Summary of what's new in this hypertension guideline and gaps in the evidence

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Categories of BP in adults according to American guidelines 2017

BP Category	SBP		DBP
Normal	<120 mm Hg	and	<80 mm Hg
Elevated	120–129 mm Hg	and	<80 mm Hg
Hypertension			
Stage 1	130–139 mm Hg	or	80–89 mm Hg
Stage 2	≥140 mm Hg	or	≥90 mm Hg

Whelton et al, JAMA, 2017

Classification of office blood pressure and definitions of hypertension grade

European Society of Hypertension

ESC European Society of Cardiology

Category[a]	Systolic (mmHg)		Diastolic (mmHg)
Optimal	< 120	and	< 80
Normal	120–129	and/or	80-84
High normal	130–139	and/or	85-89
Grade 1 hypertension	140–159	and/or	90-99
Grade 2 hypertension	160–179	and/or	100-109
Grade 3 hypertension	≥ 180	and/or	≥ 110
Isolated systolic hypertension[b]	≥ 140	and	< 90

10-year CV risk categories (SCORE system)

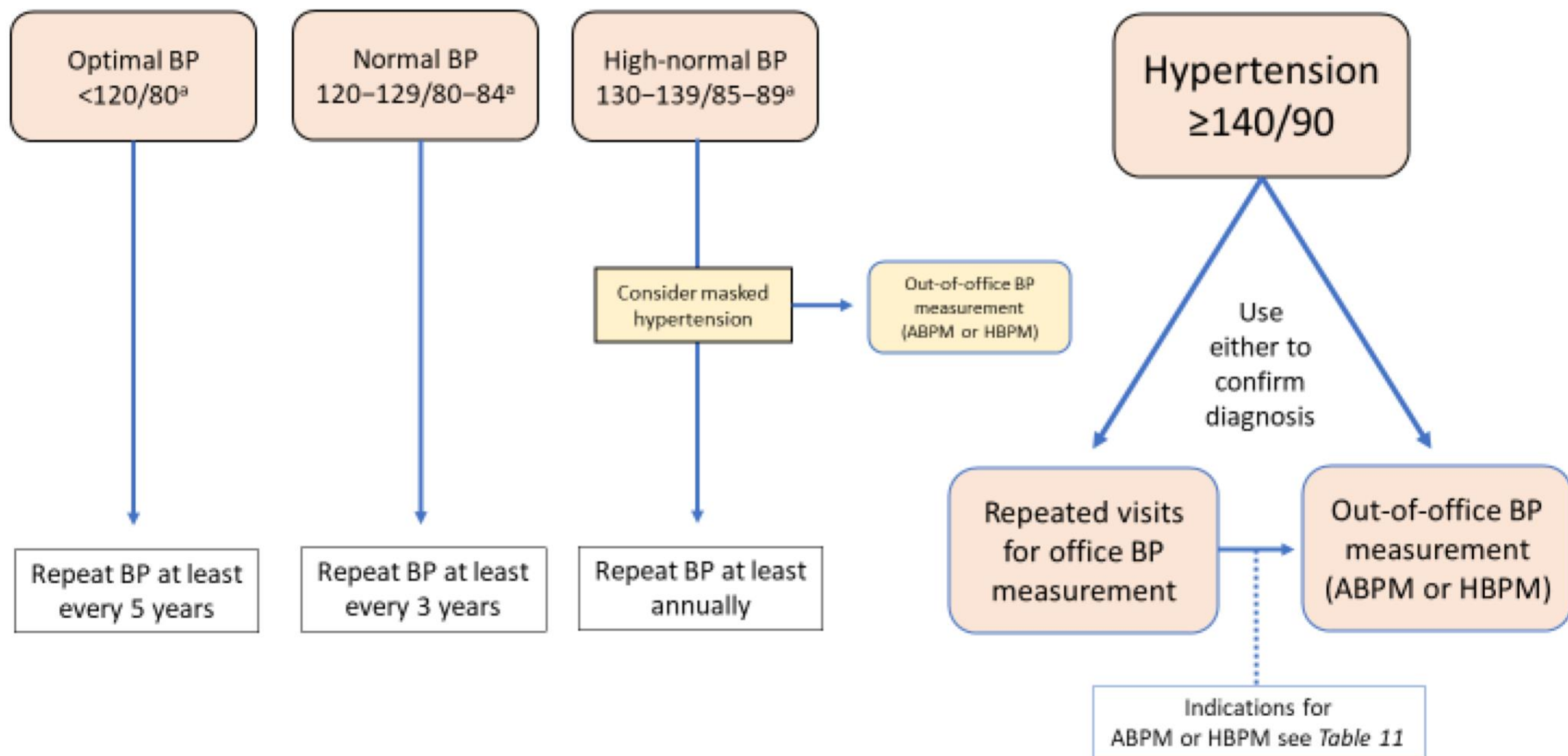
Risk category	Description
Very high risk	**People with any of the following:** **Documented CVD, either clinical or unequivocal on imaging.** **Clinical CVD** includes; acute myocardial infarction, acute coronary syndrome, coronary or other arterial revascularization, stroke, TIA, aortic aneurysm, PAD. **Unequivocal documented CVD on imaging** includes: significant plaque (i.e. ≥ 50% stenosis) on angiography or ultrasound. It does not include increase in carotid intima-media thickness. **Diabetes mellitus with target organ damage**, e.g. proteinuria or a with a major risk factor such as grade 3 hypertension or hypercholesterolaemia **Severe CKD** (eGFR < 30 mL/min/1.73 m^2) **A calculated 10-year SCORE of ≥ 10%**
High risk	**People with any of the following:** **Marked elevation of a single risk factor**, particularly cholesterol > 8 mmol/L (> 310 mg/dL) e.g. familial hypercholesterolaemia, grade 3 hypertension (BP ≥ 180/110 mmHg) **Most other people with diabetes mellitus** (except some young people with type 1 diabetes mellitus and without major risk factors, that may be moderate risk) **Hypertensive LVH** **Moderate CKD** (eGFR 30–59 mL/min/1.73 m^2) **A calculated 10-year SCORE of 5–10%**
Moderate risk	**People with:** **A calculated 10-year SCORE of 1% to < 5%** **Grade 2 hypertension** **Many middle-aged people** belong to this category
Low risk	**People with:** **A calculated 10-year SCORE of < 1%**

ESC European Society of Cardiology

Williams, Mancia et al., J Hypertens 2018 and Eur Heart J 2018, in press

ESH European Society of Hypertension

Screening and diagnosis of hypertension

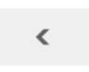


ESC European Society of Cardiology

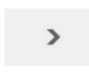
Williams, Mancia et al., J Hypertens 2018 and Eur Heart J 2018, in press

ESH European Society of Hypertension

Initiation of BP-lowering treatment (lifestyle changes and medication) at different initial office BP levels



High normal BP BP 130-139 / 85-89	Grade 1 hypertension BP 140-159 / 90-99	Grade 2 hypertension BP 160-179 / 100-109	Grade 3 hypertension BP ≥ 180/ 110
Lifestyle advice	Lifestyle advice	Lifestyle advice	Lifestyle advice
Consider drug treatment in very high risk patients with CVD, especially CAD	Immediate drug treatment in high or very high risk patients with CVD, renal disease or HMOD	Immediate drug treatment in all patients	Immediate drug treatment in all patients
	Drug treatment in low-moderate risk patients without CVD, renal disease, or HMOD after 3-6 months of lifestyle intervention if BP not controlled	Aim for BP control within 3 months	Aim for BP control within 3 months



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Williams, Mancia et al., J Hypertens 2018 and Eur Heart J 2018, in press

