



Hypertension with a Special Focus on Black Patients NYS Department of Health Prescriber Education Program



September 2009

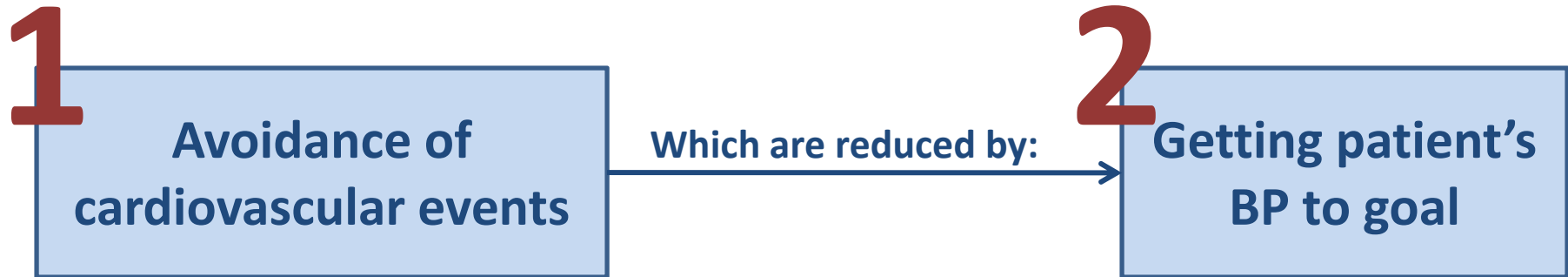
Key Messages

- 1) The relative risk of cardiovascular events is higher in black patients than in white patients.
- 2) Hypertension is more prevalent and less well-controlled in black patients than in white patients.
- 3) Socioeconomic barriers to care, low patient health literacy, and limited provider cultural competency all contribute to lower hypertension control rates.
- 4) Provider adherence to evidence-based guidelines for treatment of hypertension increases the proportion of patients achieving blood pressure control, regardless of race.

Key Recommendations

- 1) Work with patients to set concrete, achievable goals to increase physical activity, reduce dietary sodium, and lose weight.
- 2) Aim for a target blood pressure below 140/90 mmHg for most patients with hypertension, and below 130/80 mmHg for those with diabetes or chronic kidney disease.
- 3) Consider thiazide-type diuretics as the initial drug of choice for most patients.
- 4) Assess medication adherence at each visit and consider simplifying regimens, switching to generics, and discussing side effects.

Goals of antihypertensive treatment



Higher risks in blacks versus whites

RELATIVE RISKS	whites	blacks
Rate of first stroke	X	~2x
Mortality from cardiovascular disease	X	~3x
Death from stroke at age 45	X	~4x

BP TARGETS (in mmHg)

most adults age 18+	<140/90
diabetes mellitus, chronic kidney disease	<130/80

Black patients also have higher risk of chronic heart failure (~1.8x) and end-stage renal disease secondary to hypertension (~6x) compared to whites.

Hypertension case

- AB is a healthy 46-year old black male who presents to your office for a follow-up visit. He had elevated blood pressure last month. He is a non-smoker, does not have a diagnosis of diabetes mellitus, and has no evidence of kidney disease.

	Blood pressure	Pulse
Average BP at annual check-up last month	156/84 mmHg	74 bpm
Upon bringing AB into exam room	158/88 mmHg	76 bpm
10 minutes later	150/82 mmHg	70 bpm

What therapy would you start for his hypertension?

Hypertension case: Lifestyle changes

Therapeutic Lifestyle Change	Expected mean SBP decrease
DASH diet	6-14 mmHg
Sodium restriction (maximum of 1.5 grams a day)	2-8 mmHg
Alcohol restriction (2 drinks/day men, 1/day women)	2-4 mmHg
Each 10-kg of weight lost	5-20 mmHg
Increase in physical activity (~2.5 hours a week)	4-9 mmHg

Hypertension is more aggressive in blacks than in whites. TLC can help overcome some epidemiological and cultural differences between blacks and whites.

Restricting sodium and DASH diet		Weight loss and physical activity	
Blacks have increased sensitivity to salt (vasoconstriction)	High sodium diets in blacks may contribute to development of kidney disease	Blacks have higher obesity rates than whites (45% versus 30%)	Blacks are twice as likely as whites to lead inactive lifestyles

Hypertension case: treatment options

His BP average is 154/85 mmHg, which is below 160/100 mmHg. Initiation of therapy with one drug, preferably a thiazide-type diuretic, is recommended.

