



JSH2025 guidelines for hypertension management in older adults: international comparison

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Introduction

The management of hypertension in older adults remains a critical public health priority, particularly as populations age globally. Between 2023 and 2025, four major hypertension guidelines were published: the European Society of Hypertension (ESH) 2023 Guidelines [1], the European Society of Cardiology (ESC) 2024 Guidelines [2], the American Heart Association/American College of Cardiology (AHA/ACC) 2025 Guidelines [3], and the Japanese Society of Hypertension (JSH) 2025 Guidelines [4]. While these guidelines share fundamental principles, they exhibit distinct approaches to managing hypertension in older adults, reflecting diverse healthcare systems, demographic characteristics, and cultural contexts.

This commentary highlights the unique perspective of JSH2025, particularly its emphasis on avoiding ageism while achieving personalized care through functional status-based categorization, and explores how differences among guidelines may arise from varying societal and medical environments. Importantly, JSH2025's recommendations are grounded in a systematic review and meta-analysis conducted by the guideline committee to address Clinical Question 14: "Is a target systolic blood pressure (SBP) of <130 mmHg recommended for older adults aged ≥75 years? Does the target BP vary depending on the presence or absence of mental or physical functional decline in older adults?" [5]. This rigorous evidence synthesis demonstrates the guideline's commitment to evidence-based medicine tailored to an aging population.

JSH2025's Core Philosophy: Function Over Age

The most distinctive feature of JSH2025 is its departure from age-dependent blood pressure targets. Unlike other guidelines that stratify recommendations primarily by chronological age (e.g., 65–79 vs. ≥80 years in ESH2023; <85 vs. ≥85 years in ESC2024), JSH2025 deliberately avoids using age as the sole determinant of treatment intensity. Instead, it adopts a functional status-based four-category classification system (Table 1).

Category 1 includes patients aged ≥75 years who maintain independence in activities of daily living (ADL) and can attend outpatient visits autonomously. For these individuals, JSH2025 recommends the same BP target as for younger adults: <130/80 mmHg. This recommendation is directly supported by a systematic review and meta-analysis commissioned by the JSH2025 guideline committee [5]. To answer Clinical Question 14, the committee systematically evaluated seven randomized controlled trials in patients aged ≥75 years. The meta-analysis demonstrated that intensive SBP lowering to <130 mmHg significantly reduced composite cardiovascular events (risk ratio [RR]: 0.61, 95% confidence interval [CI]: 0.40–0.94, $p = 0.03$), all-cause mortality (RR: 0.72, 95% CI: 0.56–0.93, $p = 0.01$), and cardiovascular mortality (RR: 0.55, 95% CI: 0.35–0.88, $p = 0.01$), without increasing serious adverse events (RR: 1.00, 95% CI: 0.93–1.08, $p = 0.97$) [5]. This evidence, generated specifically to inform JSH2025, provides robust justification for intensive BP control in functionally independent older adults, regardless of age.

JSH2025's approach reflects the guideline's fundamental principle: chronological age alone should not dictate therapeutic goals. Conversely, even patients aged 65–74 years with significant functional decline are managed according to the ≥75 years criteria, emphasizing that functional capacity, not age, determines treatment strategy.

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Graphical Opinion

JSH2025 recommends individualized treatment in older patients based on functional status rather than chronological age

