

# Management of uncontrolled blood pressure in patients referred to a specialist hypertension clinic with multiple medicines intolerance

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## Introduction

Adherence to hypertension therapy is a major public health challenge, despite the availability of multiple classes of antihypertensive agents. Factors contributing to non-adherence are multifactorial and include intolerances to agents at standard doses that result in therapy discontinuation and patient referrals to specialist hypertension centres<sup>1</sup>.

St Bartholomew's hypertension specialist centre has devised a pharmaco-therapeutic strategy for managing patients referred with multiple intolerances.

## Aims

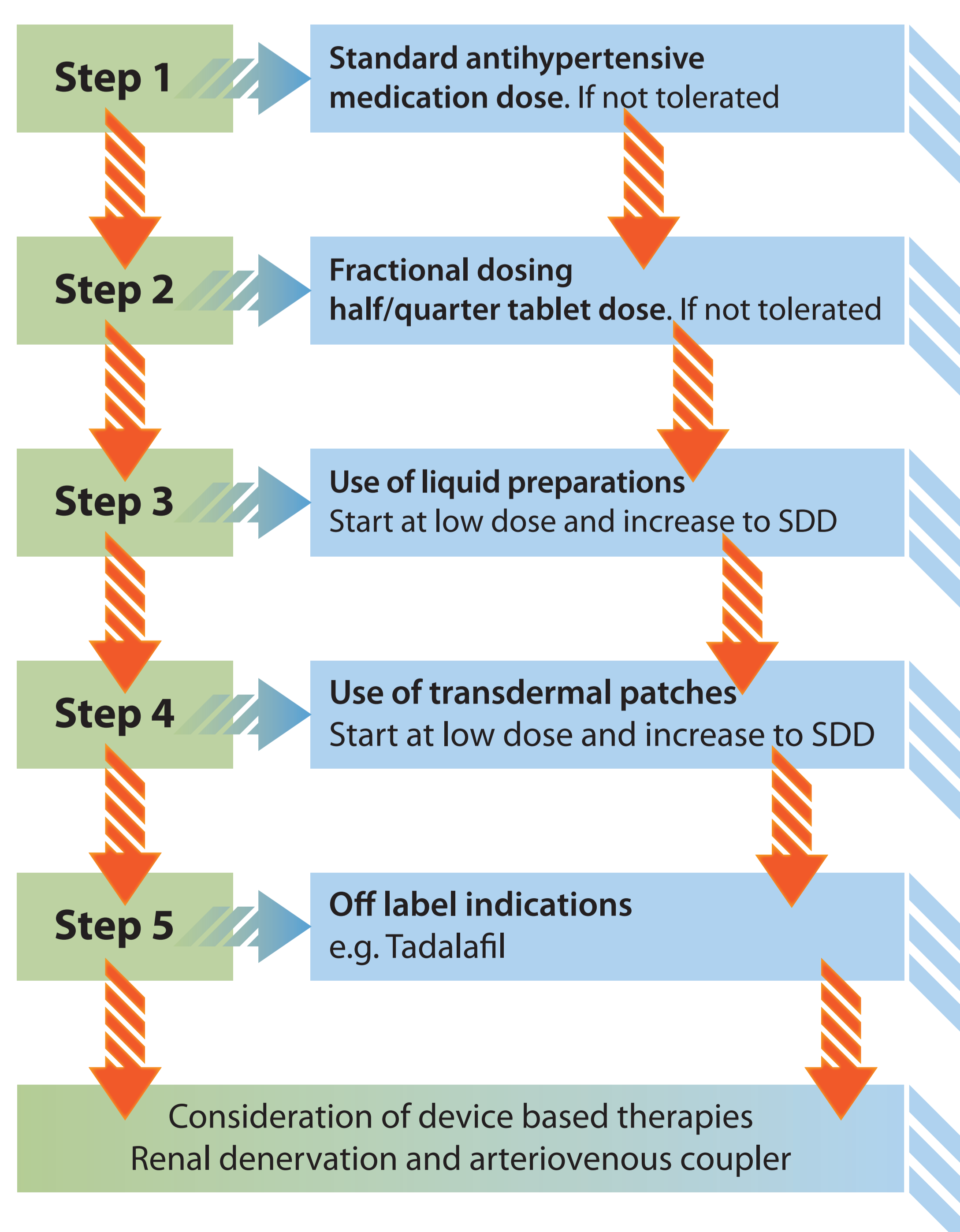
Assess the impact of the innovative approach on blood pressure (BP) control in patients with known multiple intolerances.

