Clinical Guidance for the Use of Formulary Long-Acting Dihydropyridine Calcium Channel Blockers

VHA Pharmacy Benefits Management Strategic Healthcare Group and the Medical Advisory Panel

The recommendations are based on current medical evidence and expert opinion from clinicians. The content of the document is dynamic and will be revised as new clinical data become available. The purpose of this document is to assist practitioners in clinical decision-making, to standardize and improve the quality of patient care, and to promote cost-effective drug prescribing. The clinician should utilize this guidance and interpret it in the clinical context of the individual patient.

The following recommendations are provided for clinicians considering the use of a formulary long-acting dihydropyridine (LA DHP) calcium channel blocker (CCB) (e.g., amlodipine, felodipine, long-acting nifedipine) for the treatment of hypertension (HTN) and/or angina. Short-acting nifedipine should not be used for these conditions.

Hypertension (Amlodipine, Felodipine, or Long-Acting Nifedipine)

Thiazide-type diuretics are the preferred first line agents for patients with uncomplicated HTN. In addition, most patients will require more than one agent to control their blood pressure. Another class of medication [e.g., angiotensin-converting enzyme inhibitor (ACEI), long-acting CCB] may be considered in patients who have a contraindication to or are inadequately controlled on a thiazide-type diuretic OR in patients who have an indication for an agent in another antihypertensive class (e.g., beta-blocker in a patient with prior-myocardial infarction or symptomatic coronary ischemia; ACEI and beta-blocker in patients with systolic heart failure). For additional information, refer to www.oqp.med.va.gov for the VHA/DoD Clinical Practice Guideline for Management of Hypertension in Primary Care.

A formulary LA DHP may be considered in patients with HTN if they experience/have:

- Inadequate control on a thiazide-type diuretic
- Documented intolerance to a thiazide-type diuretic
- Contraindication to a thiazide-type diuretic
- Compelling indication for a LA DHP

Angina (Amlodipine, Felodipine, or Long-Acting Nifedipine)

Patients with angina should be treated with a beta-adrenergic blocker. A CCB may be an option when a beta-adrenergic blocker alone or in combination with a long-acting nitrate is ineffective or contraindicated. Selection of a non DHP CCB (e.g., diltiazem, verapamil) vs. a long-acting DHP in patients not on a beta-adrenergic blocker may depend on patient specific considerations. If a CCB is being considered in addition to therapy with a beta-adrenergic blocker, the long-acting DHP CCBs are preferred due to the potential for bradycardia or atrioventricular block with a non DHP CCB in combination with a beta-adrenergic blocker. A CCB may also be considered for additional blood pressure control and in patients with variant (Prinzmetal) angina. In addition, it is recommended that all patients with coronary artery disease who also have left ventricular systolic dysfunction and/or diabetes mellitus should be treated with an ACEI, unless contraindicated. For additional information, refer to www.oqp.med.va.gov for the VA/DoD Clinical Practice Guideline for Management of Ischemic Heart Disease.

A formulary LA DHP may be considered in patients with angina if they experience/have:

- Inadequate control on a beta-adrenergic blocker
- Documented intolerance to a beta-adrenergic blocker
- Contraindication to a beta-adrenergic blocker
- Variant (Prinzmetal) angina and unable to tolerate or does not respond to diltiazem or verapamil

Hypertension and/or Angina in Patient with Concomitant Heart Failure (Amlodipine or Felodipine)

Patients with systolic HF and concomitant HTN should be maximized on therapy with agents such as diuretics, ACEIs, and beta-adrenergic blockers, and an angiotensin II receptor antagonist (ARB), hydralazine/nitrate, or aldosterone antagonist, as indicated; or beta-adrenergic blockers and long-acting nitrates in patients with concomitant angina, before adding other agents. In patients not adequately controlled on these agents, treatment with amlodipine or felodipine may be considered; these recommendations are based on data in patients with HF treated with amlodipine (patients enrolled in PRAISE on amlodipine included ~ 81% in NYHA class III HF, 19% in class IV, with a mean ejection fraction 21%), and in another trial of patients with HF treated with felodipine (patients evaluated in V-HeFT III on felodipine included ~ 79% patients in NYHA class II HF, 22% in class III, with a mean ejection fraction 29%). The CCBs diltiazem, nifedipine, and verapamil should be avoided in patients with systolic dysfunction. For additional information, refer to www.oqp.med.va.gov for the PBM-MAP Pharmacologic Management of Patients with Chronic Heart Failure.

A formulary LA DHP may be considered in the following clinical situations:

- For the treatment of **HTN** in patients with concomitant HF who are not adequately controlled on, or have documented intolerance or a contraindication to a diuretic, ACEI, beta-adrenergic blocker, and ARB, hydralazine, or aldosterone antagonist, as indicated
- For the treatment of **angina** in patients with concomitant HF who are not adequately controlled on, or have documented intolerance or a contraindication to a beta-adrenergic blocker and long-acting nitrate