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.

**Antihypertensive Trial – 42,418 participants**

♥ 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.

**Lipid Trial – 10,355 participants**

♥ 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.


*Visit ALLHAT’s website at:  www.allhat.org*
## Risk Stratification and Treatment*1

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

* 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
- <130/85 mm Hg: Diabetes; renal failure; heart failure
- <125/75 mm Hg: Renal failure with proteinuria >1 gram / 24 hours

* JNC 6 - Arch Intern Med 1997; 157:2413-2446.

### LDL Cholesterol Goals & Cutpoints for Therapeutic Lifestyle Changes (TLC) & Drug Therapy in Different Risk Categories2

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>LDL Goal</th>
<th>Initiate TLC</th>
<th>Consider Drug Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHD or CHD Risk Equivalents (10-year risk &gt;20%)</td>
<td>&lt;100 mg/dL</td>
<td>LDL ≥100 mg/dL</td>
<td>LDL ≥130 mg/dL (100-129 mg/dL: drug optional)</td>
</tr>
</tbody>
</table>
| 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.