## Method

A retrospective analysis of patients attending hypertension clinic with known multiple intolerances to therapy and have attended at least three clinic visits were included.

Patients' demographics and changes in BP measurement from baseline through to subsequent visits were analysed. Clinic systolic blood pressure (SBP) and diastolic blood pressure (DBP) were assessed separately and expressed as a mean  $\pm$  standard deviation (SD). Modifications in patients' treatment during each visit were recorded.

Figure 1.  
Pharmacotherapy algorithm for managing MDI Patients



## Reference

(1) Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL, Jr, et al. The seventh report of the Joint National Committee on prevention, detection, evaluation, and treatment of high blood pressure. JAMA. 2003;289:2560-2572.

## Results

A total of 25 patients (15 female) with a mean age of  $62 \pm 12$  years were included in the analysis. They had  $4.6 \pm 1.5$  follow up visits over  $1.2 \pm 1.0$  years. Patients were intolerant of  $6 \pm 4$  antihypertensive medicines on referral with an average baseline clinic blood pressure of  $170 \pm 21/98 \pm 15$  mmHg. Overall 94% of the patients included in the second stage of this audit felt that having the smaller pill pot for their phosphate binder medication benefited the ease of adherence. A number of patients mentioned they would however prefer a smaller and flatter pill pot to transport them in.

The SBP and DBP were reduced compared to baseline throughout the follow up period ( $p < 0.001$ ,  $p = 0.05$  respectively, table 1).

Table 1.

Change in clinic systolic and diastolic BP compared to baseline.

