JNC 8

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Lecture Objective

- Historical context and controversies of JNC 8
- Understand the 9 recommendations of JNC 8
- Contrast JNC 7 and JNC 8
- Work through some complex cases

JNC 8 Controversies

- Why did it take so long for these guidelines to be published?
- Who agrees and who disagrees with the new guidelines?
- Other guidelines: European Society of Hypertension and Cardiology, International Society of Hypertension, American Heart Association/American College of Cardiology

What's up with the infighting?

- NHLBI (national heart, lung and blood institute) sponsored and convened the working panel of the the JNC 8 in 2008 but decided in June 2013 to get out of the guideline business. The JNC8 panel elected to publish the guidelines independently – they are not NHLBI endorsed. (Nor are they ADA or AHA endorsed)

The Minority View

- **Evidence Supporting a Systolic Blood Pressure Goal of Less Than 150 mm Hg in Patients Aged 60 Years or Older: The Minority View**
- Jackson T. Wright Jr., MD, PhD; Lawrence J. Fine, MD, DrPH; Daniel T. Lackland, DrPH; Gbenga Ogedegbe, MD, MPH, MS; and Cheryl R. Dennison Himmelfarb, PhD, RN, ANP
- *Ann Intern Med.* 2014;160(7):499-503. doi:10.7326/M13-2981
- This article was published online first at *www.annals.org* on 14 January 2014.

The American Heart Association

- A report published late in 2013 recommends healthcare providers take a new approach to treating high blood pressure for people older than 60. But based on the current research available, **the American Heart Association recommends that healthcare providers continue to follow existing guidelines for treating high blood pressure**.

JNC7: Classification and Treatment

EVALUATION

Classification of Blood Pressure (BP)*

Category	SBP mmHg		DBP mmHg
Normal	<120	and	<80
Prehypertension	120–139	or	80–89
Hypertension, Stage 1	140–159	or	90–99
Hypertension, Stage 2	≥160	or	≥100

* See *Blood Pressure Measurement Techniques* (reverse side)

Key: SBP = systolic blood pressure DBP = diastolic blood pressure

TREATMENT

Principles of Hypertension Treatment

- Treat to BP <140/90 mmHg or BP <130/80 mmHg in patients with diabetes or chronic kidney disease.
- Majority of patients will require two medications to reach goal.

Recommendation 1
In the general population aged 60 years or older, initiate pharmacologic treatment to lower BP at systolic blood pressure (SBP) of 150 mm Hg or higher or diastolic blood pressure (DBP) of 90 mm Hg or higher and treat to a goal SBP lower than 150 mm Hg and goal DBP lower than 90 mm Hg.
Strong Recommendation – Grade A

Corollary Recommendation
In the general population aged 60 years or older, if pharmacologic treatment for high BP results in lower achieved SBP (for example, <140 mm Hg) and treatment is not associated with adverse effects on health or quality of life, treatment does not need to be adjusted.
Expert Opinion – Grade E

Recommendation 2

In the general population younger than 60 years, initiate pharmacologic treatment to lower BP at DBP of 90 mm Hg or higher and treat to a goal DBP of lower than 90 mm Hg.
For ages 30 through 59 years, Strong Recommendation – Grade A
For ages 18 through 29 years, Expert Opinion – Grade E

Recommendation 3

In the general population younger than 60 years, initiate pharmacologic treatment to lower BP at SBP of 140 mm Hg or higher and treat to a goal SBP of lower than 140 mm Hg.
Expert Opinion – Grade E

Recommendation 4

In the population aged 18 years or older with CKD, initiate pharmacologic treatment to lower BP at SBP of 140 mm Hg or higher or DBP of 90 mm Hg or higher and treat to goal SBP of lower than 140 mm Hg and goal DBP lower than 90 mm Hg.
Expert Opinion – Grade E

Recommendation 5

In the population aged 18 years or older with diabetes, initiate pharmacologic treatment to lower BP at SBP of 140 mm Hg or higher or DBP of 90 mm Hg or higher and treat to a goal SBP of lower than 140 mm Hg and goal DBP lower than 90 mm Hg.
Expert Opinion – Grade E

Recommendation 6

In the general nonblack population, including those with diabetes, initial antihypertensive treatment should include a thiazide-type diuretic, calcium channel blocker (CCB), angiotensin-converting enzyme inhibitor (ACEI), or angiotensin receptor blocker (ARB).
Moderate Recommendation – Grade B

