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2021 WHO Hypertension Guidelines Highlights

World Health
Organization



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More people die each year from cardiovascular diseases (CVD) than from any other cause.

Hypertension – is a serious medical condition that significantly increases the risk of heart, brain, kidney and other diseases.

It is estimated that 1.4 billion people worldwide have high blood pressure (BP), but just 14% have it under control.

In this guideline, the World

Health Organization (WHO) provides the most current and relevant evidence-based global public health guidance on the initiation of treatment with pharmacological agents for hypertension in adults.

A WHO guideline dealing specifically with raised BP was last published more than 20 years ago – in 1999.

The guideline provides the basis for decision on whether to initiate treatment with *monotherapy*,

dual therapy or *single-pill combinations*, as well as guidance for countries selecting medicines and algorithms for hypertension control for their national guidelines for hypertension management.



For full text click link:
<https://apps.who.int/iris/bitstream/handle/10665/344424/9789240033986-eng.pdf>

RECOMMENDATION ON BP THRESHOLD FOR INITIATION OF PHARMACOLOGICAL TREATMENT



> 140/90
SBP/DBP

Initiation of pharmacological antihypertensive treatment with a **confirmed diagnosis of hypertension**

130 - 139
SBP

Initiation of pharmacological antihypertensive treatment with existing **CVD**

130 - 139
SBP

Initiation of pharmacological antihypertensive treatment **without CVD but with high CV risk, DM or CKD**



*BP in mmHg; SBP: systolic BP; DBP: diastolic BP; DM: diabetes mellitus; CKD: chronic kidney disease

Implementation remarks:

- Initiation of pharmacological hypertension (HTN) treatment should start no later than four weeks following diagnosis of HTN.
- If BP level is high (e.g. systolic ≥ 160 mmHg or diastolic ≥ 100 mmHg) or there is accompanying evidence of end organ damage, initiation of treatment should be started without delay.

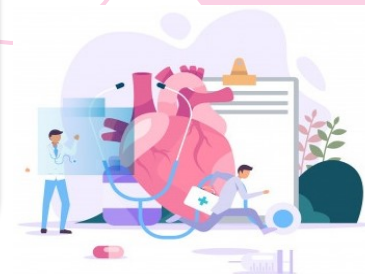
How the Initiation of Treatment Recommendations different from ACC & ESC guidelines?

Initiation of Blood Pressure-Lowering Treatment	
2017 ACC/AHA Hypertension Guidelines	2018 ESC / ESH Hypertension Guidelines
Initiate pharmacological treatment in adults with no CVD and 10-yr ASCVD risk $< 10\%$ & BP - $\geq 140/90$ mmHg	Initiate treatment in very high risk patients with CVD, especially CAD & BP - 130-139 / 85-89 mmHg
Initiate pharmacological treatment in adults • with clinical CVD • with an estimated 10-year ASCVD risk $\geq 10\%$ & BP - $\geq 130/80$ mmHg	Immediate drug treatment in high or very high risk patients with CVD, renal disease or HMOD & BP - 140-159 / 90-99 mmHg
	Immediate drug treatment in All patients with BP - $\geq 160 / 100$ mmHg

ASCVD: atherosclerotic cardiovascular disease; HMOD: hypertension-mediated organ damage

RECOMMENDATION ON LABORATORY TESTING

When starting pharmacological therapy for hypertension, **obtain tests to screen** for comorbidities and secondary hypertension, but only when testing does not delay or impede starting treatment.



Implementation remarks:

- Suggested tests include serum electrolytes and creatinine, lipid panel, HbA1C or fasting glucose, urine dipstick, and ECG.
- In low-resourced areas or non-clinical settings, where testing may not be possible because of additional costs, and lack of access to laboratories and ECG, treatment should not be delayed, and testing can be done subsequently.
- Some medicines, such as long-acting dihydropyridine CCBs are more suitable for initiation without testing, compared to diuretics or ACEi / ARBs.

RECOMMENDATION ON DRUG CLASSES TO BE USED AS FIRST-LINE AGENTS



WHO recommends the use of drugs from any of the following three classes of pharmacological antihypertensive medications as an initial treatment:

1. **thiazide and thiazide-like agents**
2. **ACEis / ARBs**
3. **long-acting dihydropyridine CCBs**



Implementation remarks:

- Long-acting anti-hypertensives are preferred.
- Examples of indications to consider specific agents include
 - **diuretics or CCBs** in patients over 65 years
 - **beta-blockers** in ischaemic heart disease,
 - **ACEis/ARBs** in patients with severe proteinuria, diabetes mellitus, heart failure or kidney disease.

RECOMMENDATION ON COMBINATION THERAPY



WHO suggests combination therapy, preferably with a single-pill combination (to improve adherence and persistence), as an initial treatment.

Medications used in combination therapy should be chosen from the following three drug classes:

- diuretics (thiazide or thiazide-like)
- ACEis / ARBs
- long-acting dihydropyridine CCBs



Implementation remarks:

- Combination medication therapy may be especially valuable when the baseline BP is $\geq 20/10$ mmHg higher than the target blood pressure.
- Single-pill combination therapy improves medication-taking adherence and persistence and BP control.

