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CONSENSUS STATEMENT OPEN ACCESS

Consensus Statement on Practical Guidance for Optimizing Antihypertensive Therapy in Older Adults Needing Nursing Care by the Japan Geriatrics Society and the Japanese Society of Hypertension: English Translation of the Japanese Article

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1 | Background

The Japanese Society of Hypertension *Guidelines for the Management of Elevated Blood Pressure and Hypertension 2025* (JSH 2025) generally recommend a target systolic blood pressure (SBP) <130 mmHg. For older adults aged ≥75 years, however, this guideline emphasizes individualized target setting based on functional health categories [1]. This joint statement proposes practical guidance for the appropriate use of antihypertensive therapy in older adults who are in a state of needing nursing care (JSH 2025 Categories 3–4).

In this population, management goals extend beyond blood pressure (BP) values to include prevention of falls, preservation of cognitive function, and maintenance of quality of life (QOL) [1]. Safe practices during bathing and rehabilitation, and avoidance of unnecessary activity restrictions in the situation of mild,

asymptomatic BP elevations, are also key. Within the constraints of limited evidence, this proposal aims to provide realistic and safer management principles.

2 | Target Population and Definitions

2.1 | Target Population

The primary targets of this statement are older adults classified as Category 3 (needing nursing care) and Category 4 (end-of-life stage) in the JSH 2025 functional status classification [1] (Table 1). “Older adults requiring nursing care” include both residents of long-term care facilities and homebound individuals receiving home medical care. In other words, the scope encompasses older adults who require comprehensive caregiving regardless of setting. Note that even among institutionalized

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TABLE 1 | Category classification based on health and functional status and BP guidelines for older adults based on JSH 2025 [1].

	Category 1	Category 2	Category 3	Category 4
	Patients who can maintain ADL independently and attend outpatient visits on their own	Patients with impaired instrumental ADL requiring assistance for outpatient visits	Patients who have difficulty attending outpatient visits and have impaired basic ADL	Patients at the end of life
General condition	From healthy to frail	From frailty to requiring care	Needing nursing care	End-of-life
Instrumental ADL ^a	Maintained	impaired		Severely impaired
Basic ADL ^b		declining	impaired	Severely impaired
Target BP	<130/80 mmHg	SBP <140 mmHg SBP <130 mmHg (set individually according to complications, etc.)	SBP <150 mmHg Complications may require further BP reduction through individual assessment, but avoid reduction SBP below 120 mmHg	Individual judgment (Guideline: SBP 140–160 mmHg is acceptable)
Other notes	Same treatment guidelines as for non-older patients	Consider reducing antihypertensive medication if SBP is <120 mmHg		Consider gradual reduction or discontinuation of antihypertensive medications (Do not initiate treatment in untreated cases)

Abbreviations: ADL, activities of daily living; BP, blood pressure; SBP, systolic blood pressure.

^aActivities requiring more complex and numerous tasks, such as shopping, meal preparation, medication management, financial management, and using public transportation (assessed by the Lawton scale, etc.).^bBasic ADL (e.g., mobility, stair climbing, bathing, toilet use, eating, and dressing) (assessed using the Barthel Index, etc.).

residents, when activities of daily living (ADL)—particularly independent ambulation—are preserved, antihypertensive therapy should be considered according to Categories 1 and 2.

2.2 | Medical Definition of “Requiring Nursing Care”

Medical definition of “requiring nursing care” does not necessarily coincide with administrative certification under the Long-Term Care Insurance system. Medical judgment should be based on objective indices such as the Lawton Instrumental ADL scale and the Barthel Index for basic ADL. While medically defined dependency often corresponds roughly to care Levels 2–5 in the insurance system, detailed individual functional assessments are essential. The degree of ADL impairment should be evaluated comprehensively on medical grounds.

3 | Current Evidence and Its Limitations

3.1 | Evidence for Antihypertensive Therapy in Functionally Well Doing Older Adults

High-quality evidence exists for relatively healthy, functionally independent older adults (approximately Category 1 in JSH 2025). A systematic review in JSH 2025 Clinical Question 14 confirmed the efficacy of targeting SBP <130 mmHg in adults aged ≥75 years [1, 2]. Meta-analyses of randomized controlled trials (RCTs) that compared different BP targets among participants aged ≥75 years demonstrated that SBP <130 mmHg was associated with (1) reduced risk of composite cardiovascular events, (2) reduced all-cause mortality, and (3) reduced cardiovascular and cerebrovascular mortality.

