

Hypertension

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BP Control Rates

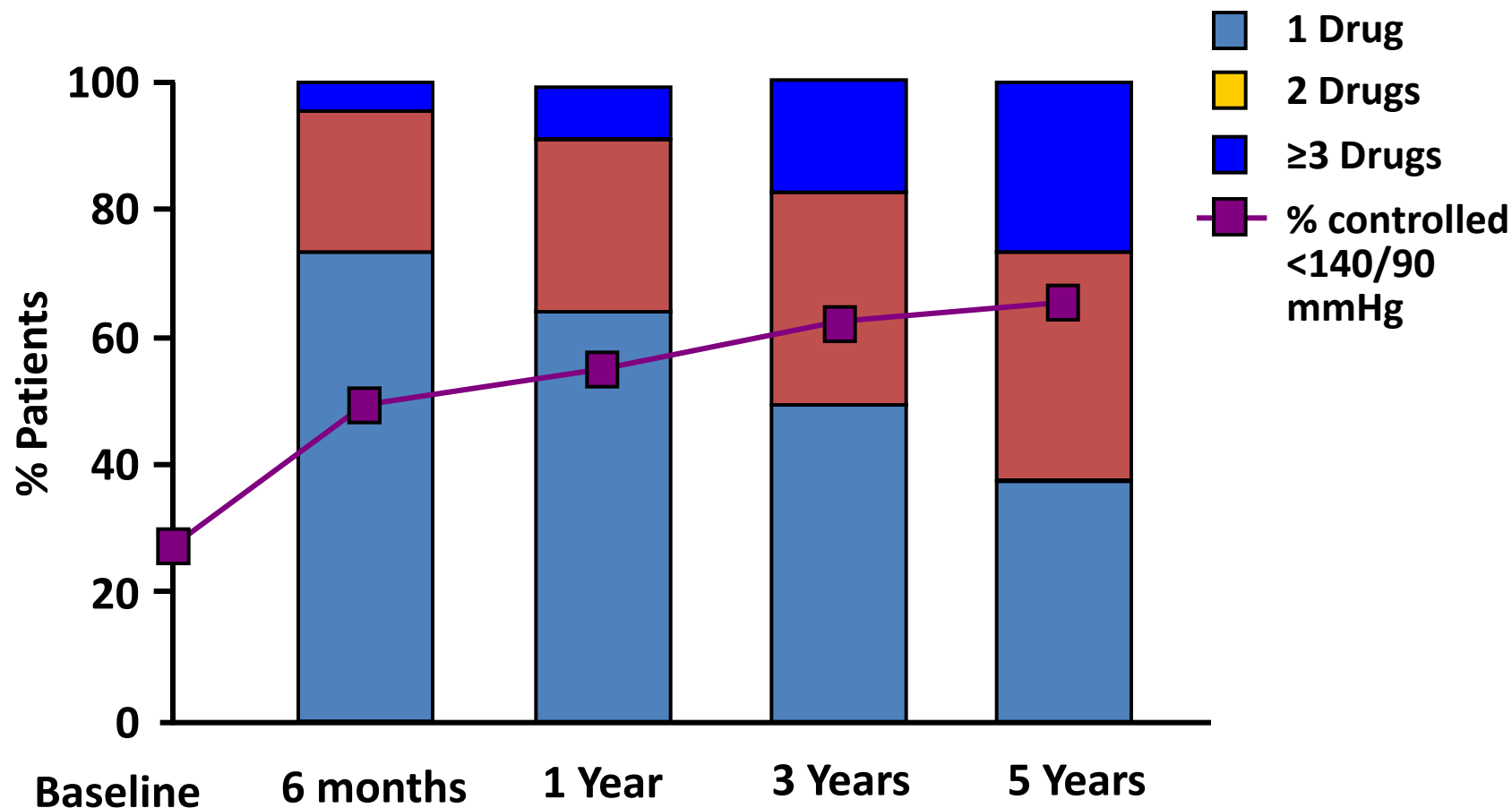
Trends in Awareness, Treatment, and Control of High Blood Pressure in Adults Ages 18–74

National Health and Nutrition Examination Survey, Percent

	II 1976–80	II (Phase 1) 1988–91	II (Phase 2) 1991–94	1999–2000
Awareness	51	73	68	70
Treatment	31	55	54	59
Control	10	29	27	34