Start AB on chlorthalidone or hydrochlorothiazide at a dose of 12.5 or 25 milligrams*

Follow-up: 1 month
Average of two readings

Emphasize adherence:
BP-lowering success achieved if $\geq 80\%$ of medication taken

*The elderly may be more sensitive to the effects of thiazide-type diuretics, so it is suggested that lower doses be used. In addition, thiazides have little value in patients with creatinine clearances below 30 mL/minute.

Hypertension case: AB returns

- AB comes back in 1 month to check blood pressure

	Blood pressure	Pulse
Upon bringing AB into exam room	150/80 mmHg	78 bpm
10 minutes later	144/80 mmHg	72 bpm

Was started on chlorthalidone 25mg QD last month.

Is the patient at goal?

GOAL	AB's average
<140/90 mmHg	147/80 mmHg

What is our next step?

Hypertension case: assess adherence

First ask:

Many people have trouble taking their medicines all the time. Can we take the next few minutes to talk about that?

Then ask:

- Are you taking the medication as it was prescribed? What gets in the way of taking it?
- How many doses have you missed in the past 3 days or week? Why?
- What side effects are you experiencing?
- Describe any concerns you have regarding the cost of your medications.*

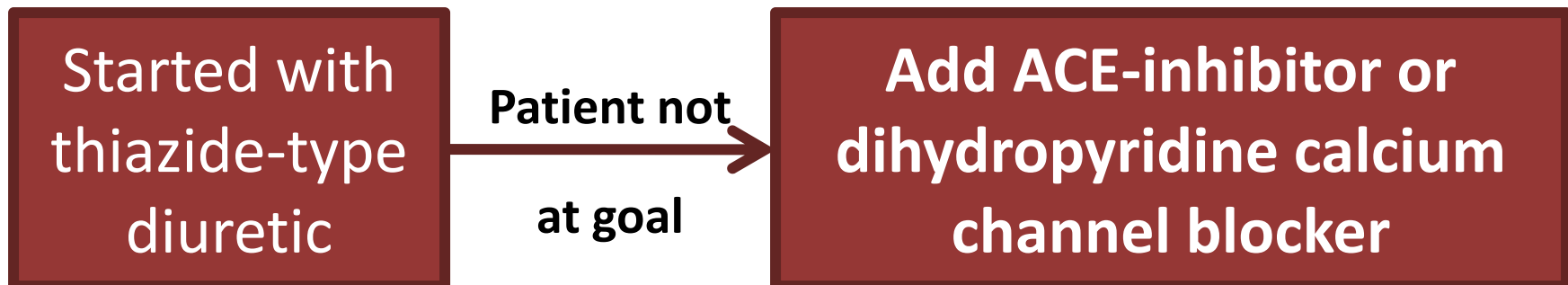
If patient is not taking medication as prescribed, identify and address specific adherence barrier and re-check blood pressure in 1 month.

*Blacks have a 40% lower median household income than whites

Hypertension case: high BP despite monotherapy

- AB states that he has only forgotten one or two doses this month. He is not having any side effects from the medication.

GOAL	AB's average
<140/90 mmHg	147/80 mmHg



Would an ACE inhibitor be effective in patient AB?

- Concern that ACE inhibitors (and possibly ARBs) may not work as well in black populations due to a generalized finding of black patients being low-renin secretors
- Relative risk of angioedema anywhere from 3 to 4.5-fold in black patients versus white patients
- **ACE inhibitors have been shown to be efficacious in blacks and may be considered a second first-line agent for the treatment of hypertension in blacks**
 - ACE-inhibitors better than beta-blockers or CCBs in preventing progression of renal disease in black patients

Hypertension case: continued

- AB comes back in 1 month to check blood pressure. He reports no side effects or adherence issues such as missing doses.

