

Blood Pressure Management in Frail Older Adults: What the latest evidence tells us

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Disclosures

NO RELATIONSHIPS TO DISCLOSE

Questions We'll Answer Today



1

Should we treat hypertension in PALTC residents the same way we do in younger adults?



2

When does blood pressure treatment help, and when might it increase the risk of falls, frailty, or adverse outcomes?



3

How do we know when it's time to deprescribe antihypertensive medications?



4

What is the “right” blood pressure target for an older adult with complex medical conditions?

CASE VIGNETTE: MEET NORA



NORA

87-year-old
nursing home
resident



CFS 6 (moderately frail),
uses a walker



Prior stroke, diabetes,
CKD stage 3



Current BP: 145/75 mmHg



Medications: Lisinopril 10 mg,
amlodipine 5 mg



QUESTION TO THE AUDIENCE:

What would you do with her blood pressure medications?

A

**Intensify
treatment** —
target <130 mmHg

B

**Leave her
alone** —
she's at target
for her age

C

Deprescribe —
reduce medications
to avoid harm

D

It depends —
need more
information



We will return to Nora at the end.

WHY THIS MATTERS IN PALTC



70–80%

prevalence of HTN in ≥ 80 yrs



**Residents are excluded
from most RCTs**



Competing risks:

» CV prevention vs
falls, syncope, AKI



**BP becomes a
marker of frailty,
not just risk factor**



**Mismatch between
evidence and patients**



Trials → healthier,
community-dwelling



PALTC → frailty,
dementia, polypharmacy



Result →
uncertainty, variability
in practice



Bottom line: We need an approach that reflects the realities
of our PALTC residents.



GUIDELINE		SBP TARGET FOR ≥80 YEARS	FRAILITY-SPECIFIC?
NICE	NICE / ESH	<150 mmHg	⊗ No
 American Heart Association	ACC/AHA 2017	<130 mmHg (all ages)	⊗ No
 American Heart Association	ACC/AHA 2025	<130 mmHg, encourage <120 mmHg with individualization	 Mentions shared decision-making
 ACP	ACP/AAFP	<150 mmHg (≥60 years)	⊗ No
 ESC	ESC 2024	<140 mmHg if moderate-severe frailty	✓ Yes



MOST AGGRESSIVE

<130
mmHg

20
mmHg

GAP

LEAST AGGRESSIVE

<150
mmHg



EVIDENCE TIMELINE: How We Got Here

A chronological walk through the key studies



THE GREAT DEBATE: Two Camps



Camp A: “Lower Is Dangerous”

VS

Camp B: “Lower Still Works”



- **Observational data (PARTAGE 2015):**
Nursing home residents ≥ 80 years with SBP < 130 mmHg on ≥ 2 medications had **increased mortality** (HR 1.78; 95% CI 1.34–2.37) [3]



- **Cohort data (2023):**
Falls increase **14-fold** in severe frailty; AKI risk **aHR 1.44** [5]



- **Conclusion:**
Deprescribe aggressively



- **SPRINT subanalysis:**
100% of frail older adults had **net benefit** when CV benefits prioritized [6]



- **ESPRIT (2026):**
Intensive control **beneficial** across all frailty levels (P-interaction = 0.67) [1]



- **Conclusion:**
Treat to target, even in frailty



Which camp has the stronger evidence?



DEEP DIVE: RETREAT-FRAIL (NEJM 2025)



The Question:

Does stepping down antihypertensives improve outcomes in frail nursing home residents?



Design:

RCT; 1,048 residents ≥ 80 years;
SBP < 130 mmHg on > 1 drug



Intervention:

Protocol-driven step-down
(target SBP 140–150 mmHg)
vs. usual care

RESULTS



Drugs reduced (mean)

Step-down
(n=525)

2.6 → 1.5

Usual care
(n=523)

2.5 → 2.0



SBP difference

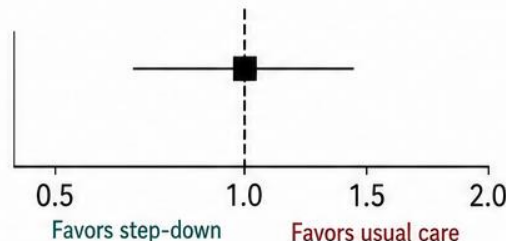
+4.1 mmHg in step-down group



All-cause mortality

Step-down
(61.7%)

Usual care
(60.2%)



Adverse events

No difference in adverse events

DEEP DIVE: ESPRIT Frailty Analysis (JACC 2026)



The Question: Does frailty modify the benefit of intensive BP control?



