

Hydralazine can be particularly effective for severe hypertension in pregnancy and can be administered intravenously in hypertensive admissions (Section 10).^{666–668} While thiazide diuretics in pregnancy have limited safety data and should be used with caution, other diuretics such as furosemide are not contraindicated and may be necessary in some situations (see [Supplementary data online](#)).⁶⁶⁹

9.2.8. Managing severe hypertension in pregnancy (>160/110 mmHg)

Acute onset of severe hypertension persisting for more than 15 min is considered a hypertensive emergency in pregnancy and is covered in Section 10.4.2.

9.2.9. Managing blood pressure post-partum

For women with hypertension during pregnancy, BP should be measured within 6 h of delivery and, if possible, daily for at least a week after discharge from the hospital.⁶³⁷ Post-partum hypertension is common in the first week and associated with prolonged hospitalization.⁶⁷⁰

Women with hypertension in pregnancy are at increased risk of chronic hypertension,⁶⁷¹ CKD,⁶⁷² and CVD.^{177,223,640} The relative risk of chronic hypertension is highest in the first 6 months following delivery, motivating regular screening in these women.⁶⁷³ Women with gestational hypertension, especially those with pre-eclampsia, have higher risk of masked hypertension.⁶⁷⁴ BP measurements, ideally including out-of-office measurements, urine analyses, and CVD risk assessment, should at least be performed 6–12 weeks, 6 months, and 12 months post-partum and, after that, annually. Recent data indicate the potential utility of self-monitoring of BP during the busy early post-partum period.⁶⁷⁵

All BP-lowering drugs are excreted into breast milk.⁶³⁷ Except for propranolol, atenolol, acebutolol, and nifedipine, most drugs are excreted in very low concentrations in breast milk (see [Supplementary data online, Table S11](#)).⁶³⁷

9.2.10. Risk of recurrence of hypertensive disorders in a subsequent pregnancy

About 20%–30% of women with hypertensive disorders in a previous pregnancy will experience recurrence in a subsequent pregnancy.^{676,677} The earlier the onset of hypertension in the first pregnancy, the higher the risk of recurrence in a subsequent pregnancy.⁶⁷⁷

Further details on managing hypertension and other cardiovascular disorders in pregnancy are available elsewhere.^{89,637}

Recommendation Table 22 — Recommendations for managing hypertension in pregnancy (see Evidence Tables 38–40)

Recommendations	Class ^a	Level ^b
In women with gestational hypertension, starting drug treatment is recommended for those with confirmed office systolic BP $\geq$ 140 mmHg or diastolic BP $\geq$ 90 mmHg. ⁶⁶¹	I	B
In pregnant women with chronic hypertension, starting drug treatment is recommended for those with confirmed office systolic BP $\geq$ 140 mmHg or diastolic BP $\geq$ 90 mmHg. ^{88,660,661,678}	I	B

Continued

In women with chronic and gestational hypertension, it is recommended to lower BP below 140/90 mmHg but not below 80 mmHg for diastolic BP.	I	C
Dihydropyridine CCBs (preferably extended-release nifedipine), labetalol, and methyldopa are recommended first-line BP-lowering medications for treating hypertension in pregnancy.	I	C
In consultation with an obstetrician, low- to moderate-intensity exercise is recommended in all pregnant women without contraindications to reduce the risk of gestational hypertension and pre-eclampsia. ^{654,655}	I	B
Systolic BP $\geq$ 160 mmHg or diastolic BP $\geq$ 110 mmHg in pregnancy can indicate an emergency, and immediate hospitalization should be considered.	IIa	C
HBPM and ABPM should be considered to exclude white-coat and masked hypertension, which are more common in pregnancy. ⁶⁷⁹	IIa	C
RAS blockers are not recommended during pregnancy. ^{680,681}	III	B

ABPM, ambulatory blood pressure monitoring; BP, blood pressure; CCB, calcium channel blocker; HBPM, home blood pressure monitoring; RAS, renin–angiotensin system.

^aClass of recommendation.

^bLevel of evidence.

9.3. Very old age ($\geq$ 85 years), frailty, multimorbidity, and polypharmacy

9.3.1. Definition of frailty

The most common definition of frailty is an age-associated, biological syndrome characterized by decreased biological reserves, due to dysregulation of several physiological systems.⁶⁸² This puts an individual at risk when facing physiological stressors, and is associated with poor outcomes, such as disability, hospitalization, and death.⁶⁸³ The estimated prevalence of frailty in people aged $>$ 65 years is 7%–16% and is greater in women than in men.^{684,685} Although the main determinant of frailty is age, chronological age must be differentiated from biological age.⁶⁸⁶ An older patient can be fit and robust while a multimorbid young patient can be frail. Using multiple drugs may have more unpredictable effects on BP in older patients, because of increased competition for underlying mechanisms responsible for their degradation and elimination, and because the ability of the baro-⁶⁸⁷ and chemo-reflex⁶⁸⁸ systems in maintaining a steady treated BP level can decline with ageing.

With respect to BP, two issues compound interpretation of the frailty literature. First, frailty on its own is a strong predictor of mortality and cardiovascular complications⁶⁸⁹ and is accompanied by a decrease in systolic BP.⁶⁹⁰ This raises the issue of the so-called BP J-curve (see Section 9.8) and reverse causality, with frailty rather than excessive BP lowering being the root cause of adverse health outcomes. Only properly randomized and controlled clinical trials can differentiate between the effects of frailty vs. overly intensive BP-lowering treatment, but unfortunately, few BP-lowering trials have included a substantial proportion of frail patients. Second, there is no consensus on how to grade frailty in day-to-day clinical practice.⁶⁰⁶ Complex frailty scales exist for application in research,^{523,691} but unless they are electronically generated,⁶⁹² they are typically not practical in routine clinical care. Nonetheless, the clinical frailty scale ([Figure 21](#)) is intuitive and easy to administer and has been validated against 5-year risk of death.^{596,693}