Importantly, intensive BP lowering did not increase serious adverse events [1, 2]. Thus, achieving SBP <130 mmHg in adults ≥75 years is supported by high-quality evidence for safety and benefit among functionally well older adults.

3.2 | Limitations of Evidence in Older Adults Needing Nursing Care

The above trials rarely included nursing home residents or individuals with advanced dementia. Most available data in care-dependent older adults populations are observational, limiting causal inference [1, 3].

The PARTAGE (Predictive Values of Blood Pressure and Arterial Stiffness in Institutionalized Very Aged Population) study in France and Italy, in which nursing home residents aged ≥80 years who were taking ≥2 antihypertensive agents and had achieved SBP <130 mmHg exhibited higher mortality risk [4]; a US study in Veterans Affairs (VA) nursing homes showing increased cardiovascular events and mortality at SBP <110 mmHg [5]; and a Japanese home-care study of adults aged ≥65 years indicating higher hospitalization risk when SBP <124 mmHg [6]. Although these observational data require careful interpretation, they collectively suggest that applying targets used

for robust older adults may constitute overtreatment in frail or nursing care-dependent populations [7, 8].

4 | BP Targets and Antihypertensive Medication

4.1 | International Thresholds for Initiating Antihypertensive Therapy and BP Targets in Frail Older Adults

A 2023 comparison of 13 hypertension guidelines (including those from Japan) found that only two specified thresholds for initiating antihypertensive therapy and only four provided actual BP targets for frail or dependent older adults [9]. Both guidelines that specified initiation thresholds recommended SBP ≥160 mmHg. Three other guidelines advised initiating therapy after considering patient background and comorbidities. None of the four target-setting guidelines advocated aiming for SBP <130 mmHg in this population. However, the operational definitions of “frailty” and “nursing care dependency” vary across guidelines, and careful interpretation is required.

4.2 | Category-Based BP Targets in JSH 2025

Drawing on available evidence, JSH 2025 sets targets by functional category (Table 1). This statement focuses on Categories 3 and 4 [1]. Recent research suggests that antihypertensive dose reduction can be performed safely under certain conditions.

4.3 | Considerations for Reducing Antihypertensive Medications

In the RCT RETREAT-FRAIL (Reduction of Antihypertensive Treatment in Frail Patients), 1048 nursing home residents 80 years of age (mean 90.0 ± 4.8 years; baseline BP 113 ± 11/65 ± 10 mmHg) with SBP <130 mmHg while taking ≥2 agents were randomized to the step-down group (from 2.6 ± 0.7 to 1.5 ± 1.1 drugs) versus the usual-care group (2.5 ± 0.7 to 2.0 ± 1.1). Mild elevation of SBP (+4.1 mmHg) was observed in the reduction group, but no increase in adverse events was observed over 3 years, supporting safety [10].

In the UK OPTIMISE (The Optimizing Treatment for Mild Systolic Hypertension in the Elderly) trial, 569 adults aged ≥80 years with SBP <150 mmHg were randomized to removal of one drug versus usual care. At 12 weeks, maintenance of SBP <150 mmHg was similar (86.4% vs. 87.7%). SBP increased modestly (+3.4 mmHg) in the reducing group without increased adverse events, indicating short-term safety. At 4-year follow-up, the reducing group remained on 0.4 fewer medications without increased hospitalization or mortality [11, 12].

The DANTON (Discontinuation of Antihypertensive Treatment in Older people with dementia living in a Nursing home) trial, involving 205 hypertensive patients (median age 85.8 years, baseline SBP 134 mmHg) with SBP <160 mmHg and moderate-to-severe dementia in Dutch nursing homes, compared antihypertensive medication discontinuation (baseline taking 2 types of medication) with continuation (baseline taking 1.5

types of medication). In the discontinuation group, SBP up to 180mmHg was tolerated, and medication was restarted if BP >200/120mmHg. However, discontinuing the antihypertensives did not improve cognitive function or physical performance, and tended to increase the risk of cardiovascular events [13].

A 2020 Cochrane Review found no significant differences in all-cause mortality, hospitalization, or stroke between withdrawal and continuation, suggesting that reduction of antihypertensive medication can be safe in carefully selected patients [14].

In older adults requiring nursing care, stepwise reducing antihypertensive medications should be actively considered in appropriate scenarios. Among those taking ≥ 2 agents, reduction may be indicated, and supporting evidence is accumulating (Table 2). When reducing, ensure a monitoring period of approximately 2–4 weeks; taper or discontinue one agent at a time [10, 11]. Monitor BP and symptoms closely. There is no evidence supporting the safety of unmanaged leaving SBP > 160 mmHg [13]; if needed, reinstate previously taken agents.

