Pragmatic prescribing to reduce harm for older people with moderate to severe frailty

British Geriatrics Society
Improving healthcare for older people

Moderate frailty (CFS 6)

Individual needs help with some aspects of personal care (e.g. washing or dressing), may struggle on stairs, may no longer go out alone

Severe frailty (CFS 7-9)

Individual needs help will all personal care or receiving palliative care

Key aims		• **Use shared decision-making to establish patient goals.** • **More lenient therapeutic targets may better balance medication harms and benefits.**	• **Symptom control.**
Common conditions	**Potential harm from medicines**	**Adjustment**	**Adjustment**
Hypertension	• Falls Fractures • Electrolyte imbalance • Acute kidney injury	More lenient target – average systolic BP in range 140-160 mmHg.[1] Measure BP when sitting and one minute after standing – use lower value for therapeutic decisions.[2]	No BP target – harms likely to exceed benefits. Deprescribing advised.
Type 2 Diabetes	• Hypoglycaemia, leading to cognitive decline/falls	HbA1c target 60 to 75 mmol/mol.[3]	Avoid symptomatic hyper/hypoglycaemia. Simplify prescription.
Cholesterol	• Myalgia • Sarcopenia • Functional decline	Primary prevention: deprescribing advised. Secondary prevention: NNT likely to exceed 100/year to prevent one cardiovascular event – discuss stopping.[4]	Harms likely to exceed benefits. Deprescribing advised.
Heart failure with reduced ejection fraction	• Hypotension • Volume depletion • Falls	Limiting prescribing to fewer than the 'four pillars' may be a better balance of risks and benefits.[5] **ARNI/ACEi** Hypotension, hyperkalaemia. **Beta-blocker** Orthostatic hypotension. **MRA** Dehydration, hyperkalaemia. **SGLT2i** Dehydration, urinary tract infection, thrush.	Continue loop diuretics for fluid overload only.
Osteoporosis	• Therapeutic burden	If on bisphosphonate >3 years, then little evidence of benefit of continuation for next 3 years - discuss stopping.[6]	Treatment unlikely to be beneficial if immobile or in last year of life.
Cognitive impairment	• Accelerated cognitive decline • Falls • Fractures	Minimise exposure to anticholinergic medicines.[7] Evaluate ongoing risk/benefit of any antipsychotic or sedative medications, favouring deprescribing if possible.	Continue anti-dementia drugs if ongoing symptomatic benefit.

General guidance

Use shared decision making (NICE NG197)
Ensure clear communication with patient (or representative): the aim is that each patient is taking only medicines that have real value for them and avoiding medication-related harm. Decisions can be supported by NNT data.[8] But very few people with moderate or severe frailty have been included in clinical trials of medicines. Reduced life expectancy will attenuate prognostic benefits seen in less frail people.

Benefits
Medicines taken for prognostic reasons should be re-evaluated and deprescribing offered.

Risks
Polypharmacy increases the risk of drug adverse effects and therapeutic burden.
Frailty increases the risk of adverse drug effects e.g. via weight loss or renal impairment.

Alternatives
Harms may exceed benefits for medicines.
Anticholinergic/antipsychotic/sedative medicines are very likely to cause adverse effects.
Symptomatic hypo/hyperglycaemia and fluid overload/dehydration should be avoided.
Deprescribing should be offered for medicines that are not providing on-going symptomatic benefit.

What if I do nothing?
Not addressing problematic polypharmacy exposes patients to avoidable harm.

Evaluate adherence (NICE CG76). Follow guidance for multimorbidity (NICE NG56) and medicines optimisation (NICE NG5).

CFS = Clinical Frailty Scale,9 BP = blood pressure, NNT = number needed to treat, ARNI = angiotensin receptor neprilysin inhibitor, ACEi = ACE inhibitor, MRA = mineralocorticoid antagonist, SGLT2i = sodium glucose co-transporter 2 inhibitor.

Clinical Frailty Scale (CFS) icons reproduced with permission from The Geriatric Medicine Research Team, Dalhousie University.

Notes

This is version 1 of the guidance, first published November 2025 and due for review in September 2028.

NICE has confirmed (November 2025) that this tool supports NICE guidance on multimorbidity (NG56), medicines adherence (CG76) and medicines optimisation (NG5) and that it is consistent with recommendations in relevant clinical guidelines.