DESIGN

Post-hoc analysis of ESPRIT RCT;
11,255 patients with high CV risk



POPULATION BREAKDOWN

- **38.8%** Nonfrail (FI ≤ 0.210)
- **46.7%** Moderately frail (FI 0.211–0.310)
- **14.5%** Severely frail (FI ≥ 0.311)



INTERVENTION

Intensive
SBP <120 mmHg

vs.

Standard
SBP <140 mmHg

KEY RESULTS

	NONFRAIL (FI ≤ 0.210)	MODERATELY FRAIL (FI 0.211–0.310)	SEVERELY FRAIL (FI ≥ 0.311)
 MACE reduction consistent across frailty levels	RR 0.84 (95% CI 0.75–0.95)	RR 0.83 (95% CI 0.74–0.92)	RR 0.86 (95% CI 0.73–1.00)
	P-interaction = 0.67		
 All-cause mortality: Reduced across all frailty levels			
 Greater absolute risk reduction with increasing frailty			
 Safety: No difference in adverse events by frailty status			
 Trade-off: Increased kidney impairment (composite kidney outcome elevated) [1]			

HEAD-TO-HEAD: Observational vs. RCT Evidence

	PARTAGE 2015 <i>(Observational)</i>	VS.	RETREAT-FRAIL 2025 <i>(RCT)</i>
 DESIGN	 Prospective cohort		 Randomized controlled trial
 POPULATION	 Nursing home, ≥80 years		 Nursing home, ≥80 years
 FINDING	 Low SBP + multiple drugs → ↑ mortality (HR 1.78)		 Deprescribing → no mortality change (HR 1.02)
 CONFOUNDING	 Likely (reverse causation, illness severity)		 Controlled by randomization
 CONCLUSION	 Association, not causation		 Deprescribing safe but not beneficial



TAKE-HOME MESSAGE:

Observational signals can mislead. **High-quality RCTs provide the clearest answers.**

HOW TO ASSESS FRAILITY: Practical Tools

 Tool	 What It Measures	 Frailty Threshold
 Rockwood Frailty Index (FI)	31-item cumulative deficit model 	$FI > 0.21 = \text{frail}$ 
 Clinical Frailty Scale (CFS)	9-point visual scale (1=very fit → 9=terminally ill) 	$CFS \geq 4 = \text{frail}$ 
 Gait Speed	Timed 4-meter walk 	$\leq 0.8 \text{ m/s} = \text{frail}$ 
 SPPB	Balance + gait speed + chair stands (0–12 points) 	Low score = frail 

CLINICAL FRAILTY SCALE:

Rockwood Clinical Frailty Scale (CFS) — Dalhousie

LEVEL		CATEGORY
1		VERY FIT
2		WELL
3		MANAGING WELL
4		VULNERABLE
5		MILDLY FRAIL
6		MODERATELY FRAIL
7		SEVERELY FRAIL
8		VERY SEVERELY FRAIL
9		TERMINALLY ILL



IN DEMENTIA:

Frailty level corresponds to dementia severity.

1 — 2 — 3

None → Mild

4

Mild → Moderate

SHORT PHYSICAL PERFORMANCE BATTERY (SPPB)

Simple. Reliable. Predictive.



Three components. Each scored **0–4** points. Total score: **0–12**

1 BALANCE

Test three standing positions.
10 seconds each.



Side-by-Side



Semi-Tandem



Tandem Stand

Score 0–4: Ability to hold each position

2 GAIT SPEED

Walk 4 meters at your normal pace.
Time the walk.

