COMMENTARY

Treat the Patient, Not the Number: Why Reflex Antihypertensive Treatment in Hospitalized Adults Must Change

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A high blood pressure (BP) reading on a medical ward is often treated as an order to prescribe. A single measurement above a preset threshold can generate as-needed (PRN) intravenous hydralazine or labetalol, even when the patient has no new symptoms or acute organ injury. Yet the 2025 American Heart Association/American College of Cardiology guideline assigns a Class III (harm) recommendation against additional intermittent intravenous or oral antihypertensives intended to acutely reduce severe BP elevation in adults hospitalized for noncardiac conditions without acute target-organ damage [1]. This recommendation distinguishes asymptomatic elevation from hypertensive emergency; the latter demands prompt, condition-specific treatment and close monitoring [1].

The problem is not that elevated BP is irrelevant. Rather, inpatient measurements are influenced by pain, interrupted sleep, anxiety, medications, missed home doses and acute illness. A 2024 American Heart Association scientific statement emphasized the lack of randomized evidence supporting rapid treatment of asymptomatic inpatient elevations [2]. A systematic review published the same year identified a striking gap between detailed outpatient hypertension guidance and recommendations for routine inpatient BP management [3]. Chronic outpatient BP targets should therefore not be imported uncritically into an acutely ill patient's medication chart.

The safety signal is substantial. In a cohort of 66,140 hospitalized older adults, intensive inpatient BP treatment was associated with more adverse clinical events than less intensive management (8.7% versus 6.9%; adjusted odds ratio 1.28), with a stronger association among those receiving intravenous agents [4]. In a separate study of 133,760 hospitalized US veterans, PRN antihypertensive use was associated with acute kidney injury (adjusted hazard ratio 1.23), as well as more rapid BP reductions [5]. Further analyses suggest that the renal consequences of intravenous treatment may vary between patients [6]. These are observational findings: residual confounding limits causal interpretation, and neither study argues against treating a genuine hypertensive emergency.

Hospitals need an alternative to a reflex PRN order. First, repeat an unexpected reading using appropriate cuff size, positioning and technique; assess the trend rather than the peak. Second, actively screen for acute target-organ injury, including neurological deficits, encephalopathy, chest pain, acute heart failure, suspected aortic syndrome and acute renal deterioration. Third, review reversible contributors and the existing regimen: pain, urinary retention, fluid balance, withdrawal states, nonsteroidal anti-inflammatory drugs, corticosteroids and omitted maintenance therapy. Fourth, when BP remains persistently elevated, use outpatient history, comorbidity, renal function and follow-up reliability to make an individualized decision about scheduled oral treatment rather than an immediate bolus.

This change is implementable. A 2025 quality-improvement project combining staff education and admission-order-set changes reported 53% fewer PRN antihypertensive orders and 29% fewer administrations, without an observed increase in complications attributed to untreated hypertension [7]. Although a single-center intervention cannot establish generalizable safety, it provides a practical model: remove automatic PRN orders from routine admission bundles, require a documented clinical indication for urgent lowering, and incorporate pharmacist review for duplicate or newly intensified antihypertensive regimens.

The most important opportunity may be at discharge. A 2026 clinical review highlights the difficulty of interpreting transient inpatient elevations and the risks of carrying hospital-driven treatment changes into long-term care [8]. We propose that medicine services measure inappropriate PRN exposure, hypotensive events, acute kidney injury, medication reconciliation at discharge and completion of a timely outpatient BP assessment. Such indicators are more

clinically meaningful than the proportion of isolated ward readings forced below an arbitrary threshold.

A high inpatient BP reading deserves attention, but attention should begin with assessment. The safer default is not automatic treatment; it is to distinguish a genuine emergency from transient elevation, prevent medication-related harm and arrange continuity of care.

Declarations

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