

## Tip 1. Resistant Hypertension (May 2009)

Resistant hypertension<sup>1</sup> is defined as:

Blood pressure not at target (<140/90 in general and < 130/80 in DM, CKD and CVD) in a patient on optimal doses\* of a minimum\*\*of three ,complementary\*\*\*medications, one of which is a diuretic\*\*\*\*

\* the usual maintenance dose suggested by the manufacturer

\*\* Even in uncomplicated stage 1 hypertension, 2 drugs are often required for control. In stage 2 hypertension, diabetes and CKD, requirement for 3 (or more agents) is the rule rather than the exception

\*\*\* "complementary" means adding drugs to one another that block the causes of hypertension at different points and have useful additive effects to one another. In practice this usually means a combination of RAAS blocking drugs (ACE-inhibitor, ARB, or beta blocker) with drugs with cause natriuresis, direct vasodilatation, or both (diuretics and calcium channel blockers). Adding a beta blocker to an ACE-inhibitor or (or vice versa) does not usually result in much additional BP-lowering, and the same applies to ARB's added to beta blockers or ACE-inhibitors. Calcium channel blockers and thiazide diuretics, do however have useful cumulative BP-lowering effect when added to each other.

\*\*\*\* virtually all individuals with difficult hypertension have an important volume-dependent component and the commonest reason for treatment failure is lack of diuretic, underdosing with diuretic, or wrong diuretic

Many patients referred to me with "resistant hypertension" don't actually meet all these criteria and I think the definition serves as a helpful reminder to adjust the medications appropriately before labelling the patient truly "resistant".

1. Moser M, Setaro JF. Resistant or Difficult-to-Control Hypertension. N Engl J Med. 2006;355:385-92.