Recommendation 7

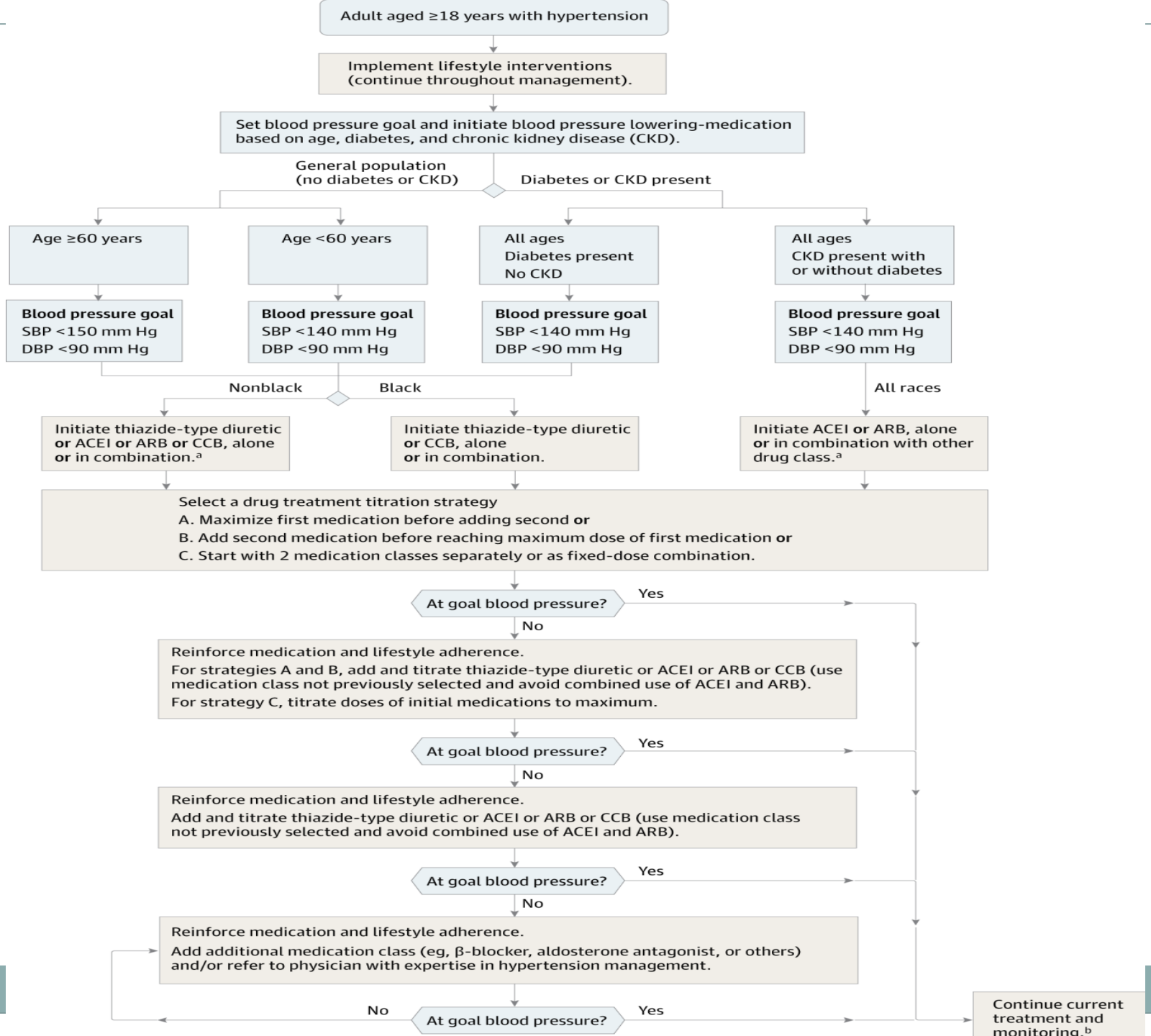
In the general black population, including those with diabetes, initial antihypertensive treatment should include a thiazide-type diuretic or CCB.
For general black population: Moderate Recommendation – Grade B
For black patients with diabetes: Weak Recommendation – Grade C

