

- P: In ED patients with asymptomatic HTN
 I: Does the use of screening tools (ECG for LVH, BNP, Creatinine)
 C: Compared for foregoing diagnostic studies
 O: Associated with more accurate diagnosis of HTN

Clinical Scenario: ED patient presents for a return to work note after suture removal and is noted to have an elevated BP. Your attending suggests you check a serum creatinine and get an ECG (for LVH) in order to decide to start antihypertensive agents.

Search Terms: Hypertension, screening studies, asymptomatic, blood pressure, creatinine, LVH, ECG, BNP

Article	Study Type	Patient Population	Key Results	Conclusions	Limitations
Utility of Routine Testing for Patients with Asymptomatic Severe BP Elevation in the ED (Karras et. al)	Prospective Observational Study Evaluated utility of screening tests in affecting patient care decisions in asymptomatic HTN	109 patients in 3 urban centers with elevated BP >180 SBP or >110 DBP. Heavily underserved	52%(57) had 'unanticipated' abnormal results(BMP, ECG, CXR, CBC, UA). Only 6%(7) had 'clinically meaningful' results. 5%(5) had abnormal results that may related to HTN.	Routine screening tests rarely detect abnormalities which alter ED management, and those which do may not be exclusively due to HTN	-Small sample size(non-asymptomatic patients/recall and elicitation bias) -Lack of control group -Variation in provider judgment -Use of BP levels as cut off
Routine Testing in Patients with Asymptomatic Elevated Blood Pressure in the ED (Nishijima et. al)	Cross sectional study Evaluated use of screening BMP and CrCl measurement and their effect on patient management in the ED.	167 patients at 2 urban centers. Heavily African-American(92+%)	90%(150) had abnormalities on BMP. 16.2%(27) had CrCl below 60. 7.2%(12) were admitted secondary to BMP results. No statistically significant 'p' values regarding characteristics	Routine Creatinine testing should be a screening tool employed in predominantly AA populations with uncontrolled HTN	-Limited follow-up options→lower admission threshold -Lack of control group -Racial predominance -Potential enrollment bias
Urine dipstick as a screening test for serum creatinine elevation in emergency department patients with	Prospective observational study: assess the sensitivity and specificity of urine dipstick in detecting elevated	143 patients, 92% African-American, most were male, more severely hypertensive (diastolic >115)	Presence of proteinuria or hematuria highly correlated with elevated serum creatinine (Sensitivity	Urine dipstick for protein and hematuria is highly sensitive for elevated creatinine in those with	Small sample size of those with severe HTN, Defined 'abnl' serum creat as 1.2 as opposed to calc. creat

severe hypertension. (Karras et. Al)	SCr values in ED patients with severe diastolic BP elevation.		100% CI 83-100) Specificity 29% (22-39	severe hypertension.	clearance. Selection bias.
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Clinical Bottom Line:

- There is no clinical evidence to support the idea that patients with asymptomatic elevations in blood pressure will benefit from routine screening studies such as CBC, BMP, UA, EKG, testing in the Emergency Department.
- Routine screening of patients with asymptomatic HTN is unlikely to yield results which will alter immediate emergency department management.
- There is some evidence that screening predominantly AA populations with severe asymptomatic HTN for urine protein or hematuria may aid in detection of those with impaired renal function.

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