4.4 | Conditions Requiring Caution in Reducing Antihypertensive Agents

Reducing antihypertensive agents should be approached cautiously—and often with specialist input—in the presence of the comorbidities (Table 3) [15, 16].

If applicable, decisions should involve the primary physician and relevant specialists (e.g., nephrology, cardiology, neurology). After reducing, adopt longer observation (4–8 weeks) with frequent assessments (e.g., weekly to biweekly). Because

polypharmacy is frequently observed in older patients requiring nursing care, review non-antihypertensive medications as well. For drugs that may raise BP, see Chapter 15, “Secondary Hypertension: Drug-Induced Hypertension,” in *JSH 2025* [1].

5 | Practical Management of Blood Pressure

5.1 | Practical Methods for BP Measurement

In care-dependent older adults, seated BP measurement may be difficult due to postural limitations. When possible, measure BP seated with back support; if only the supine position is feasible, keep body position consistent during BP measurements. Measurement frequency should balance clinical need and burden: that is, for Category 3, roughly once or twice weekly; for Category 4, only when symptoms occur, or as otherwise feasible.

Daily symptom observation is critical: assess for dizziness, light-headedness, pallor, reduced activity, changes in food/fluid intake, falls, and altered consciousness. Integrate these observations with BP levels; decisions should weigh both numerical values and overall clinical condition.

5.2 | Safety Management During Bathing in the Bathtub

Prospective cohort studies indicate that higher frequency of bathing in the bathtub is associated with lower risks of stroke and ischemic heart disease [17] and with less incidence of requiring nursing care [18]. However, thermal and hydrostatic effects can produce significant hemodynamic shifts. High-temperature

TABLE 2 | Suggested criteria for reduction of antihypertensive agents (based on RETREAT-FRAIL and OPTIMISE) [9, 10].

<i>Reducing antihypertensive agents should be considered when:</i>	
• Symptomatic hypotension occurs frequently • Orthostatic hypotension is present (≥ 20 mmHg drop in SBP by standing) • There is a history of falls plausibly related to antihypertensive therapy	
<i>Reducing antihypertensive agents may be considered when:</i>	
• Taking ≥ 2 antihypertensive agents • Achieved SBP is <130 mmHg	

Abbreviation: SBP, systolic blood pressure.

TABLE 3 | Example of conditions requiring caution in reducing antihypertensive agents.

Comorbidities	Key points
Chronic kidney disease with proteinuria	Reducing ACE inhibitors or ARBs may adversely affect renal and cardiovascular outcomes
Heart failure (especially HFrEF)	β -Blockers and RAAS inhibitors are prognostically important; dose reductions may worsen status
Coronary artery disease	BP control is essential for secondary prevention
History of cerebrovascular disease	BP control is crucial for secondary prevention
Thoracic/abdominal aortic aneurysm	Elevated BP increases the risk of aneurysm enlargement/rupture

Abbreviations: ACE, angiotensin-converting enzyme; ARB, angiotensin II receptor blocker; BP, blood pressure; HFrEF, heart failure with reduced ejection fraction; RAAS, renin-angiotensin-aldosterone system.

bathing ($\approx 42^{\circ}\text{C}$) raises SBP and heart rate when starting and lowers BP during bathing in the bathtub [19].

According to Japan's Ministry of Health, Labour and Welfare (2023), among approximately 16 000 accidental domestic deaths, drowning in bathtubs is the most frequent cause (about 6300 deaths) [20]. Including cardiac and cerebrovascular events, an estimated 19 000 bathing-related cardiac arrests occur annually in Japan (13 000 in winter) [21].

Many countries do not share Japan's custom of bathing in a tub, which means there is limited evidence on safety BP management during take a bath, especially for elderly individuals requiring nursing care. A case-control study on home care and bathtub accidents found that SBP of 160 mmHg or higher was associated with a risk 3.63 times higher compared to those with 101–129 mmHg, and DBP of 100 mmHg or higher was 14.71 times higher than those with 61–84 mmHg [22]. Due to a lack of high-level evidence, recommendations are made cautiously based on current knowledge (Table 4).