Recommendation 8

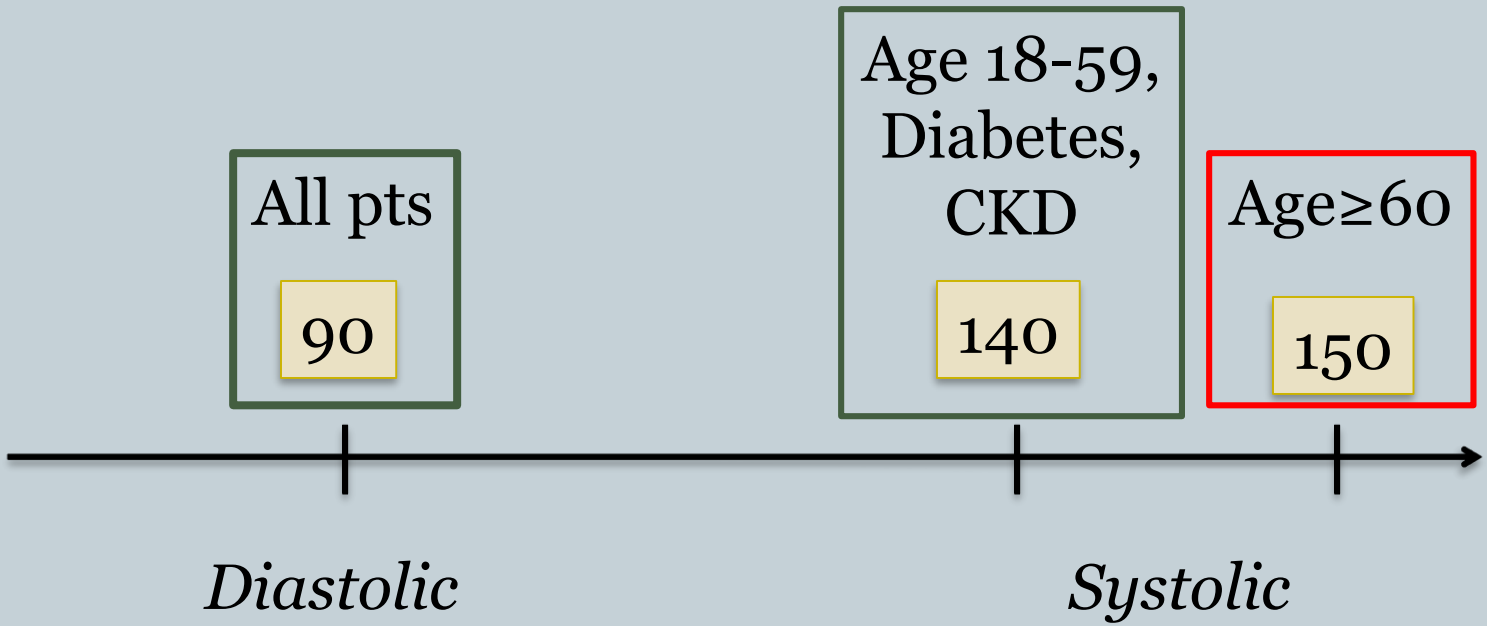
In the population aged 18 years or older with CKD and hypertension, initial (or add-on) antihypertensive treatment should include an ACEI or ARB to improve kidney outcomes. This applies to all CKD patients with hypertension regardless of race or diabetes status.
Moderate Recommendation – Grade B

Recommendation 9

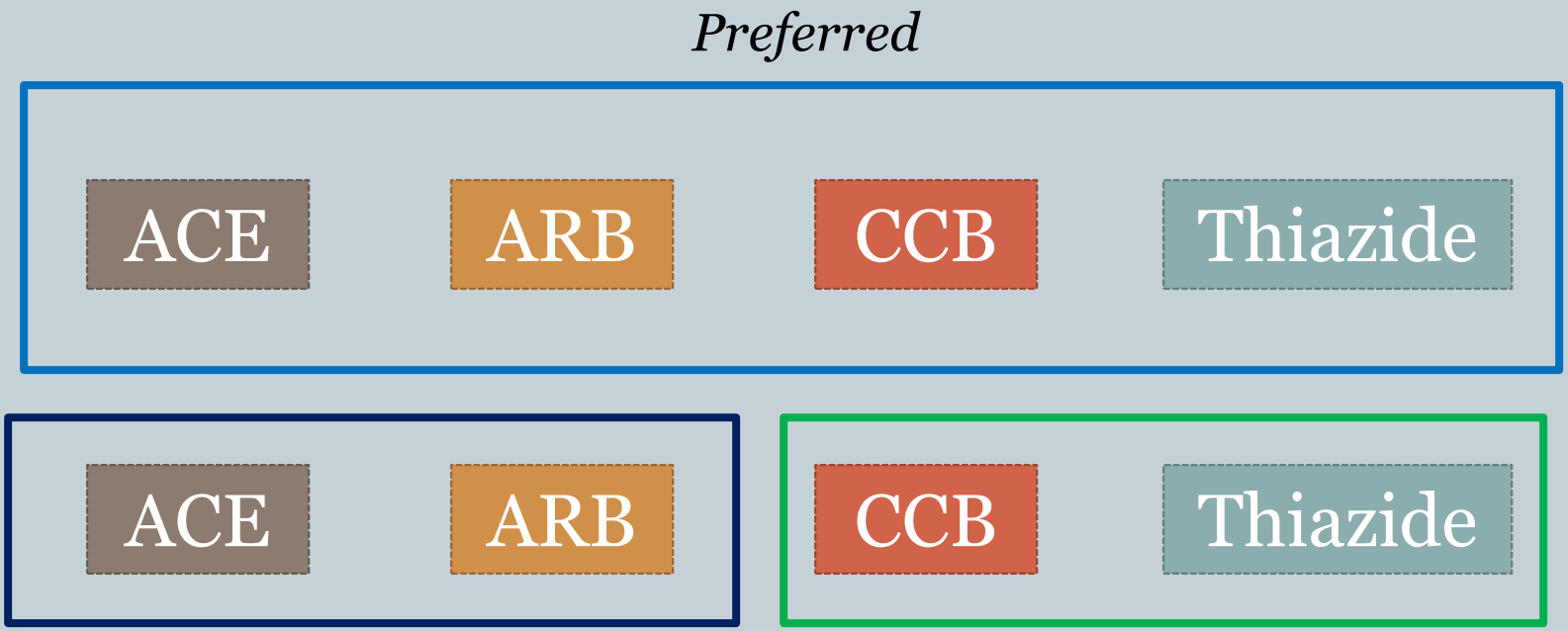
The main objective of hypertension treatment is to attain and maintain goal BP. If goal BP is not reached within a month of treatment, increase the dose of the initial drug or add a second drug from one of the classes in recommendation 6 (thiazide-type diuretic, CCB, ACEI, or ARB). The clinician should continue to assess BP and adjust the treatment regimen until goal BP is reached. If goal BP cannot be reached with 2 drugs, add and titrate a third drug from the list provided. Do not use an ACEI and an ARB together in the same patient. If goal BP cannot be reached using the drugs in recommendation 6 because of a contraindication or the need to use more than 3 drugs to reach goal BP, antihypertensive drugs from other classes can be used. Referral to a hypertension specialist may be indicated for patients in whom goal BP cannot be attained using the above strategy or for the management of complicated patients for whom additional clinical consultation is needed.
Expert Opinion – Grade E


