

# Hypertension 1996 — simplified guidelines for primary care nurses and medical students

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Based on the treatment guidelines proposed by the Southern African Hypertension Society, a simplified approach is suggested that may be applicable to the needs of primary care nurses and medical students.

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Hypertension is a complex subject, and guidelines should therefore cover a wide range of conditions. Yet guidelines need to be implemented and therefore to be understandable and understood. To help our large population of primary care nurses and medical students (who have much else to remember), a short table and an abbreviated algorithm are herewith offered. For medical practitioners, the more comprehensive algorithm by Opie and Steyn<sup>1</sup> (which also appeared as a loose insert with the 'Rationale for the hypertension guidelines for primary care in South Africa'<sup>2</sup>) should be followed, in conjunction with the actual recommendations of the Southern African Hypertension Society.<sup>3</sup> The present proposals, being my personal points of view, should not be construed as being the opinions of the SA Hypertension Society.

## ***The blood pressure limits***

One simplification is with the blood pressure (BP) limits. The basic concept is that BP elevation invokes a gradient of risks, rising with the BP; this is particularly well established in the case of stroke, although it also holds for heart disease. Therefore any cut-off points will be arbitrary and should ideally be so chosen that they can be remembered in case the detailed algorithm is not at hand. I suggest rather simple diastolic BP limits, which are 90, 100, 115 and 130+ mmHg, as shown in Table I. In practice it is not easy to distinguish between diastolic BP values of 99 and 100 mmHg, as suggested in the detailed algorithm. Nor, for that matter, can distinctions be made between 100 and 101 mmHg. A value of exactly 100 mmHg needs repetition on several occasions (I always suspect a BP reading to the nearest 10 mmHg), but if really confirmed could fall either into 90 - 100 or 100 - 115 mmHg ranges, depending on the risk factor situation. Those at high risk get treated as if in the higher BP category.

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**Table 1. A simplified approach to hypertension**

DBP range (mmHg)	SBP range (mmHg)	Proposed therapy
90 - 100	140 - 170	Lifestyle; drugs for high risk
100 - 115	170 - 200	Recheck BP; drugs
115+ (confirmed)	200+ (confirmed)	Drugs; refer
130+ (confirmed)	No correlate	Urgent referral

Suspect malignant hypertension  
 High risk = if there is high risk for coronary disease, e.g. in a diabetic patient, or clinically evident end-organ damage such as proteinuria is present, drugs should be started even at this level.

Likewise, relatively simple systolic BP limits can be proposed. Here the BP values to remember are 140, 170 and 200 mmHg. There is no given systolic BP suggestive of malignant hypertension.

The present view is that BP values below 140/90 mmHg do not usually merit drug treatment, and on the basis of the proposals of the SA Hypertension Society, the range 140 - 170/90 - 100 mmHg requires lifestyle modification. In some, the presence of additional risk factors for cardiovascular disease will mandate treatment even at these levels.

The range 170 - 200/100 - 115 mmHg calls for repetitive confirmation of the BP over a short period such as 2 weeks, and if the BP is still in this range, single-drug treatment is started together with lifestyle changes. Higher BP values call for more rapid institution of drugs and earlier referral. When malignant hypertension is suspected, same-day referral is required.

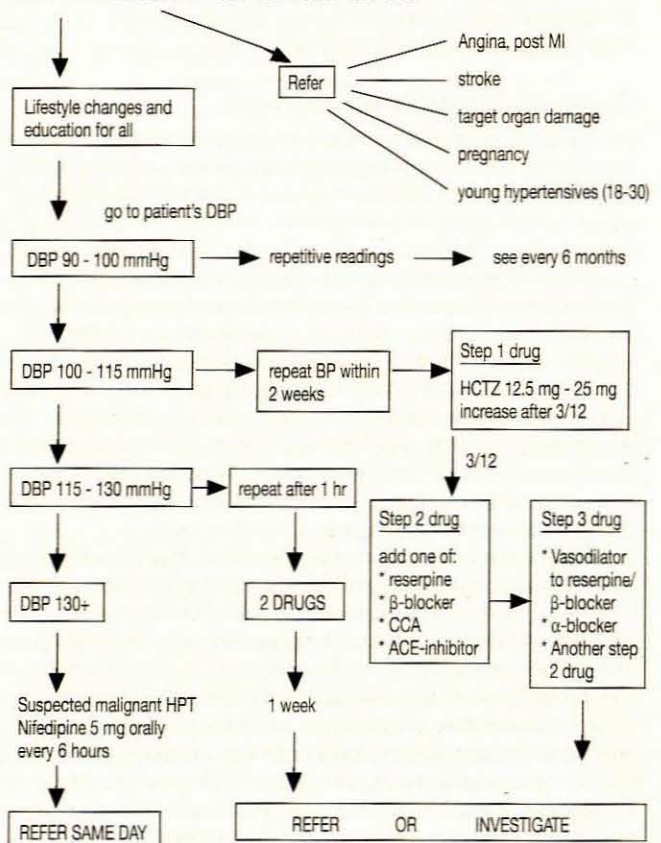
### Principles of treatment

All those judged to have increased BP levels, whether systolic or diastolic or both, are strongly advised to practise lifestyle modification (Fig. 1). Above a certain arbitrary limit of sustained BP elevation, recommended as 170 systolic and/or 100 mmHg diastolic, drug treatment is started (usually with a low-dose diuretic) before progressing to one of any of a variety of step two drugs. Of these, reserpine in low dose has been selected as the number one choice, especially when cost and safety of administration are important. Also, there are very few contraindications to or serious side-effects of low-dose reserpine. In contrast,  $\beta$ -blockers, when inadvertently given to a patient with asthma, can be lethal. Likewise, all the other second-line drugs, including calcium antagonists, angiotensin-converting enzyme (ACE) inhibitors and  $\alpha$ -blockers, have significant contraindications and side-effects.

My personal opinion is that, in general, when a patient has failed to respond to a combination of lifestyle changes, diuretic and reserpine, a primary care nurse or a medical student at a clinic should refer the patient to a medical doctor, who would then have to choose a third-line drug. The doctor should also decide when specialist referral is indicated.

It may not be easy for the primary care nurse to decide whether a patient has other significant risk factors for coronary disease. Some of these are self-evident, such as smoking or diabetes or male gender, but hypercholesterolaemia is not simple to define or to treat. As a general rule, however, coronary disease remains relatively

### HYPERTENSION CARE SIMPLIFIED



**Fig. 1. Simplified algorithm for management of hypertension, which should be used in combination with the detailed definitive algorithm based on the proposals of the Southern African Hypertension Society' (DBP = diastolic blood pressure; HCTZ = hydrochlorothiazide; CCA = calcium channel antagonist; ACE = angiotensin converting enzyme; HPT = hypertension; MI = myocardial infarction).**

uncommon among black patients, although it is rife among non-blacks.

End-organ damage is also not easy for the primary care nurse to diagnose, except when clinically obvious. For example, the current gold standard for the diagnosis of left ventricular hypertrophy is echocardiography, whereas overt forms may even present with congestive heart failure. Here too, if in doubt, the patient should be referred, because expert assessment and treatment may be needed.

Luckily, however, one of the major complications of hypertension, namely stroke, is clearly related to the height of the blood pressure and equally clearly responds to diuretic-based therapy.

### REFERENCES

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