As BP often decreases after eating or drinking, it is advisable to avoid bathing immediately afterwards. In cases of postprandial hypotension accompanied by symptoms, it is recommended to wait a certain period of time (about 2 h) before bathing [23]. The water temperature should be 41°C or lower, and the bathing time should be limited to about 10 min. Half body bathing is also effective for reducing the strain on the heart. To prevent orthostatic hypotension, stand up slowly from the bathtub. Additionally, be aware of changes in blood pressure due to sudden temperature changes between the dressing room and the bathroom, so it is desirable to warm both rooms. Proper hydration before and after bathing also prevents BP drops caused by dehydration. Furthermore, to detect bathing accidents early, it is recommended

to have a family member check on the person during bathing or to consider using day service bathing facilities [24].

These recommendations are for general reference only, and the final decision on whether to proceed should be made at the discretion of the attending physician or nurse, who knows the patient's condition best. In the field, please prioritize safety and pay close attention not only to vital signs but also to any changes in the patient's expression or complaints.

5.3 | Management During Rehabilitation

In the rehabilitation (exercise therapy) of nursing care dependent older adults, limited high-quality evidence is available in the cardiovascular management during rehabilitation. The Japanese Association of Rehabilitation Medicine advises avoiding active rehabilitation at resting BP $\geq 200/120$ mmHg and stopping activity if BP rises by $\geq 40/20$ mmHg during exercise [25]. The joint guidelines from Japanese Circulation Society/Japanese Association of Cardiac Rehabilitation advise against exercise at resting BP $\geq 200/100$ mmHg and recommend stopping when exercise BP $\geq 250/115$ mmHg or SBP < 80 mmHg (relative termination criteria) [26]. It should be noted, however, that these BP thresholds are not based on high-quality evidence and are not necessarily a universally agreed-upon consensus [27–30]. The decision to proceed with or stop rehabilitation is not only based on BP levels but must also consider objective findings such as subjective symptoms, heart rate, and oxygen saturation, requiring flexible judgment based on the situation on-site.

Check BP and symptoms before activity; monitor during exercise; stop immediately for dizziness, chest discomfort, or marked

TABLE 4 | Proposal for judgment criteria for bathing in the bathtub in older patients needing nursing care.

Fundamental premise	Do not determine eligibility by BP levels alone; prioritize symptoms and overall condition. If BP is clearly higher than usual, allow rest and remeasure.
BP levels	
SBP < 160 mmHg and asymptomatic	Proceed with usual bathing; if BP values differ from prior norms, consider shorter duration and closer observation.
SBP ≥ 160 mmHg and asymptomatic	When elevated BP values appear limited to pre-bathing measurements (e.g., white-coat effect) and not present at home/in-room, consider shorter, supervised bathing; if clearly higher than prior pre-bathing values without a specific reason, cancel bathing.
Regardless of BP levels	Defer bathing when fever, new dizziness, malaise, or other atypical symptoms occur.
Additional points to note	• In cases of postprandial hypotension accompanied by symptoms, it is recommended to wait a certain period of time (about 2 h) before bathing. • The water temperature should be 41°C or lower, and the bathing time should be limited to about 10 minutes. • To prevent orthostatic hypotension, stand up slowly from the bathtub. • Be aware of changes in blood pressure due to sudden temperature changes between the dressing room and the bathroom, so it is desirable to warm both rooms. • Proper hydration before and after bathing also prevents BP drops caused by dehydration.

BP fluctuations. Conversely, do not automatically restrict therapy for mild, asymptomatic BP elevations, as unnecessary interruption risks deconditioning and reduced QOL.

5.4 | Special Considerations in Home Medical Care

In Japan, the provision of medical care to elderly individuals needing nursing care can be broadly divided into care facilities and home healthcare. Unlike those living in facilities, older adults receiving home care have limited access to healthcare professionals, with visits perhaps only once or twice a month, and there is no constant monitoring system. Therefore, daily observation by family members and caregivers plays a crucial role. Since there are long periods without medical or care staff nearby, it is necessary to establish a system for the early detection of any changes in symptoms at home.

5.5 | Home BP Management

If it is possible to measure BP at home, it is desirable to actively record home BP using a digital BP monitor or other devices. Physicians and nurses should instruct family members and

caregivers on the correct method of BP measurement and explain how to respond to abnormal readings. If home BP measurement is difficult, management should focus on symptom observation by family members and caregivers, while also prioritizing BP measurement and evaluation during regular visits. Specifically, caregivers should be supported so that they understand observation points (e.g., dizziness, lightheadedness, and reduced activity), and a system should be established for them to report any changes. At home, decisions must be made with limited information, so the support of caregivers and cooperation among multiple professionals is extremely important.