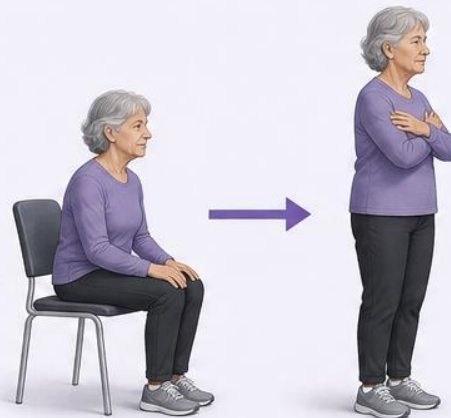


4 meters

Score 0–4: Faster time = higher score

3 CHAIR STANDS

Stand up and sit down 5 times
as quickly as possible without using arms.



Score 0–4: Faster = higher score

QUANTIFYING THE TRADE-OFFS

Evidence from frail patients and key trials

BENEFITS OF INTENSIVE CONTROL IN FRAIL PATIENTS (ESPRIT)



MACE reduction:

RR 0.86 in severely frail [1]



All-cause mortality:

Reduced across all frailty levels [1]



Greater absolute risk reduction

with increasing frailty [1]

HARMS TO MONITOR



Falls

84 per 10,000
patient-years in severe frailty
(observational) [5]



Hypotension

aHR 1.32 [5]



Syncope

aHR 1.20 [5]



AKI

aHR 1.44 [5]
Kidney impairment increased
in ESPRIT [1][5]

When to Deprescribe or Reduce Intensity

Deprescribe or reduce intensity if:



Recurrent falls or syncope



Symptomatic orthostatic hypotension



Progressive renal dysfunction
(rising creatinine)



Electrolyte abnormalities
(hyponatremia, hyperkalemia)



Functional decline
not explained by other causes





Weekly BP checks during titration



Renal function: Check at 2 weeks after any dose change



Orthostatic BP: Measure at each visit



Falls assessment: Ask at every encounter



Electrolytes: Monitor with ACEi/ARB/diuretic changes



Functional status: Document baseline and reassess quarterly



Team-based approach: Pharmacist review, PT for fall prevention

MATCHING TARGET TO CLINICAL PROFILE

Choose the SBP target based on patient profile

1

**HIGH CV RISK
+ ANY FRAILITY LEVEL**



Suggested SBP Target

130–140 mmHg

(consider <120 if tolerated)

2

**LOW BP ON MULTIPLE
DRUGS, NURSING HOME**



Suggested SBP Target

Deprescribing

safe but optional

3

**MODERATE FRAILITY,
COMMUNITY-DWELLING**



Suggested SBP Target

<140 mmHg

individualize to <130

4

**SEVERE FRAILITY
+ LOW CV RISK**



Suggested SBP Target

≤150 mmHg

may be reasonable

WHAT CHANGED IN 2025–2026: SUMMARY



THEN

(Observational Era):



“Intensive BP control harms frail older adults”



“Deprescribe when SBP <130 mmHg”



“Use age to set targets”



NOW

(RCT Era):



ESPRIT 2026:

Intensive control beneficial even in severe frailty [1]



RETREAT-FRAIL 2025:

Deprescribing is safe but does not improve mortality [4]



Pooled analysis 2026:

Frailty index > chronological age for setting targets [10]



THE NEW APPROACH:



Individualize
based on
frailty + CV risk +
life expectancy



Intensive control
is feasible —
titrate carefully



Monitor
for falls, AKI,
syncope



Use
team-based
care

BACK TO NORA: Applying the Framework



NORA

- 87-year-old nursing home resident
- **CFS 6** (moderately frail), uses a walker
- Prior stroke, diabetes, CKD stage 3
- **Current BP:** 145/75 mmHg
- **Medications:** Lisinopril 10 mg, amlodipine 5 mg



Step 1 — Frailty:

CFS 6 (moderately frail)



Step 2 — CV Risk:

HIGH (prior stroke, diabetes, CKD stage 3)



Step 3 — Target:

140 mmHg (consider 130 if tolerated)

- Per **ESPRIT**: Intensive control beneficial even in severe frailty with high CV risk (RR 0.86; P-interaction = 0.67) [1]



Step 4 — Plan:

- Increase amlodipine 5 mg → 10 mg
- Weekly BP checks
- Renal function in 2 weeks
- PT consult for fall prevention
- Pharmacist medication review
- **Timeline:** Expect 2–3 months to reach target



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Thank you

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