1. A Cochrane review of hypertension treatment for people aged over 80 years found an absolute risk reduction of 2.9% over an average of 2.2 years for the outcome of cardiovascular mortality and morbidity, equating to NNT 35 for 2.2 years (i.e. 77 per year). Trial criteria are likely to have limited recruitment of people living with frailty. For example, the largest trial excluded people with heart failure or dementia, and nursing home residents. Musini et al. 2019 https://doi.org/10.1002/14651858.CD000028.pub3
   An analysis of primary care observational data found a lowest risk of mortality with systolic BP 140–160 mmHg for people aged over 75 years. In addition, categorising people by an electronic frailty index found no survival benefit from antihypertensive medication for people with moderate or severe frailty. A more lenient target than systolic BP 140-160 mmHg may be appropriate for some people living with frailty who are experiencing adverse drug effects or therapeutic burden. Masoli et al. 2020 https://doi.org/10.1093/ageing/afaa028
   There is a high prevalence of white coat effect, being present in around a third of people with hypertension. de la Sierra et al. 2017 https://doi.org/10.1097/HJH.0000000000001493
   Assessing average BP over a series of readings, home BP monitoring, or 24-hour ambulatory measurements can reduce the risk of inadvertent overtreatment.
   Due to higher risk of orthostatic hypotension, alpha-blockers, beta-blockers and centrally-acting medicines are usually the first considered for deprescribing.

2. NICE guidance for hypertension in adults [NG136 https://www.nice.org.uk/guidance/ng136] advises also measuring BP one minute after standing for people with symptoms suggestive of orthostatic hypotension, falls, or type 2 diabetes, and all people aged over 80. The lower value obtained should guide therapeutic decisions. Orthostatic hypotension is common, affecting around 25% of people aged over 85 or living in residential care. Gilani et al. 2021 https://doi.org/10.1136/bmj.n922
   Not checking for orthostatic hypotension risks inadvertent overtreatment.

3. In England, the Quality Outcomes Framework 2024/25 indicator DM021 sets a target HbA1C 75 mmol/mol or less for people with moderate to severe frailty. Limited life expectancy reduces the risk of developing vascular complications. The risk of hypoglycaemia can be reduced by setting more lenient targets. Episodes of hypoglycaemia expose people to avoidable harm, including the risk of developing dementia. Kim et al. 2020 https://doi.org/10.4093/dmj.2018.0260

4. Older people have been underrepresented in clinical trials of statins (8% of participants age over 75, very few aged over 80). A meta-analysis of trial data suggests a smaller absolute risk reduction for people aged over 75 than any other age category. In this group, the NNT per year per mmol/L reduction in LDL cholesterol to prevent a major vascular event being approximately 200. Cholesterol Treatment Triallists' Collaboration 2019 https://doi.org/10.1016/S0140-6736(18)31942-1

5. Guidelines recommend the combination of four medication types for all people with heart failure with reduced ejection fraction: angiotensin receptor blocker plus neprilysin inhibitor (ARNI) [or an ACE inhibitor (ACEi)], beta-blocker, mineralocorticoid receptor antagonist (MRA) and sodium-glucose co-transporter 2 inhibitor (SGLT2i). The average age of relevant trial participants was lower than seen in usual practice and few people with moderate or severe frailty were recruited Woodford et al. 2024 https://doi.org/10.1136/bmj-2023-078188 . As a result, it is hard to balance the potential risks and benefits of these medicine types. Awareness of potential adverse effects for people living with frailty and using a shared decision-making approach can help to individualise care. Fewer than all four medicine classes will be preferable for some people.

a.	ARNI/ACEi	Highest risk of hypotension, may cause hyperkalaemia
b.	Beta-blocker	Smaller effect on BP but can cause orthostatic hypotension
c.	MRA	Risk of dehydration, hyperkalaemia and hyponatraemia
d.	SGLT2i	Risk of dehydration, genital candidiasis and urinary tract infection

6. This recommendation is taken from the NICE multimorbidity guidance [NG56 https://www.nice.org.uk/guidance/ng56]. Bisphosphonates bind to hydroxyapatite crystals to inhibit osteoclast-mediated bone resorption. The molecules remain bound to bone tissue for several years. A key trial that compared continuation of alendronate to switching to a placebo found that there was no significant difference in total clinical fractures between alendronate continuation and placebo over the following 5 years. But there was a lower risk of clinical vertebral fracture (NNT = 34 for 5 years to prevent one fracture). Black et al. 2006 https://doi.org/10.1001/jama.296.24.2927

7. Prolonged exposure to a strong anticholinergic medicine (e.g. bladder anticholinergics, amitriptyline) or a combination of medicines with additive anticholinergic effects (e.g. many antidepressants, antipsychotics, sedatives, opiates) is associated with a doubling of the risk of developing dementia. Taylor-Rowan et al. 2021 https://doi.org/10.1002/14651858.CD013540.pub2

8. GP Evidence https://gpevidence.org/

9. Clinical Frailty Scale https://www.dal.ca/sites/gmr/our-tools/clinical-frailty-scale.html . The CFS is not suitable for use in people aged under 65 or people with stable single system disabilities.