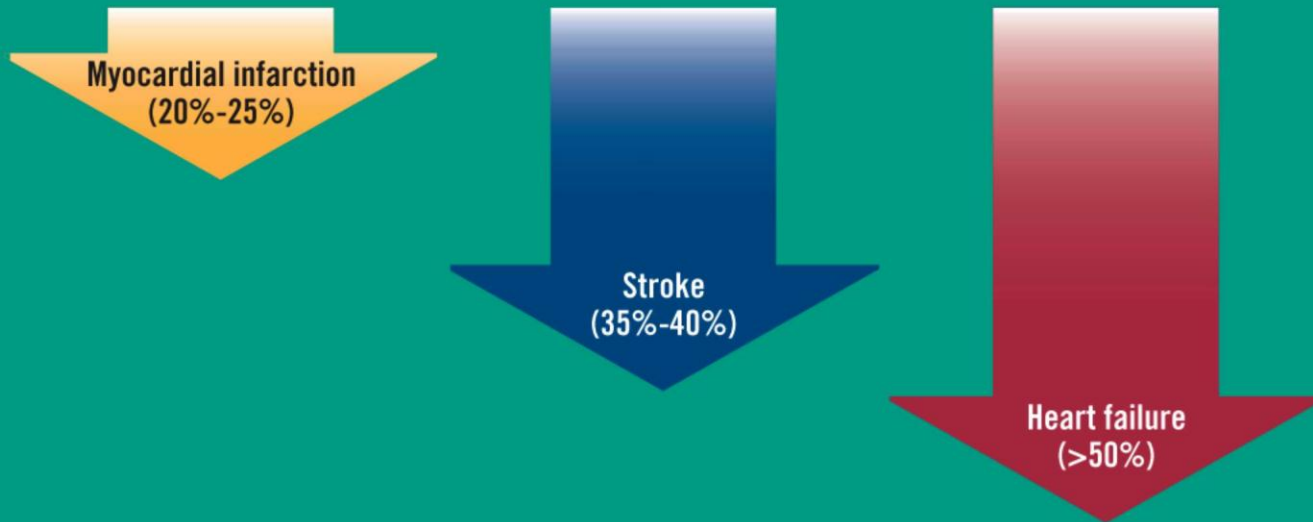
Sources: Unpublished data for 1999–2000 computed by M. Wolz, National Heart, Lung, and Blood Institute; JNC 6.