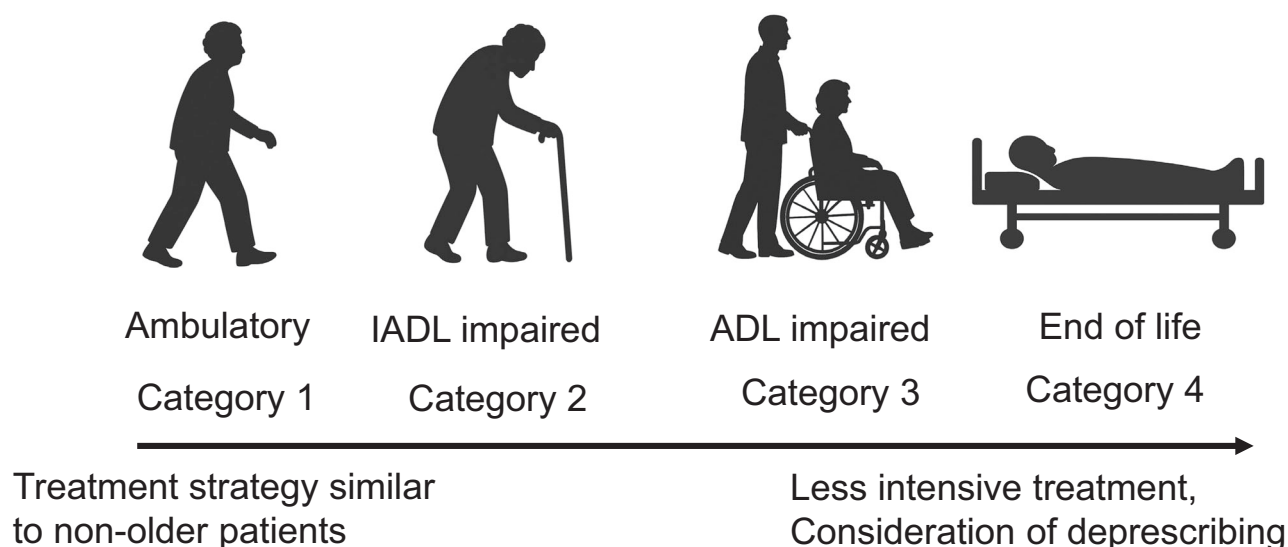


Table 1 Comparison of Blood Pressure Targets Across Four Guidelines

Guideline	Age Stratification	BP Target (Robust/Fit Elderly)	BP Target (Frail/Functionally Impaired)
JSH2025	65–74 years (if functional decline, apply ≥ 75 criteria) ≥ 75 years (categorized by function, not age)	Category 1 (ADL independent): $<130/80$ mmHg	Category 2 (IADL impaired): <140 mmHg Category 3 (ADL impaired): <150 mmHg Category 4 (end-of-life): $140\text{--}160$ mmHg (individualized)
ESH2023	65–79 years ≥ 80 years	65–79 years: $140\text{--}130$ mmHg initially, <130 mmHg if tolerated ≥ 80 years (robust): Same as 65–79 years	≥ 80 years (intermediate function): $140\text{--}150$ mmHg Severe functional loss: Individualized
ESC2024	< 85 years ≥ 85 years	<85 years: $120\text{--}129/70\text{--}79$ mmHg (if tolerated)	≥ 85 years or moderate-severe frailty: $<140/90$ mmHg (ALARA principle)
AHA/ACC 2025	≥ 80 years (minimal age stratification)	All ages: $<130/80$ mmHg	Frail, institutionalized, or limited life expectancy: Individualized (no specific target)

ADL activities of daily living, IADL instrumental activities of daily living, ALARA As Low As Reasonably Achievable, BP blood pressure

This philosophy aims to eliminate ageism—the discriminatory practice of withholding effective treatment solely based on age. Japan’s experience with a super-aged society, where 29.1% of the population is ≥ 65 years and 16.1% is ≥ 75 years, has revealed that many older adults remain physically active and independent, challenging traditional assumptions about aging. The Japan Federation of Gerontological Societies and Japan Geriatrics Society have even proposed redefining “older adult” from ≥ 65 to ≥ 75 years, acknowledging that today’s older adults are biologically younger than previous generations [6].

Comparison of Blood Pressure Targets Across Guidelines

Table 1 summarizes BP targets for older adults across the four guidelines. For robust or mildly frail older individuals, JSH2025 and AHA/ACC 2025 recommend $<130/80$ mmHg regardless of age (75, 80, or 85 years) [3, 4]. This intensive target in JSH2025 is explicitly supported by the guideline committee’s meta-analysis [5], which included landmark trials such as SPRINT [7, 8] and STEP [9] that demonstrated cardiovascular benefits of intensive BP control in older

adults. In contrast, ESH2023 suggests 140–130 mmHg initially for those aged 65–79 years, with further reduction to <130 mmHg if well tolerated, and 140–150 mmHg for those ≥ 80 years [1]. ESC2024 proposes the most intensive target of 120–129/70–79 mmHg for patients <85 years but recommends <140/90 mmHg for those ≥ 85 years or with moderate-to-severe frailty [2].

For functionally impaired older people, JSH2025 provides detailed, tiered recommendations based on its four categories [4]. Category 2 (impaired instrumental ADL) targets <140 mmHg, with <130 mmHg considered if tolerable. Category 3 (impaired basic ADL) aims for <150 mmHg. Category 4 (end-of-life) individualizes targets around 140–160 mmHg, explicitly addressing deprescribing considerations.

ESH2023 and ESC2024 also recommend individualized, more conservative targets for frail patients (140–150 mmHg and <140 mmHg, respectively) [1, 2], while AHA/ACC 2025 emphasizes shared decision-making without specifying numerical targets for frail populations [3].

The variation in BP targets reflects different interpretations of available evidence. ESC2024's lower targets are influenced by recent trials such as STEP [9] and SPRINT [8, 9], which demonstrated cardiovascular benefits with intensive BP lowering. However, these trials predominantly enrolled relatively healthy older adults, with limited data on very frail or institutionalized individuals. JSH2025 acknowledges this evidence gap and adopts a pragmatic approach: intensive treatment for fit older adults (supported by the guideline committee's systematic evidence synthesis [5]) while providing clear guidance for those with declining function, informed by observational studies such as PARTAGE [10], which suggested no benefit from intensive BP lowering in frail nursing home residents. Category 2 represents individuals with IADL impairment who remain able to attend outpatient care, whereas Category 3 reflects patients with more advanced disability, often comparable to nursing home residents. Evidence from the PARTAGE study, conducted in nursing home residents, does not define a precise upper SBP boundary [10]. Although no RCT directly supports a specific target for this group, setting <150 mmHg is consistent with data from HYVET [11] and with deprescribing evidence from OPTIMISE, both of which suggest that SBP levels around this range are safe in very old or frail populations [12]. For Category 2, evidence supporting permissive targets up to 150 mmHg is limited; therefore, JSH2025 recommends <140 mmHg, considering <130 mmHg if tolerated.

