Introduction:
Rapid Ultrasound for Shock and Hypotension (RUSH) protocol involves pulmonary evaluation with cardiac, abdominal, and venous examination applied for all undifferentiated hypotensive patients in a focused manner to diagnose, monitor, and treat emergency medical conditions. The objective of this study was to assess the importance of RUSH protocol in identifying specific type of shock (Obstructive, Cardiogenic, Distributive and Hypovolemic) leading to early intervention in Emergency Department.

Methods:
The study design was prospective cross-sectional early bed-side ultrasound examination based on RUSH protocol on undifferentiated hypotensive patients in Tikur Anbessa Specialised Hospital. Patients received all needed standard therapeutic and diagnostic interventions without delay. They were followed until they received a final diagnosis after full evaluation.

Results:
A total of 93 patients with undifferentiated shock were eligible for ultrasound evaluation, of which 85 were diagnosed with specific shock types based on RUSH protocol and 8 patients had normal evaluation. The overall kappa correlation of the RUSH exam compared with the final diagnosis was 0.88 which is an almost perfect agreement. The p value was P=0.00 95% CI [0.926, 1.003), so that there is a statistically significant positive relationship between initial Ultrasound impression and final diagnosis r (91) =.98, p=.000. Hypovolemic shock showed 95.6% sensitivity with PPV of 89.6% and 89.6 % specificity with NPV of 95.6%. Distributive shock was 62.5% sensitive with PPV of 90.9% and 88.2% specific with NPV of 98.7%. Both cardiogenic and obstructive shocks showed 100% specificity and sensitivity.

Conclusion:
This study highlights the significant role of the RUSH protocol performed on initial evaluation of patients to diagnose shock etiology accurately and rapidly.

References: