UNC HEALTH CARE
CENTER FOR EXCELLENCE IN CHRONIC ILLNESS CARE

Antihypertensive Algorithm for Patients without Diabetes

Updated July 25, 2006

Divisions:
General Internal Medicine

This algorithm is based on best evidence and group consensus. It is not intended to apply to patients with co-morbidities such as diabetes (see diabetes and HTN algorithm), advanced renal disease (CrCl<30 or Cr>1.7), recent MI, decompensated CHF, etc.

Equivalency Chart for ACE-Inhibitors	Preferred Agent
Benazepril 10 mg	Enalapril 5 mg (Optimal 20 mg)
Captopril 12.5 mg BID	Enalapril 5 mg (Optimal 20 mg)
Ramipril 2.5 mg	Enalapril 5 mg (Optimal 20 mg)
Fosinopril 10 mg	Enalapril 5 mg (Optimal 20 mg)
Lisinopril 10 mg	Enalapril 5 mg (Optimal 20 mg)
Moexipril 7.5 mg	Enalapril 5 mg (Optimal 20 mg)
Quinapril 10 mg	Enalapril 5 mg (Optimal 20 mg)
Trandolapril 1 mg	Enalapril 5 mg (Optimal 20 mg)

Equivalency Chart for Angiotensin II Blockers	Preferred Agent
Candesartan 8 mg	Losartan 25 mg (Optimal 100 mg)
Irbesartan 75 mg	Losartan 25 mg (Optimal 100 mg)
Telmisartan 40 mg	Losartan 25 mg (Optimal 100 mg)
Valsartan 80 mg	Losartan 25 mg (Optimal 100 mg)

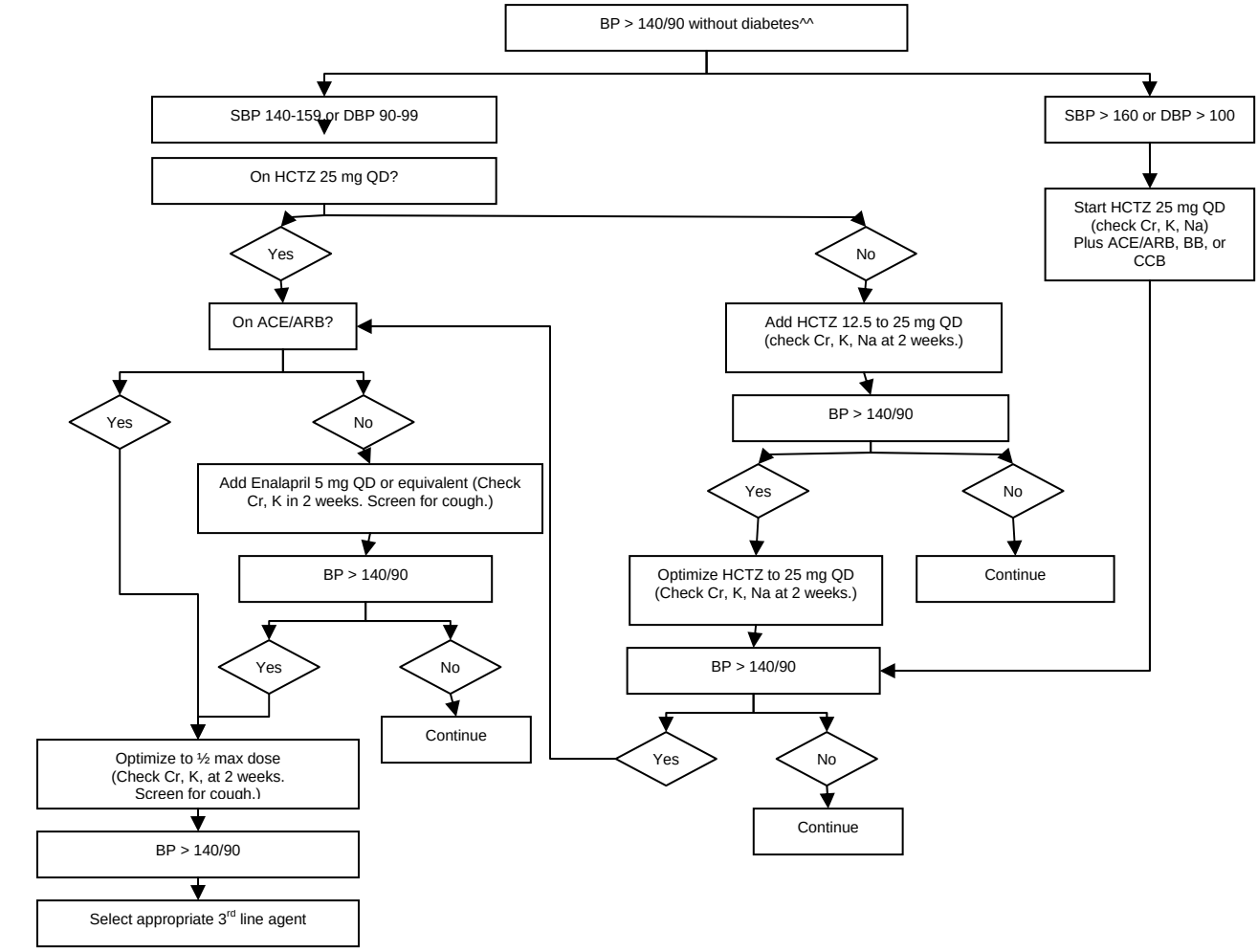
Equivalency Chart for β-Blockers	Preferred Agent
Betaxolol 10 mg/day	Atenolol 50 mg/day (Optimal dose per HR)
Bisoprolol 5 mg/day	Atenolol 50 mg/day (Optimal dose per HR)
Metoprolol 100 mg/day	Atenolol 50 mg/day (Optimal dose per HR)
Nadolol 40 mg/day	Atenolol 50 mg/day (Optimal dose per HR)
Timolol 20 mg/day	Atenolol 50 mg/day (Optimal dose per HR)

