Hypertension Algorithm for Diabetes in Adults

Start ACE inhibitor (ACEI) therapy if microalbuminuria or nephropathy present (Table 1)
- IF African-American- Start ACEi in combination with diuretic or CCB
- IF SBP ≥145mmHg and/or DBP≥90mmHg
  - Start with combination antihypertensive therapy

Follow-up BP each visit
- If microalbuminuria or nephropathy present (Table 1)

Assess Blood Pressure
- BP ≤130/80 mmHg
- BP>130/80 mmHg

Continue Therapy
- BP Check Every Visit

Add Diuretic OR Calcium Channel Blocker (CCB) OR Beta Blocker
- Creatinine <1.8 mg/dL
- Creatinine ≥1.8 mg/dL
- Thiazide diuretic
  - Loop Diuretic
  - Max. dose 25mg Hydrochlorothiazide or equivalent

Add medication not chosen from above OR Go to Alternative Treatment

DBP Diastolic Blood Pressure
MI Myocardial Infarction
SBP Systolic Blood Pressure

Table 1
Microalbuminuria/Proteinuria
- In Type 2 patients, an ACEi or angiotensin receptor blocker (ARB) may be used first line.
- In Type 1 patients, an ACEi is recommended to reduce protein excretion
- Consider the use of verapamil or diltiazem in patients with proteinuria unable to tolerate ACEi or ARBs.

Footnotes
1 Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure: The seventh report of the Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure (JNC 7). JAMA. 2003;289(19):2560-72; consider secondary causes as appropriate
2 Maintain non-pharmacological therapy throughout treatment. Medical Nutrition Therapy Algorithm = low sodium diet (<2.4 g/day; if ≥ age 50, ≤ 1.5 g/day) + limit alcohol intake (1 oz./day for men, 0.5 oz./day for women) Weight Loss and Exercise Algorithms
4 Monitor serum K+ and creatinine periodically
5 If intolerant to ACEi (except angioedema) consider angiotensin receptor blocker (ARB).
6 Am J Kids Dis. 2000;36:646-61
7 Metoprolol, carvedilol, bisoprolol, atenolol
8 Amlodipine, felodipine, isradipine, nicardipine, nisoldipine

ADD: Medication not chosen from above OR Go to Alternative Treatment

***Alternative treatment
BP >130/80 mmHg despite above agents or if intolerance/contraindications exist:
- Refer to Specialist (Endocrinologist or Nephrologist)
- OR
- ADD: α blocker, hydralazine, clonidine (caution with β blocker)

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1 or 2 – Hypertension Algorithm for Diabetes in Adults – Revised 1/26/12
**HYPERTENSION ALGORITHM FOR DIABETES IN ADULTS**

### Proper blood pressure assessment

### ACE inhibitor as 1st line therapy in Diabetes Mellitus


### Diuretic as second line

### Beta-Blocker as second line


**Verapamil or Diltiazem**


### Dihydropyridine calcium channel blockers


### Alpha-Blockers

Major cardiovascular events in hypertensive patients randomized to doxazosin vs chlorthalidone. (ALLHAT Data) *JAMA* 283:1967–75, 2000

**Blood Pressure Goal <130/80**


### Tight blood pressure control and risk of macrovascular and microvascular complications in type 2 diabetes: UKPDS 38 *BMJ* 317:703–13, 1998

**Urinary Protein Excretion >1 gram/ 24 hour BP goal <125/75**


**Angiotensin Receptor Blockers**


**African Americans**


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