

Diuretics have a modest blood pressure lowering effect as second-line therapy for hypertension

Clinical question	How effective are diuretics as second-line therapy for primary hypertension?
Bottom line	Thiazides as a second-line drug reduced blood pressure (BP) by 6/3 and 8/4mmHg at doses of 1 and 2 times the manufacturer's recommended starting dose, respectively. Although the dose of hydrochlorothiazide (HCTZ) was studied over a wide range (5mg/day to 45mg/day), a majority of the trials evaluated doses of 12.5mg/day and 25mg/day. The BP lowering effect was dose related. The effect seen was similar to that obtained when thiazides are used as a single agent. HCTZ was the thiazide used in 49 of 53 (92%) of the included studies. Only 3 double-blind randomised controlled trials (RCTs) evaluating loop diuretics were identified. These RCTs showed a BP lowering effect of about 6/3mmHg for a starting dose (piretanide 3mg/day and 6mg/day; frusemide 40mg/day).
Caveat	Due to the short duration of the trials (3-12 weeks) and lack of reporting of adverse events, this review does not provide a good estimate of the incidence of adverse effects of diuretics given as a second-line blood pressure lowering drug treatment.
Context	Even with individualised monotherapy, BP targets are not likely to be achieved with the first drug used, even when titrated to high doses. Diuretics (thiazides and loop diuretics) are widely prescribed for hypertension, not only as a first-line drug treatment but also as a second-line treatment.
Cochrane Systematic Review	Chen JMH et al. Blood pressure lowering efficacy of diuretics as second-line therapy for primary hypertension. Cochrane Reviews 2009, Issue 4. Article No. CD007187. DOI: 10.1002/14651858.CD007187.pub2. This review contains 53 studies involving 15,129 participants.
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[References]

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