5.6 | Managing to Reduce Antihypertensive Agents at Home

When reducing antihypertensive agents for home healthcare patients, careful schedule management is necessary. The observation period after dose reduction should be set longer than in a facility, taking into account the frequency of home visits (e.g., 4 weeks or more). Inform families and caregivers about emergency contact procedures and provide detailed instructions in advance on how to respond if BP levels or symptoms change. It

TABLE 5 | Practical key points of optimizing antihypertensive therapy in older adults needing nursing care.

• Target population	Older adults requiring nursing care (JSH 2025 Categories 3–4, aged ≥ 65 years)
• Primary goals	Prioritize prevention of falls, preservation of cognitive function, and maintenance of quality of life (QOL) over strict achievement of numerical blood pressure (BP) targets
• Category 3: needing nursing care	Target for systolic BP (SBP) < 150 mmHg; avoid for lowering below SBP 120 mmHg
• Category 4: end-of-life	Acceptable range is SBP 140–160 mmHg; do not initiate new antihypertensive agents; deprescribing or discontinuation should generally be pursued
• Gradual reduction of antihypertensive medication	In patients SBP < 130 mmHg while taking ≥ 2 agents or who have orthostatic hypotension or a history of falls, consider stepwise reduction
• Comorbidities	Careful tapering is required in those with chronic kidney disease with proteinuria, heart failure, coronary artery disease, or cerebrovascular disease
• Frequency of BP measuring	For Category 3, measure approximately once or twice weekly; for Category 4, limit measurements to when symptoms occur or as otherwise feasible
• Safety bathing in bathtub	Avoid taking bathing in the bathtub when SBP ≥ 160 mmHg or if the patient feels unwell; keep water temperature ≤ 41°C and bathing time within 10 min.
• Rehabilitation	Do not over-restrict therapy for mild BP elevations alone; stop activity if symptoms occur
• Information sharing	Support systems that enable home BP values, management plans, and symptom observations to be shared not only with caregivers but also across multidisciplinary teams
• Limitations of evidence	Large trials in older adults needing nursing care are scarce; this proposal is provisional and should be revised as evidence

is also important to offer reassurance by emphasizing that they should seek medical attention immediately if any abnormalities occur during the dose reduction and that contact is possible even at night or on weekends.

Develop a mechanism for close collaboration and information sharing with visiting nurses and care managers. For example, it is important to establish a system where visiting nurses regularly assess BP and symptoms and report them to the attending physician, and care managers grasp changes in daily life and share them within the team. Support from a multi-professional team makes it possible to detect signs associated with dose reduction early, even at home, and to respond promptly.

6 | Perspectives

The greatest challenge in antihypertensive therapy for nursing care dependent older adults is the lack of high-quality evidence. Large RCTs specifically targeting this population are urgently needed. Evidence for safe BP management thresholds during bathing and rehabilitation is particularly scarce; scientifically grounded guidance must be developed. In addition, there is a need for comprehensive treatment guidelines that reflect individual diversity. In the future, to prevent inappropriate reduction of antihypertensive medications, the definition of deprescribing needs to be made clearer [31]. Integrating assessments of frailty, cognitive function, and ADLs would allow for a personalized approach to setting treatment goals and strategies based on each patient's specific state.

To manage hypertension of older adults needing nursing care, patient-centered care and a multidisciplinary approach are important and essential. Additionally, since the environments and support systems differ between home healthcare and care facilities, establishing practical guidelines tailored to each is also a challenge. For instance, in home healthcare, efforts such as enhancing family support and utilizing remote monitoring are needed, while in facilities, standardization of staff training and fall prevention measures is required. Moving forward, it will be crucial to create flexible and practical proposals for areas with limited evidence, while incorporating the wisdom and experience of practitioners on the ground.

7 | Conclusion

Individualized Antihypertensive therapy in older adults needing nursing care (JSH 2025 Categories 3–4) must be required [1]. As a general guide, aim for SBP < 150 mmHg while avoiding reductions below 120 mmHg. Where feasible, stepwise reducing antihypertensive agents should be considered, with careful monitoring (Table 5).

During bathing or rehabilitation, mild asymptomatic BP elevations should not automatically lead to activity restriction; decisions should be guided by symptoms and overall condition. Given limited evidence, individualized, context-aware clinical judgment is paramount. This proposal represents provisional guidance based on currently available evidence and expert opinion and should be

updated as new evidence emerges. We hope it will contribute to safer care and improved QOL for older adults requiring care.

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The authors declare no conflicts of interest.

Data Availability Statement

Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

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