Adult aged ≥18 years with hypertension
Implement lifestyle interventions (continue throughout management).
Set blood pressure goal and initiate blood pressure lowering-medication based on age, diabetes, and chronic kidney disease (CKD).
General population (no diabetes or CKD)
Diabetes or CKD present
Age ≥60 years
Age <60 years
All ages Diabetes present No CKD
All ages CKD present with or without diabetes
Blood pressure goal SBP <150 mm Hg DBP <90 mm Hg
Blood pressure goal SBP <140 mm Hg DBP <90 mm Hg
Blood pressure goal SBP <140 mm Hg DBP <90 mm Hg
Blood pressure goal SBP <140 mm Hg DBP <90 mm Hg
Nonblack
Black
All races
Initiate thiazide-type diuretic or ACEI or ARB or CCB, alone or in combination.a
Initiate thiazide-type diuretic or CCB, alone or in combination.
Initiate ACEI or ARB, alone or in combination with other drug class.a
Select a drug treatment titration strategy
A. Maximize first medication before adding second or
B. Add second medication before reaching maximum dose of first medication or
C. Start with 2 medication classes separately or as fixed-dose combination.
At goal blood pressure?
Yes
No
Reinforce medication and lifestyle adherence.
For strategies A and B, add and titrate thiazide-type diuretic or ACEI or ARB or CCB (use medication class not previously selected and avoid combined use of ACEI and ARB).
For strategy C, titrate doses of initial medications to maximum.
At goal blood pressure?
Yes
No
Reinforce medication and lifestyle adherence.
Add and titrate thiazide-type diuretic or ACEI or ARB or CCB (use medication class not previously selected and avoid combined use of ACEI and ARB).
At goal blood pressure?
Yes
No
Reinforce medication and lifestyle adherence.
Add additional medication class (eg, β-blocker, aldosterone antagonist, or others) and/or refer to physician with expertise in hypertension management.
No
At goal blood pressure?
Yes
Continue current treatment and monitoring.b

JNC8: BP Goals



JNC8: Initial Preferred Meds



Case 1

- 55 yo Hispanic male with BP 155/90
- Father had MI age 75
- CMP WNL, UA normal, FBS 101, A1c 5.8

What do you want to do?

When do you want him to f/u?

What if the A1c is 7.1?

What if there is nephropathy?

What if he is 65 not 55?

What is he is Black rather than Hispanic?

Case 1 Cont

- Returns on medication and his BP is 145/ 88
- What do you do next?
- When would you have him f/u?
- What if he has had an MI in the past?
- What if he has had a TIA/CVA in the past?

Case 2

- 65 yo AA male with h/o CVA
- BP 165/88
- What do you start?
- What do you add?
- What if he says his BP is normal at home?
- What if has CKD?
- What if his right arm bp is 20 mmHg higher than the left?
- What if he has OA and take naproxen daily?

Case 2 cont.

- What if his diastolic get below 55 and he gets light-headed but his systolic is still elevated?
- Would you suggest any dietary intervention?
- How about salt restriction?

- Thank you