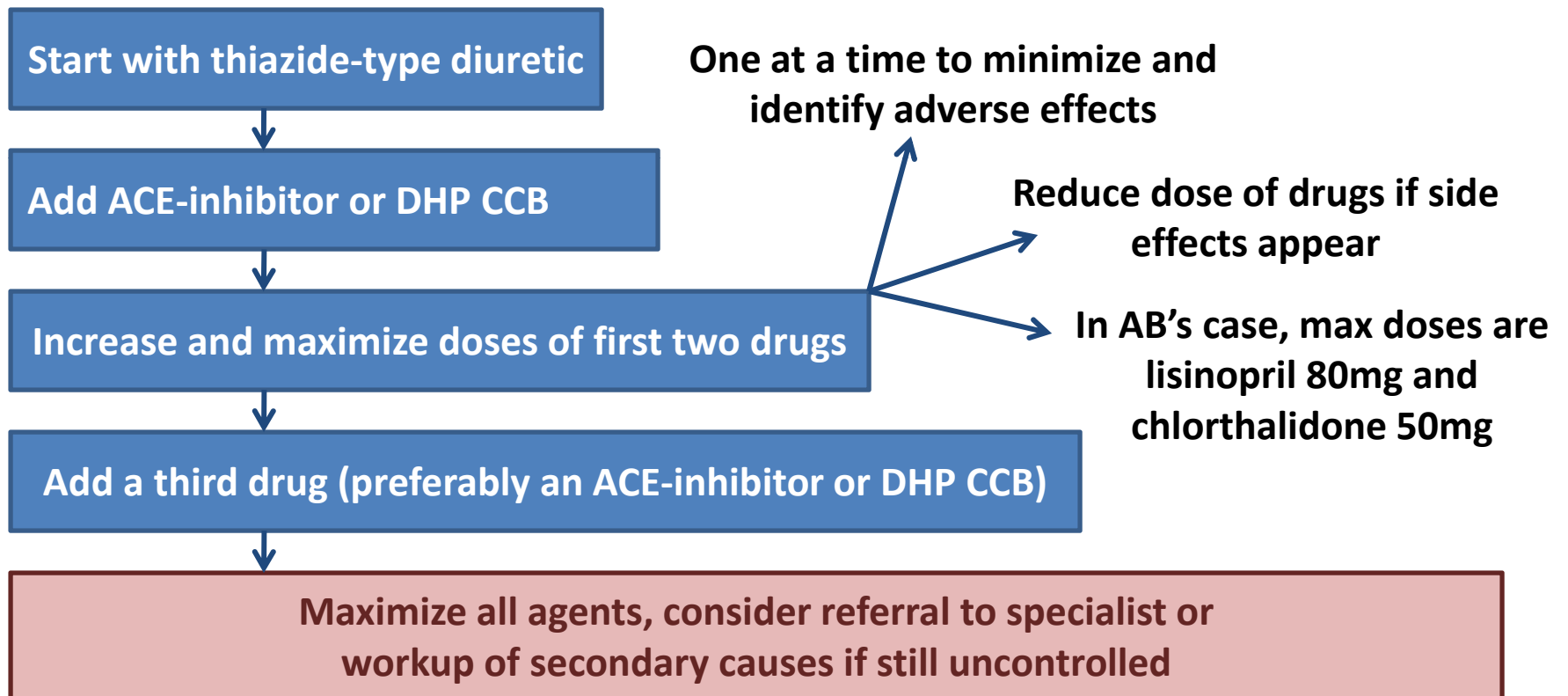
	Blood pressure	Pulse
Upon bringing AB into exam room	140/74 mmHg	74 bpm
10 minutes later	144/74 mmHg	68 bpm

On chlorthalidone 25mg QD and lisinopril 10mg QD.

- His blood pressure average is 142/74 mmHg, which is still above goal. **What can you do now?**

How to achieve blood pressure goals (long-term management)

1) Advancing medication therapy



DHP CCB = dihydropyridine calcium channel blocker

How to achieve blood pressure goals (long-term management)

2) Regular monitoring

- AB should have monthly clinic visits until BP is at goal (then monitor every 3-6 months after stable)
- In patients with poorly controlled blood pressure, home blood pressure monitoring can improve control
- Monitor AB's potassium and serum creatinine 1 week after a medication dose change and once or twice every year once on stable dosing

How to achieve blood pressure goals (long-term management)

3) Adherence: non-adherence leads to treatment failure

Points to explain:

- Benefits of treatment
- Potential adverse effects
- Potential for lifelong therapy

Strategies to improve adherence:

- **Once-daily meds:** reduces pill burden, makes regimen easier
- **Manage side effects** when they happen
- **Affordability** (use generics)
- **Pill boxes**, wrist alarms, reminders, medication calendars

Ask about adherence at every visit!

What if the starting blood pressure was very high?

- Initiating therapy with **two** first-line agents is preferred if BP >20/10 mmHg above goal

Most adults 18+ years old: >160/100 mmHg	DM or chronic kidney disease: >150/90 mmHg
FIRST LINE AGENTS	
Thiazide-type diuretic	ACE-inhibitor* - OR - DHP CCB

*ACE-inhibitor is preferred choice with thiazide for patients with DM or chronic kidney disease
DHP CCB = dihydropyridine calcium channel blocker

Treatment of hypertension in patients with compelling indications

- Patients with compelling indications below should be treated appropriately:

Compelling indication	Preferred first-line drugs (JNC VII)
Coronary artery disease	ACE-inhibitor, beta-blocker
Cerebral vascular disease	Thiazide-type diuretic
Diabetes mellitus/kidney disease	ACE-inhibitor/ARB
Heart failure	ACE-inhibitor/ARB <u>and</u> beta-blocker can add loop diuretic, aldosterone antagonist

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