

TABLE 18 GDMT for Patients With Hypertension and HFrEF

Drug Class	Notes on Use
BB	In patients with HFrEF, even if asymptomatic, use 1 of the 3 BBs proven to reduce mortality and hospitalizations (bisoprolol, carvedilol, metoprolol succinate).
MRA	In patients with symptomatic HFrEF, spironolactone or eplerenone is recommended to reduce morbidity and mortality if eGFR is >30 mL/min/1.73 m ² and potassium is <5.0 mEq/L.
RAASi with ACEi or ARB or ARNi	In patients with HFrEF and NYHA functional class II to III symptoms, ARNi is recommended to reduce morbidity and mortality. When the use of ARNi is not feasible, ACEi or ARB is recommended to reduce morbidity and mortality.
SGLT2i	SGLT2i are recommended in patients with symptomatic HFrEF to reduce hospitalization and cardiovascular mortality irrespective of the presence of type 2 diabetes.
Additional GDMT to be added as indicated	
Hydralazine and isosorbide dinitrate	For patients self-identified as Black with NYHA functional class III to IV HFrEF who are receiving optimal medical therapy, the combination of hydralazine and isosorbide dinitrate is recommended to improve symptoms and reduce morbidity and mortality. In patients with current or previous symptomatic HFrEF who cannot be given first-line agents, such as ARNi, ACEi, or ARB, because of drug intolerance or renal insufficiency, a combination of hydralazine and isosorbide dinitrate might be considered to reduce morbidity and mortality.

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ACEi indicates angiotensin-converting enzyme inhibitors; ARB, angiotensin receptor blockers; ARNi, angiotensin receptor-neprilysin inhibitors; BB, beta blocker; eGFR, estimated glomerular filtration rate; GDMT, guideline-directed medical therapy; HFrEF, heart failure with reduced ejection fraction; MRA, mineralocorticoid receptor antagonist; NYHA, New York Heart Association; RAASi, renin-angiotensin-aldosterone system inhibitors; and SGLT2i, sodium-glucose cotransporter inhibitors.

hospitalization, CVD events, and mortality.¹ Appropriate use of diuretics is crucial to the success of other antihypertensive medications in the presence of HFpEF and should be used for signs and/or symptoms of volume overload.^{1,2} RAASi are indicated for management of HFpEF to attain an SBP of <130 mm Hg, especially with an MRA or ARNi, or ARB when ARNi is not feasible.¹⁻³ BB are not recommended for hypertension management with HFpEF given negative chronotropic effects and should be restricted to specific comorbid conditions (eg, arrhythmia, ACS).^{1,2} SGLT2i are used frequently for HFpEF treatment (with and without diabetes), unless contraindicated, to reduce the risk of hospitalization and cardiovascular mortality.^{1,4-6} SGLT2i may lower BP; therefore, adjustment in other antihypertensive medications may be indicated if signs or symptoms of hypotension are present.^{2,3,5} For more information on the management of and guidelines for HFpEF in adults, see the “2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure,” and the “2023 ACC Expert Consensus Decision Pathway on Management of Heart Failure With Preserved Ejection Fraction.”^{1,2}

5.3.5. Atrial Fibrillation

Synopsis

Hypertension has the highest attributable risk for the development of AF.^{1,2} It is present in >80% of patients with AF and is the most common comorbid condition, regardless of age.^{1,2} Both AF and hypertension increase in frequency with age,^{3,4} and because of the close relationship between BP and AF, hypertension remains a key component in several AF and CVD risk prediction scores.^{1,5} BP control in individuals with hypertension reduces the risk for incident AF,^{3,5} especially in patients with HF.⁶ In adults with AF and hypertension, optimal BP control reduces rates of MACE, including stroke.⁷ Lifestyle modifications that result in lower BP may decrease the recurrence of AF.¹ Small studies and secondary analyses of RCTs reported lower incident AF with ACEi or ARB,¹ and 2 meta-analyses suggest reduction in recurrent AF with ACEi or ARB,⁸ although more definitive evidence is needed. RCTs and observational studies suggest that MRAs reduce AF burden.^{1,9} Control of hypertension is a key component of AF management,⁸ although optimal treatment targets for the management of hypertension in AF remain unclear. Therefore, it is reasonable to apply general hypertension guidelines to adults with AF,⁸ which would include attaining a goal BP of <130/80 mm Hg. For detailed discussion of AF management, see [Section 5.2.8](#) and [Table 3](#) in the “2023 ACC/AHA/ACCP/HRS Guideline for the Diagnosis and Management of Atrial Fibrillation.”¹

5.3.6. Valvular Heart Disease

Synopsis

There are no recommendations based on sufficiently strong evidence for the management of adults with hypertension and valvular heart disease other than for aortic stenosis or chronic aortic regurgitation.¹ Uncontrolled hypertension among individuals with moderate to severe aortic stenosis and/or aortic regurgitation is associated with worsening symptoms, HFrEF, and death.²⁻⁵ Data support the use of antihypertensive medications to control BP in adults with aortic stenosis and/or chronic aortic regurgitation and hypertension. Among adults with severe aortic stenosis who have undergone transcatheter aortic valve implantation, the use of ACEi or ARB to achieve BP control is associated with reduced mortality.⁶ However, there are no data from RCTs that examined optimal BP targets for adults with hypertension and chronic aortic regurgitation. Chronic aortic regurgitation is often accompanied by a wide pulse pressure, and medications that lower heart rate may paradoxically increase SBP.^{7,8} The use of ACEi and ARB in adults with chronic moderate to severe aortic regurgitation and hypertension is associated with