



## **Important Messages from The Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT)**

ALLHAT, a randomized, double-blind, multi-center, clinical trial sponsored by the National Heart, Lung, and Blood Institute, was designed to determine whether the occurrence of coronary heart disease is lower for high-risk hypertensive patients treated with a CCB (amlodipine), an ACEI (lisinopril), or an alpha blocker (doxazosin), each compared with diuretic treatment (chlorthalidone). A lipid-lowering subtrial was designed to determine whether lowering cholesterol with an HMG Co-A reductase inhibitor (pravastatin) compared with usual care reduced mortality in a moderately hypercholesterolemic subset of participants. ALLHAT was the largest antihypertensive trial and the second largest lipid-lowering trial and included large numbers of patients over age 65, women, African Americans and patients with diabetes, treated largely in community practice settings.

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### **Antihypertensive Trial – 42,418 participants**

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- ♥ Because of the superiority of thiazide-type diuretics in preventing one or more major forms of CVD and their lower cost, they should be the drugs of choice for first-step antihypertensive therapy.
- ♥ For the patient who cannot take a diuretic (which should be an unusual circumstance), CCB's and ACEI's may be considered.
- ♥ Most hypertensive patients require more than one drug. Diuretics should generally be part of the antihypertensive regimen. Lifestyle advice should also be provided.

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### **Lipid Trial – 10,355 participants**

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- ♥ ALLHAT pravastatin and usual care groups both attained substantial cholesterol reductions, resulting in a relatively modest cholesterol difference between them.
- ♥ Accordingly, ALLHAT found only a small decrease in CVD event rates (non-significant) for pravastatin compared with usual care and no difference in mortality.
- ♥ The study results do not alter current cholesterol treatment guidelines, which are based on a series of clinical trials with larger cholesterol reductions than that observed in ALLHAT. Thus, cholesterol lowering by lifestyle changes and drug treatment is recommended to reduce CVD morbidity and mortality.

*Reference: JAMA, Volume 288. December 18, 2002.*

**Visit ALLHAT's website at: [www.allhat.org](http://www.allhat.org)**

## Risk Stratification and Treatment\*<sup>1</sup>

BP Stages (mmHg)	Risk Group A (No Risk Factors, No TOD/CCD) †	Risk Group B (1+ Risk Factors, Not Including Diabetes; No TOD/CCD)	Risk Group C (TOD/CCD and/or Diabetes)
High-normal (130-139 / 85-89)	LSM	LSM	Drug therapy§
Stage 1 (140-159 / 90-99)	LSM (up to 12 months)	LSM (up to 6 months) ‡	Drug therapy
Stages 2 & 3 (≥160 / ≥100)	Drug therapy	Drug therapy	Drug therapy

\* Lifestyle modification (LSM) should be adjunctive therapy for all patients recommended for pharmacologic therapy.

† *Major risk factors*: smoking, dyslipidemia, diabetes, age >60, men, postmenopausal women, family history. *TOD/CCD indicates target organ disease/clinical cardiovascular disease*: LVH, angina/prior MI, prior CABG, heart failure, stroke or TIA, nephropathy, peripheral arterial disease, retinopathy.

‡ For patients with multiple risk factors, consider drugs as initial therapy plus lifestyle modifications.

§ For those with heart failure, renal insufficiency, or diabetes.

### Goal Blood Pressure:

<140/90 mm Hg	Except for the following:
<130/85 mm Hg	Diabetes; renal failure; heart failure
<125/75 mm Hg	Renal failure with proteinuria >1 gram / 24 hours

<sup>1</sup>JNC 6 - Arch Intern Med 1997; 157:2413-2446.

## LDL Cholesterol Goals & Cutpoints for Therapeutic Lifestyle Changes (TLC) & Drug Therapy in Different Risk Categories<sup>2</sup>

Risk Category	LDL Goal	Initiate TLC	Consider Drug Therapy
CHD or CHD Risk Equivalents (10-year risk >20%)	<100 mg/dL	LDL ≥100 mg/dL	LDL ≥ 130 mg/dL (100-129 mg/dL: drug optional)
2+ Risk Factors* (10-year risk ≤20%)	<130 mg/dL	LDL ≥130 mg/dL	10-year risk 10-20%: LDL ≥130 mg/dL 10-year risk <10%: LDL ≥160 mg/dL
0-1 Risk Factor*	<160 mg/dL	LDL ≥160 mg/dL	LDL ≥190 mg/dL (160-189 mg/dL: LDL-lowering drug optional)

\**Risk factors*: Cigarette smoking; BP ≥ 140 mmHg or on antihypertensive medication; HDL cholesterol <40 mg/dL; family history of premature CHD; age (men ≥45 years, women ≥55 years). [The presence of HDL cholesterol ≥60 mg/dL removes one risk factor from the total count.] Diabetes is a CHD risk equivalent.

<sup>2</sup>Executive Summary, NCEP ATP III - JAMA 2001;285:2486-2497.