Goal BP = 130/85 mm Hg (JNC V)

Lower goal

- **African Americans**
- **Patients with renal disease and proteinuria > 1 g/24 hours**

Source: JNC V. **Ann Intern Med.** 1993;153:154-183.

ARE THERE SPECIFIC RENOPROTECTIVE ANTIHYPERTENSIVE DRUGS?

Nondiabetic Renal Disease

- Treatment of BP lowers progression.
- Possible renoprotective drugs include:

  Angiotensin-converting enzyme (ACE) inhibitors; and
  Calcium channel blockers (possibly nondihydropyridines).

Diabetic Nephropathy

- Lower pressure slows the rate of loss of glomeruler filtration.
- ACE inhibitors slow progression of diabetic nephropathy independent of BP

RENOVASCULAR DISEASE AND HYPERTENSION

Definitions

- Renal artery stenosis
- Renovascular hypertension
- Ischemic nephropathy

Clinical Clues Suggesting Renovascular Hypertension

- Onset of hypertension under age 25 or over age 55
- An abdominal bruit, particularly in diastole
- Refractory, accelerated, or malignant hypertension or worsening of previously controlled hypertension
- Undiagnosed renal failure, with or without hypertension (particularly with normal urine sediment)
- Acute renal failure precipitated by hypertension treatment, particularly with ACE inhibitors
- A unilateral small kidney (by any prior investigational procedure)

Renovascular Disease and Hypertension

Most Useful Screening Tests

- **Captopril test**
- **Renal scintigraphy**
- **Duplex Doppler scanning**
- **Magnetic resonance angiography (MRA)**

Sensitivity and Specificity of Tests for Renovascular Hypertension

Test	Sensitivity (%)	Specificity (%)
Intravenous pyelography	75	86
Routine renography	75-85	75-85
Plasma renin activity	50-80	84
Captopril plasma renin activity	74	89
Captopril scintigraphy	93	95
Doppler flow ultrasonography	90	90-95
Magnetic resonance angiography	90-95	95

Source: Adapted from Mann SJ, et al. **Ann Intern Med.** 1992;117:845-853.

Management of Renovascular Hypertension

- Percutaneous transluminal renal angioplasty (PTRA)
- Renal artery stenting
- Bypass surgery

Renovascular Disease

Angiography, with or without digital subtraction, is the "gold standard" for diagnosis for renovascular disease

Management of Renovascular Hypertension

In younger patients with fibromuscular dysplasia (FMD)

- PTRA

Management of Renovascular Hypertension

In patients with focal nonostial atherosclerotic renal artery stenosis (RAS)

- PTRA usually suitable

Management of Renovascular Hypertension

In elderly patients with atherosclerotic renal vascular disease, intervention decisions usually based upon:

- Blood pressure control
- Preservation of renal function