Doses listed are representative of equivalent doses and should be used to calculate other doses. For example, if a patient comes to clinic on benazepril 20 mg, the equivalent ramipril dose would be 5 mg.

Dihydropyridine CCB	Optimal Dose
Amlodipine*	10 mg/day (Start 5 mg; consider 2.5 mg in elderly)
Felodipine*	10 mg/day (Start 5 mg; consider 2.5 mg in elderly)

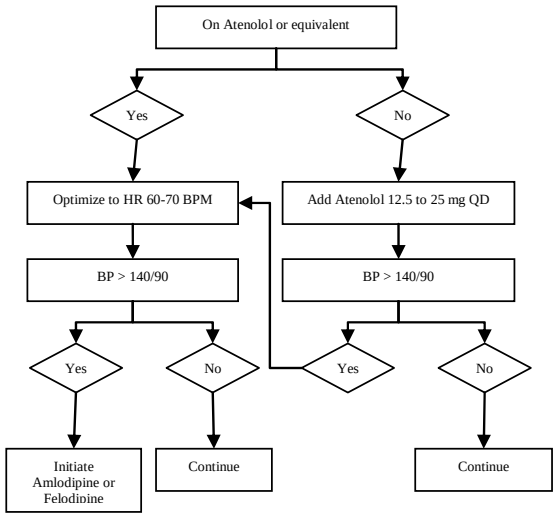
Modifying Circumstances and Exceptions^^

- Consider substitution for HCTZ if Cr > 1.7 or CrCl < 30
- Consider substitution for HCTZ if use associated with recalcitrant gout
- Prioritize beta-blocker use in patients with angina and MI within past year
- Avoid maximum dose of selective beta-blockers in patients with severe asthma
- ACEi and ARB should be used first-line in conjunction with a diuretic for systolic dysfunction
- Use ARB for ACEi-induced cough



Third Line Option A:

- Choose for recent MI, angina, or CHF or in those with intolerable side effects of CCB (significant peripheral edema).
- Consider over CCB if cost to the patient is a factor.



Third Line Option B:

- Maybe be preferred if the patient is at a high risk of stroke or in those with intolerable side effects to beta-blocker.
- Although Felodipine is generic and Amlodipine will be generic soon, cost to the cash paying patient will be significantly more than other preferred antihypertensives or beta-blockers.