Medication Use and BP Control in ALLHAT

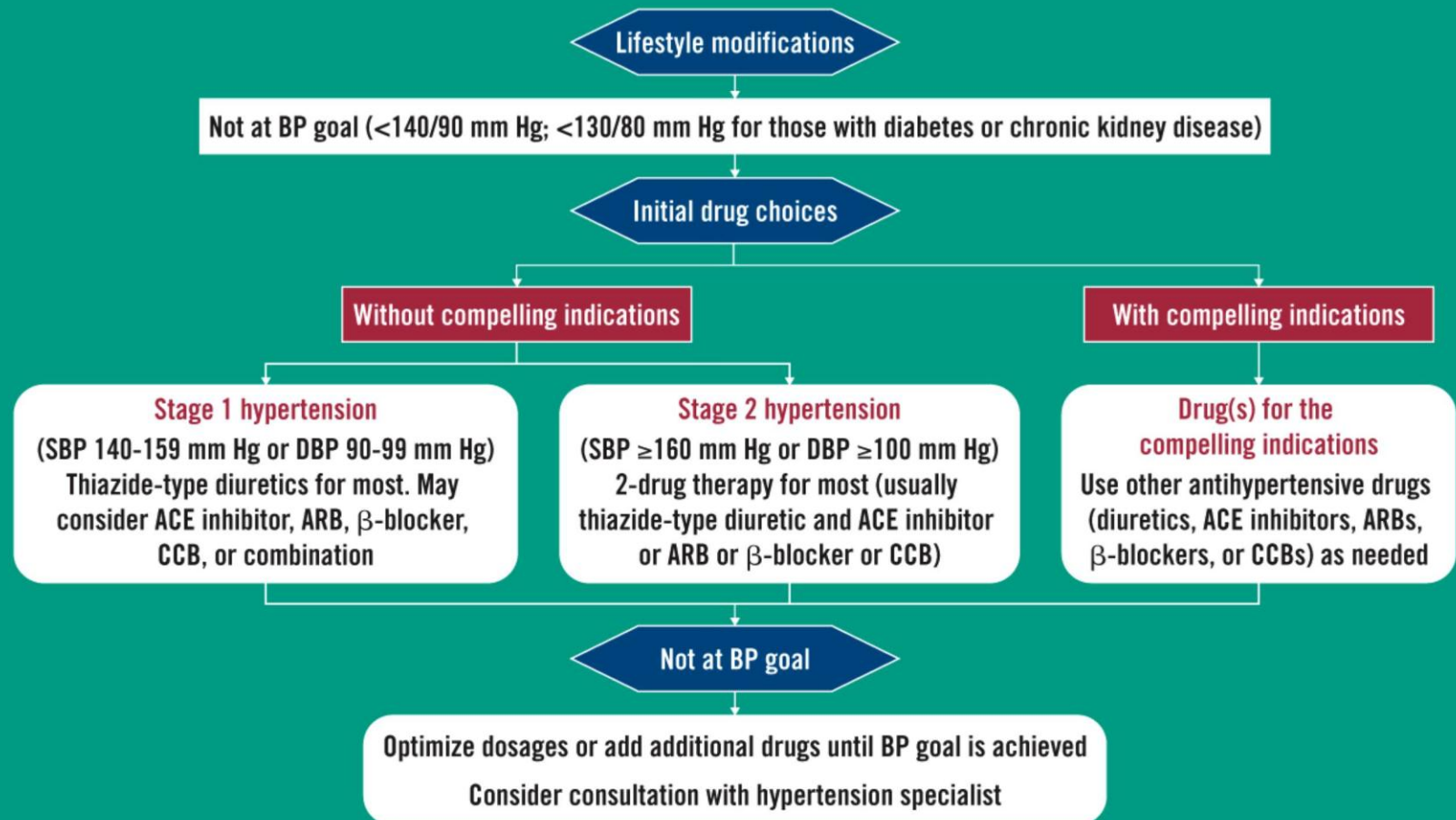


Lowering BP is imperative in reducing cardiovascular risk

In clinical trials, antihypertensive therapy has been associated with reductions in:



JNC 7 hypertension treatment algorithm



✓ Most patients with hypertension need multiple medications to get to goal

JNC 7 hypertension treatment recommendations for compelling indications

Compelling indications for individual drug classes

High-risk conditions with compelling indication*	Recommended drugs					
	Diuretic	β -blocker	ACE inhibitor	ARB	CCB	Aldosterone antagonist
Heart failure	•	•	•	•		•
Post–myocardial infarction		•	•			•
High coronary disease risk	•	•	•		•	
Diabetes	•	•	•	•	•	
Chronic kidney disease			•	•		
Recurrent stroke prevention	•		•			

*Conditions for which clinical trials or existing clinical guidelines demonstrated benefit of specific classes of antihypertensive drugs; the compelling indication is managed in parallel with the BP.

Identifiable Causes of Hypertension

- Sleep apnea
- Drug-induced or related causes
- Chronic kidney disease
- Primary aldosteronism
- Renovascular disease
- Chronic steroid therapy and Cushing's syndrome
- Pheochromocytoma
- Coarctation of the aorta
- Thyroid or parathyroid disease

Drug-induced Hypertension: An Unappreciated Cause of Secondary Hypertension*

- HT due to systemic inhibition of vascular endothelial growth factor (VEGF) signaling- new agents to treat systemic malignancies-includes mainly monoclonal antibodies- bevacizumab (Avastin); tyrosine kinase inhibitors such as lapatinib (Tykerb); sunitib (Sutent); sorafenib (Nexavar). Hypertension one of most common adverse effects of these drugs. HT may predict a beneficial response to these agents. Avoid dihydropyridines (nifedipine) as they induce VEGF secretion.
- NSAIDs
- Venlafaxine- serotonin/norepinephrine reuptake inhibitor used to treat depression and anxiety. Meta analysis suggests BP increase more significant in older pts and men, and is dose dependent
- Steroids- HT in 20% of treated pts; dose dependent
- Licorice- see severe HT and hypokalemia, with low plasma renin and low aldosterone
- OCPs- HT in 5% of users

*Ref: Grossman, MD, Messerli, MD; AmJMed (2012) 125, 14-22.

Drug Induced Hypertension (cont)

- Caffeine- pressor response due to increased sympathetic activity. 2-3 cups of coffee can acutely raise BP by up to 10 mm Hg. In pts infrequently exposed, with average response 4-5 mm Hg.
- Herbals- anecdotal evidence that some may interfere with antihypertensive meds. Look for ephedra alkaloids (banned in US). HT reported in co-administration of ginkgo and thiazide. True incidence unknown.
- Immunosuppressive agents- cyclosporine-HT incidence 1 yr after renal transplant 32.7- 81.6%. 100% in heart transplants. Treated with calcium antagonists
- Alcohol- limit daily ingestion to <30g.
- HAART (Highly active antiretroviral therapy)- increased systolic BP. Usually seen after 6 months of therapy.