INTERNATIONAL ANTIHYPERTENSION GUIDELINES
A REVIEW OF THRESHOLDS AND TARGETS

When do you start treating?

Clinical practice guidelines have become integral in evidence-based practice; however, they can come from multiple sources and can confuse clinicians.[1] For instance, in terms of cut-off, one local report stated that almost half of the general practitioners surveyed use the higher cut-off of >140/90 mmHg (office blood pressure or BP) while specialists (cardiologists and nephrologists) tend to use the recommended lower cut-off of >135/85 mmHg to diagnose hypertension using home BP monitoring (HBPM).[2]

Singapore healthcare practitioners generally refer to the Singapore Ministry of Health (MOH) Clinical Practice Guidelines.[3] While the recently released 2017 AACC/AHA* guidelines use >130/80 mmHg as cut-off, Singapore is keeping to its existing cut-off of ≥140/90 mmHg.[3-5]

According to local experts, adopting this new lower threshold would mean classifying 1 in 3 people—which is up from 1 in 4—as hypertensive and could lead to unnecessary treatment.[5,6] Moreover, a vast majority who would fall under this category could still benefit from making lifestyle changes and that only those with other comorbid risks such as obstructive sleep apnea, high cholesterol, or obesity and diabetes should be started on medications.

The following tables summarise the recommendations on when to start treatment (Table 1) and what BP level to achieve (Table 2) from Singapore and key international guidelines.

Prudence in practice

Regardless of age or demographic parameter, all individuals with hypertension should be advised on the importance of medications as well as the benefits of lifestyle modification/improvement—healthy diet, weight control, and regular physical activity.[7,8]

While treatment guidelines are based on good scientific evidence whenever possible, they are not intended to replace clinical judgment. Decision-making still rests on the clinician's careful consideration of the individual patient's needs and clinical characteristics.[8]

Table 1. BP thresholds (in mmHg)

Guidelines	General population	Patients with diabetes mellitus (DM) and/or chronic kidney disease (CKD)
Singapore MOH 2017[3]	Younger than 80 years old: ≥140/90	DM: ≥140/80
	80 years old and above: ≥150/90	CKD: ≥130/80
ESC 2013[7]	≥140/90	DM: SBP ≥140 and DBP ≥85
		CKD: SBP: ≥140
ACC/AHA 2017[41]	≥130/80	DM and CKD: ≥130/80
JNC 8 2014[8]	<60 years old: ≥140/90	DM and CKD: ≥140/90
	≥60 years old: ≥150/90	

*Based on an increasing number of individual studies and meta-analyses that have demonstrated progressively higher CVD risk going from normal BP to elevated BP to stage 1 hypertension.[5]

ACC/AHA=American College of Cardiology/American Heart Association; ESC=European Society of Cardiology; JNC 8=Eighth Joint National Committee; MOH=Ministry of Health.

Table 2. BP targets (in mmHg)

Guidelines	General population	Patients with DM and/or CKD
Singapore MOH 2017[3]	Younger than 80 years old: <140/90	DM: <140/80
	80 years old and above: <150/90	CKD: <130/80
ESC 2013[7]	<140/90	DM: SBP <140 and DBP <85
		CKD: SBP <140; <130 with severe proteinuria
ACC/AHA 2017[4]	<130/80	DM and CKD: <130/80
JNC8 2014[8]	<60 years old: <140/90	DM and CKD: <140/90
	≥60 years old: <150/90	

ACC/AHA=American College of Cardiology/American Heart Association; ESC=European Society of Cardiology; JNC 8=Eighth Joint National Committee; MOH=Ministry of Health.

* ACC/AHA -American College of Cardiology/American Heart Association

References:

[1] Ministry of Health (MOH) Singapore. Hypertension: MOH Clinical Practice Guidelines, 2017. Available at: https://www.moh.gov.sg/content/dam/moh_web/HPP/Doctors/cpg_medical/current/2017/hypertension/cpg_Hypertension%20Booklet%20-%20Nov%202017.pdf. Accessed March 30, 2018. [4] ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Available at: http://hyper.ahajournals.org/content/early/2017/11/10/HYP.0000000000000065. Accessed March 30, 2018. [5] The Straits Times. Singapore will keep to existing cut-off to measure for high blood pressure. Available at: http://www.straitstimes.com/singapore/health/singapore-will-keep-current-cut-off-for-high-blood-pressure. Accessed March 30, 2018. [6] The Straits Times. New 130/80 high blood pressure guideline means more people in Singapore - 1 in 3 - have hypertension. Available at: http://www.straitstimes.com/singapore/health/new-13080-high-blood-pressure-guideline-will-mean-more-people-in-singapore-1-in-3. Accessed March 30, 2018. [7] Mancia G, Fagard R, Narkiewicz K, et al. *Eur Heart J* 2013;34:2159-2219. [8] James PA, Oparil S, Carter PL, et al. *JAMA* 2014;311:507-520.