Critical Review Form
Clinical Practice Guidelines

Wolf SJ, Lo B, Shih RD, Smith MD, Fesmire FM; American College of Emergency Physicians Clinical Policies Committee. Clinical policy: critical issues in the evaluation and management of adult patients in the emergency department with asymptomatic elevated blood pressure. Ann Emerg Med. 2013 Jul;62(1):59-68.

Objectives: " to derive evidence-based recommendations to help clinicians answer the following critical questions: (1) In emergency department patients with asymptomatic elevated blood pressure, does screening for target organ injury reduce rates of adverse outcomes? (2) In patients with asymptomatic markedly elevated blood pressure, does emergency department medical intervention reduce rates of adverse outcomes?" (pp. 59-60)

Methods: This clinical policy is a revision of a 2006 ACEP clinical policy. A search was performed using MEDLINE and MEDLINE InProcess to identify relevant studies. Furthermore, the bibliographies of included studies were searched for additional studies, and articles identified by committee members and reviewers were also considered for inclusion. When literature was not available, a consensus of emergency physicians was used. Expert commentary was also received from "emergency physicians, family physicians, cardiologists, nephrologists, and individual members of the American Academy of Family Physicians, the American Heart Association Council for High Blood Pressure Research, the American Society of Nephrology, and the Emergency Nurses Association." (p. 60)

All publications were graded by at least 2 subcommittee members and were classified into three categories based on "strength of evidence." Articles were further graded on dimensions related to methodoligical quality, and then given a final grade (Class I, II, or III) using a predetermined formula based on design and study quality and specific to the clinical question being addressed. Based on the evidence, recommendations were made and graded on strength (A, B, or C):

Level A recommendations. **Generally accepted principles for patient management that reflect a high degree of clinical certainty (ie, based on strength of evidence Class I or overwhelming evidence from strength of evidence Class II studies that directly address all of the issues).**

Level B recommendations. **Recommendations for patient management that may identify a particular strategy or range of management strategies that reflect moderate clinical certainty (ie, based on strength of evidence Class II studies that directly address the issue, decision analysis that directly addresses the issue, or strong consensus of strength of evidence Class III studies).**

Level C recommendations. **Other strategies for patient management that are based on**

Class III studies or, in the absence of any adequate published literature, based on panel consensus. In instances in which consensus recommendations are made, this is specifically indicated next to the recommendation.

Guide		Comments
I.	**Are the Recommendations Valid?**	Answer questions IA-D below
A.	**Did the recommendations consider all relevant patient groups, management options, and possible outcomes?**	No. The recommendations address only two primary questions: 1) Does screening for target organ injury reduce rates of adverse outcomes" 2) Does emergency department medical intervention reduce rates of adverse outcomes? Additional important questions might include: 1) Do patients with asymptomatic hypertension benefit from initiation of antihypertensive therapy upon discharge from the ED, or should such therapy be initiated at outpatient follow-up? 2) Does access to follow-up care impact the answers to the any of the above questions?
B.	**If necessary, was an explicit, systematic, and reliable process used to tap expert opinion?** *You should look for a clear description of how the panel was assembled along with the members' specialties and any organizations they are representing.*	No. Subcommittee members are listed, and it is clear that all members of the subcommittee were members of ACEP, but the article does not address how members were selected for the subcommittee and how conflicts of interest were handled. The authors specifically do state: "Expert review comments were received from emergency physicians, family physicians, cardiologists, nephrologists, and individual members of the American Academy of Family Physicians, the American Heart Association Council for High Blood Pressure Research, the American Society of Nephrology, and the Emergency Nurses Association." (p. 60) However, they do not state how commentators were chosen.
C.	**Is there an explicit, systematic specification of values or preferences?** *Panelists' ratings presumably reflect the risk-benefit trade-offs of specific interventions, but whether other physicians or patients themselves would make the same decisions remains uncertain. Whether given options are value or*	No. These guidelines represent the preferences of the committee members and expert commentators chosen by the committee. There is no mention of patient preferences or values being solicited or considered.

	preference related should be clearly stated in the guideline.	
D.	**If the quality of the evidence used in originally framing the criteria was weak, have the criteria themselves been correlated with patient outcomes?** *When the studies utilized to produce guidelines are less than randomized-controlled trials, conclusions can be strengthened by noting how outcomes can be correlated with adherence to the guidelines.*	Yes. For the first question, regarding screening for target end-organ damage, the authors admit that the evidence is weak based on a lack of standardized end-points and potential for lack of generalizability. They specifically note that no study measured adverse outcomes based on the decision to test patients with asymptomatic elevated blood pressure. As a result, their only recommendations are level C, and these allow the practitioner a great deal of leeway regarding this decision. For the second question regarding ED intervention, the data was even more limited. The authors were therefore unable to correlate guideline adherence with outcomes.
II.	**Were the Criteria Applied Appropriately?**	Answer questions II A-B below.
A.	**Was the process of applying the criteria reliable, unbiased, and likely to yield robust conclusions?**	No. The guidelines have not been prospectively validated, so it is not possible to assess the impact of applying them on patient-important outcomes (stroke, MI, death, ED length of stay) or systems-based outcomes (ED length of stay, healthcare costs).
B.	**What is the impact of uncertainty associated with evidence and values on the criteria based ratings of process of care?**	The impact of uncertainty includes patient-concerns about ongoing hypertension, physician-angst about discharge of patients with persistently elevated hypertension, and the risk of adverse outcomes following discharge.
III.	**How Can I Apply the Criteria to Patient Care?**	
A.	**Are the criteria relevant to your practice setting?** *Medical practice is shaped by an amalgam of evidence, values, and circumstances; clinicians should consider their local medical culture and practice circumstances before importing a particular set of audit criteria.*	Yes. This clinical policy was devised specifically to guide practice in US emergency departments. Special consideration should be given to insurance status, lack of adequate follow-up, risks of compliance, and access to healthcare.
B.	**Have the criteria been field-tested for feasibility of use in diverse settings, include settings similar to yours?**	No. Despite the existence of this policy for over a decade, the authors make no mention of their application in an emergency department.

Limitations:

1) **The literature search was limited to MEDLINE and MEDLINE InProcess, and was further limited to only English language sources. Several key databases were omitted (including EMBase and clinicaltrials.gov), and limitation to the English language likely excluded several relevant studies.**

2) **The guidelines are based on very limited available evidence. There are no prospective, randomized controlled trials evaluating the impact of these guidelines.**

3) **Patient-values were not solicited or included in the creation of the guidelines.**

4) **The guidelines have not been prospectively evaluated to assess their impact.**

5) **Several important questions, including initiation of antihypertensives in asymptomatic hypertension upon discharge from the ED, were not addressed in the guidelines**

6) **Some have recommended standardization of grading criteria and levels of evidence in guidelines and policies (GRADE), which were not used in devising this policy update.**

Bottom Line:

This ACEP clinically policy, based on limited available evidence, provides a handful of level C recommendations. Follow-up is typically recommended for patients with asymptomatic persistently elevated blood pressure readings in the ED, and the only ED testing that appears to have a potential effect on short-term outcomes (i.e. hospital admission) is creatinine measurement. Rapid lowering of blood pressure is NOT recommended in asymptomatic hypertensive patients, though it is reasonable to initiate outpatient therapy in the ED in specific patient populations, with the goal being to gradually lower blood pressure over time. The policy was limited by the availability of evidence, as well as failure to assess patient values and preferences.