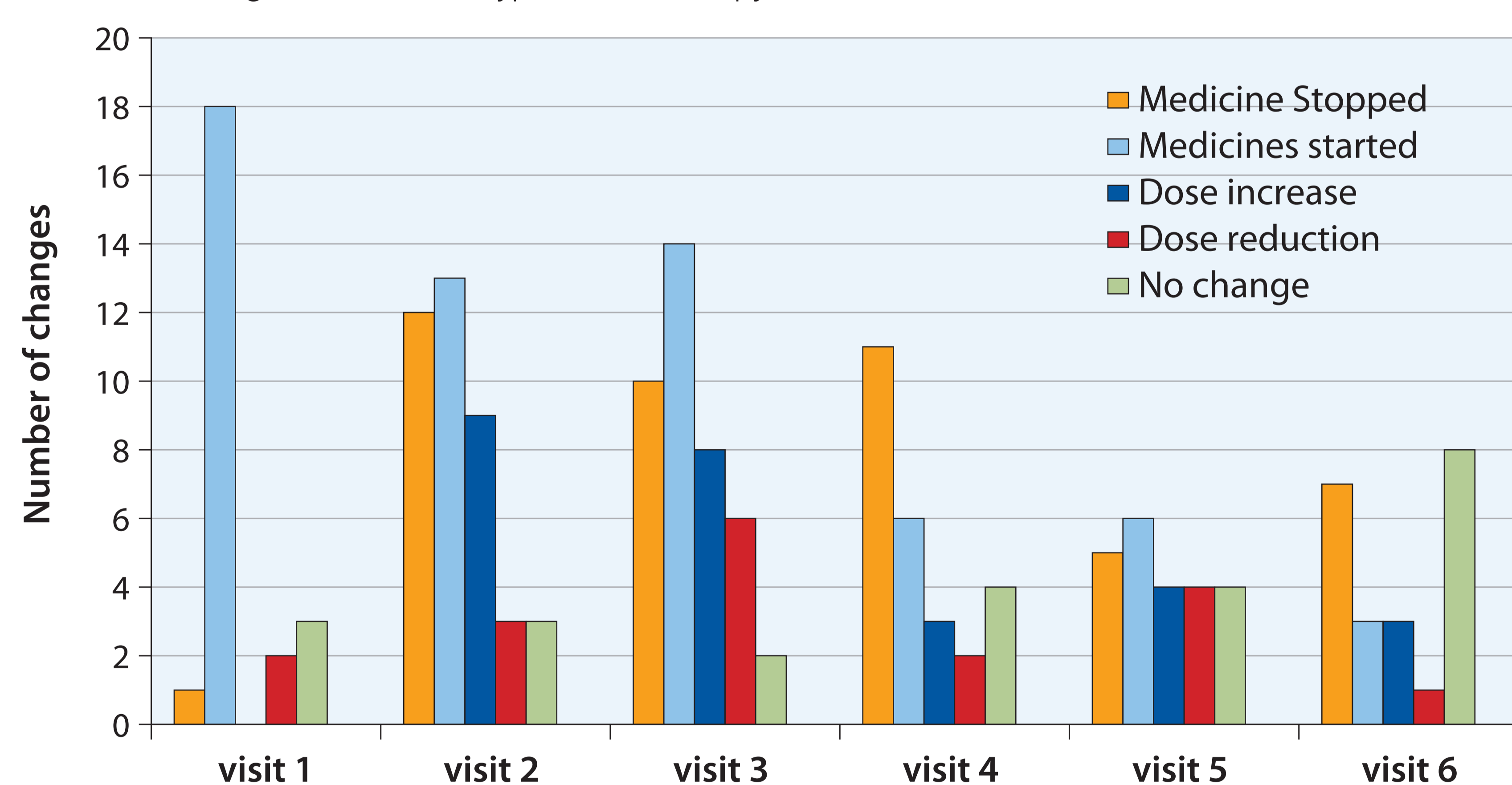
Visit (n)	2 (25)	3 (25)	4 (19)	5 (13)	6 (8)
$\Delta$ SBP	$-3.9 \pm 17.9$	$-14.6 \pm 28.1$	$-20.0 \pm 20.8$	$-27.2 \pm 21.9$	$-25.6 \pm 31.7$
$\Delta$ DBP	$-0.9 \pm 13.1$	$-5.2 \pm 15.0$	$-8.6 \pm 17.5$	$-13.3 \pm 19.3$	$-7.1 \pm 21.1$

Approximately a quarter of patients were referred on no treatment for their uncontrolled blood pressure. These patients were initiated on various treatments and by visit 2 all patients were tolerating at least one or more antihypertensive agent(s).

Initiation and discontinuation of various antihypertensive agents was prominent, especially in the first three clinic visits (figure 2). Adjustments to doses were made continually throughout clinic follow up and by visit 6, approximately one third of patients remained on the same therapy with no change requirements.

Figure 2.

Number of changes made to antihypertensive therapy on each visit



## Discussion

The multiple options used in this approach, allow clinicians to prescribe and trial different therapies in small doses and/or different formulations.

Fractional tablet dosing may target multiple physiological pathways but minimise dose-dependent adverse effects. Liquid formulations avoid excipients that may contribute to adverse effects and trans-dermal patches overcomes gastro-intestinal intolerance associated with tablets. This is the first dedicated anti-hypertensive protocol for high risk patients with multiple medicines intolerance and application of our novel strategy demonstrated improved BP control consistently over subsequent visits.

## Conclusion

A stratified medicines management approach with anti-hypertensive therapy in patients with multiple medicine intolerance demonstrates improved BP control over subsequent clinic visits.