groups: ‘non-bleeding’ and ‘bleeding’. The concordance between tHb and SpHb was analyzed by the Pearson’s correlation coefficient.

Results
A total of 217 data pairs were collected from 217 subjects, 193(88.9%) non-bleeding patients, 24(11.1%) bleeding patients. A total of 114 subjects were male (52.5%). The Pearson’s correlation coefficient between tHb and SpHb was 0.814(p=0.000). In the ‘non-bleeding’ and ‘bleeding’ groups, the Pearson’s correlation coefficients between tHb and SpHb were 0.779(p=0.000) and 0.788(p=0.000) respectively.



Scatter plots show significant correlation between tHb and SpHb (Pearson’s correlation coefficient r=0.814, p=0.000).

Conclusion
Non-invasive SpHb measurement provides clinically acceptable accuracy compared to the conventional laboratory method (tHb) in the setting of the emergency department.