JSH2025's detailed categorization offers practical advantages in clinical settings. By explicitly linking functional status to BP targets and treatment modifications, it reduces clinical uncertainty and supports consistent decision-making across diverse healthcare providers. Furthermore, JSH2025 addresses end-of-life care (Category 4) more explicitly than

other guidelines, recommending consideration of gradual dose reduction or discontinuation of antihypertensives in terminally ill patients—a reflection of Japan's cultural emphasis on quality of life and dignity in end-of-life care.

Another unique aspect of JSH2025 is its recommendation to initiate antihypertensive medications at half the standard dose for individuals ≥ 75 years or those aged 65–74 with significant functional decline, with gradual titration while monitoring for adverse effects. This cautious approach contrasts with ESC2024's preference for starting with long-acting dihydropyridine calcium channel blockers or renin-angiotensin system inhibitors, and ESH2023's suggestion of monotherapy in frail patients with grade 1 hypertension.

Background Considerations: Healthcare Systems and Societal Context

The differences among guidelines are best understood in the context of their respective healthcare systems, demographic profiles, and disease epidemiology.

Japan's healthcare environment is characterized by universal health insurance coverage, enabling regular outpatient visits and facilitating home BP monitoring—a cornerstone of JSH2025. The super-aged society has necessitated robust geriatric care infrastructure, including comprehensive geriatric assessment (CGA) and widespread use of polypharmacy management. Historically, Japan has prioritized stroke prevention, given the high prevalence of cerebrovascular disease, which may justify more intensive BP control in fit older individuals. The JSH2025 guideline committee's decision to conduct a dedicated systematic review and meta-analysis [5] for Clinical Question 14 reflects this commitment to generating evidence-based recommendations grounded in rigorous methodology.

European guidelines (ESH2023, ESC2024) reflect diverse healthcare systems across member states, ranging from universal coverage to insurance-based models [1, 2]. The ESH2023 approach, influenced heavily by the HYVET trial [11] (the only RCT specifically targeting patients ≥ 80 years), adopts a more conservative stance for the oldest old. ESC2024's emphasis on shared decision-making and the ALARA (As Low As Reasonably Achievable) principle aligns with Europe's focus on patient-centered care and deprescribing initiatives in geriatric medicine.

The United States (AHA/ACC 2025) features a heterogeneous population with significant racial and ethnic diversity, variable insurance coverage, and healthcare disparities [3]. The SPRINT trial's influence [7, 8] is evident in the uniform <130/80 mmHg target, which demonstrated benefit across age groups, including those ≥ 80 years. However, SPRINT excluded frail or institutionalized individuals, which AHA/ACC 2025 acknowledges by

recommending individualized care for such populations without prescriptive numerical targets.

Economic factors also play a role. Japan's universal insurance and regular follow-up system support the intensive monitoring required for JSH2025's tiered approach. In contrast, healthcare access variability in the U.S. and Europe may favor simpler, more uniform guidelines that are easier to implement across diverse care settings.

Conclusion

JSH2025 offers a distinctive perspective on managing hypertension in older adults, prioritizing functional status over chronological age to avoid ageism while achieving personalized care. Its four-category classification system provides clear, actionable guidance for clinicians navigating the complex landscape of geriatric hypertension. Crucially, JSH2025's recommendations are supported by a systematic review and meta-analysis specifically commissioned by the guideline committee to address Clinical Question 14 [5], demonstrating that intensive BP control to <130 mmHg is both safe and beneficial in functionally independent adults aged ≥75 years.

While ESH2023, ESC2024, and AHA/ACC 2025 each contribute valuable insights shaped by their regional contexts and evidence bases, JSH2025's approach is particularly suited to Japan's super-aged society, universal healthcare system, and cultural values emphasizing individualized end-of-life care. By conducting dedicated evidence synthesis to inform specific clinical questions, JSH2025 exemplifies how guidelines can integrate international trial evidence within a rigorous, locally relevant framework. Future work should examine the prognostic and practical value of functional status-based BP management using large-scale real-world data. Japan's healthcare environment—characterized by universal coverage, comprehensive long-term care databases, and widespread home BP measurement—offers a unique opportunity to validate and refine this approach.

No single guideline is inherently superior; rather, each represents an optimized strategy for its respective healthcare environment. By understanding these differences, clinicians worldwide can adapt evidence-based principles to their local contexts, ultimately improving cardiovascular outcomes for older adults while respecting their autonomy, functional capacity, and quality of life.

Compliance with Ethical Standards

Conflict of interest The authors declare no competing interests.

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