RECOMMENDATION ON TARGET BLOOD PRESSURES

**< 140/90
SBP/DBP**

in all patients with hypertension without comorbidities.

**< 130
SBP**

in patients with hypertension and known CVD.

**< 130
SBP**

in high-risk patients with hypertension (those with high CVD risk, DM, CKD).



Frequency of re-assessment

- a **monthly** follow up is recommended after initiation or a change in antihypertensive medications until patients reach target.
- a follow up every **3–6 months** is suggested for patients whose blood pressure is under control.

How the Treatment Targets are different from ACC & ESC guidelines?

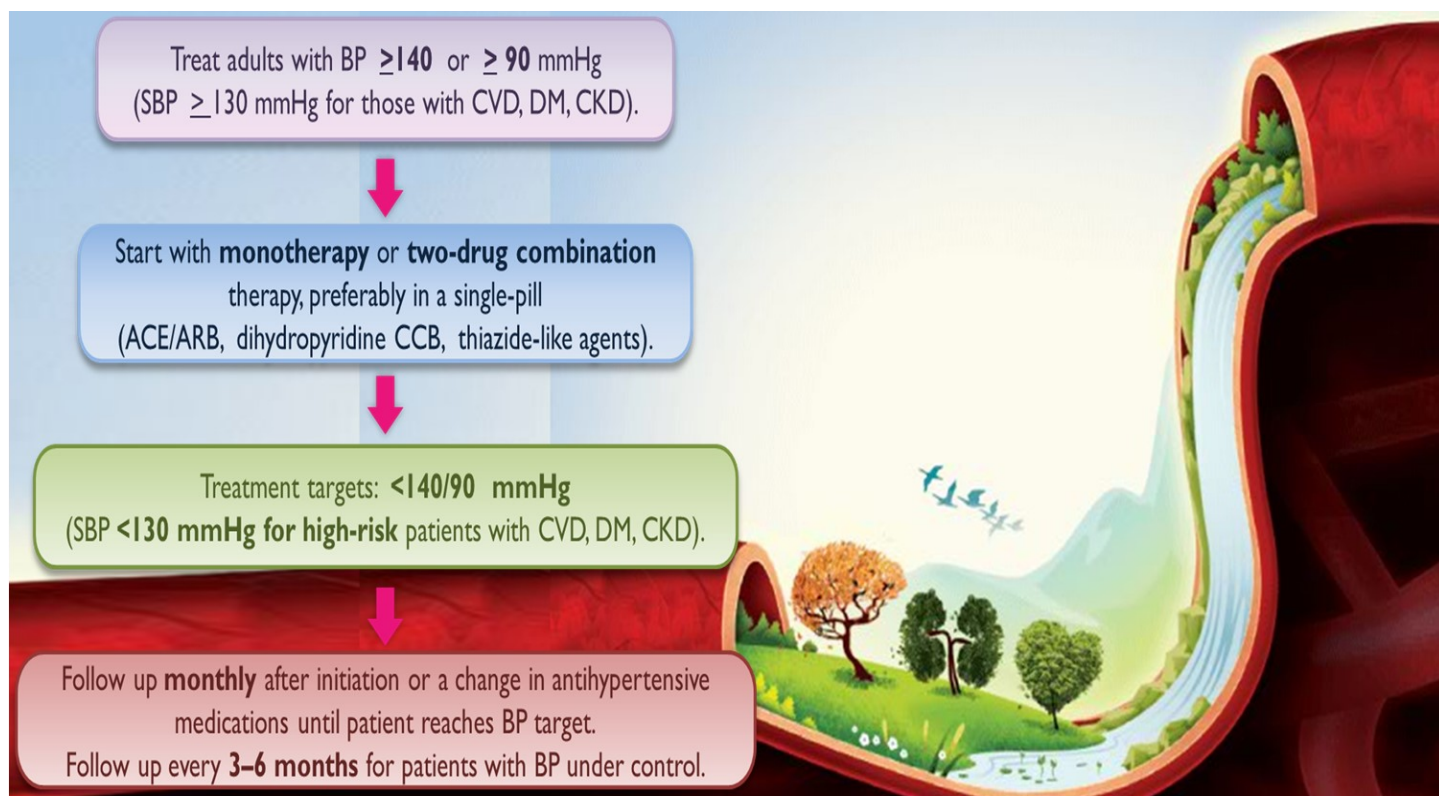
2017 ACC/AHA Hypertension Guidelines – Treatment Targets

- For adults with confirmed hypertension with or without CVD risk, a BP target of **< 130/80 mmHg** is recommended.

2018 ESC / ESH Hypertension Guidelines – Treatment Targets

- For adults with confirmed hypertension (+DM / +CAD / +Stroke/TIA) **SBP target <130 mmHg**.
- For patient with confirmed hypertension (+CKD / age ≥ 70 yrs) **SBP target <140 mmHg**.
- DBP target <80 mmHg** for all treated patients.

To Summarize



For any scientific queries on above topic

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