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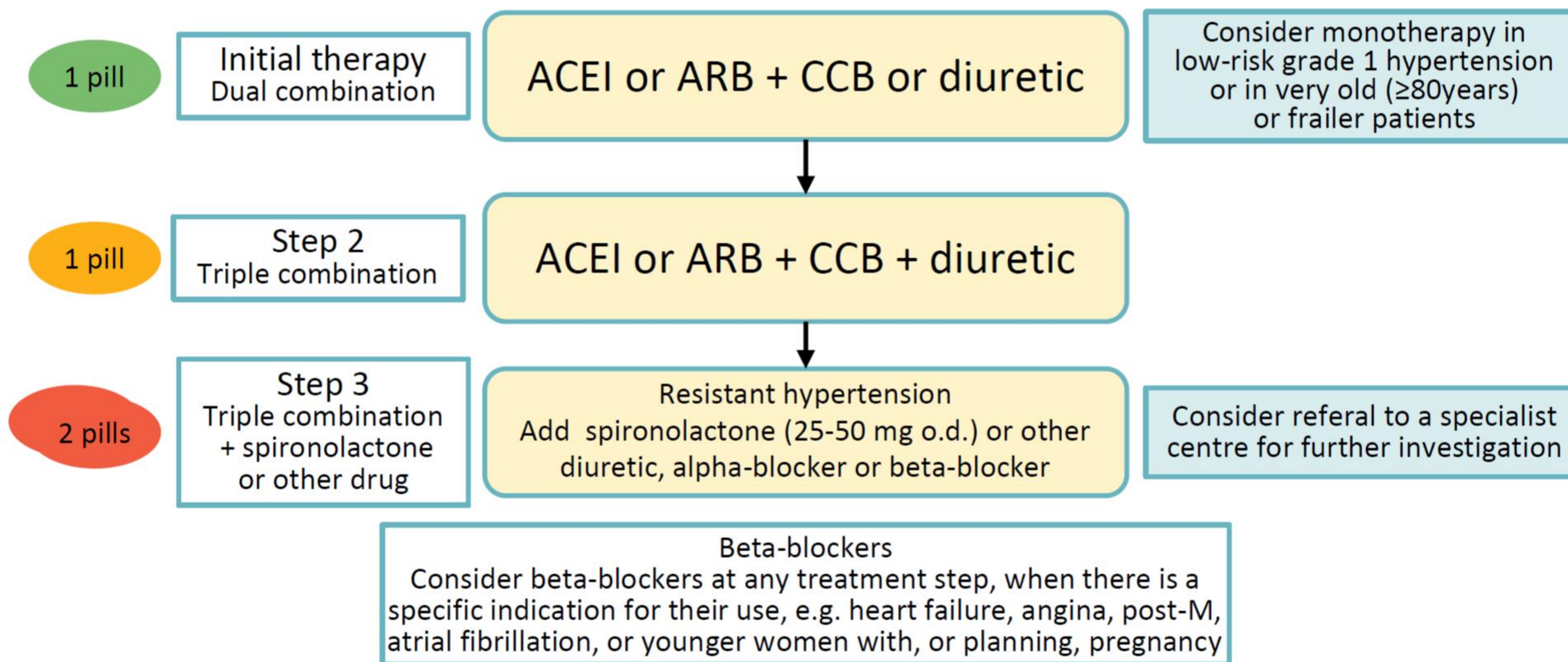
Core drug-treatment strategy for uncomplicated hypertension. The core algorithm is also appropriate for most patients with HMOD, cerebrovascular disease, diabetes, or PAD



Williams, Mancia et al., J Hypertens 2018 and Eur Heart J 2018, in press

What's new and what's changed in the 2018 ESC/ESH hypertension guidelines?

CHANGE IN RECOMMENDATIONS

ESC European Society of Cardiology

ESH European Society of Hypertension

2013	2018
Diagnosis Office BP is recommended for screening and diagnosis of hypertension.	**Diagnosis** It is recommended to base the diagnosis of hypertension on: • Repeated office BP measurements; or • **Out-of-office BP measurement** with ABPM and/or HBPM if logistically and economically feasible.
Treatment thresholds **High-normal BP (130–139/85–89 mmHg):** Unless the necessary evidence is obtained **it is not recommended** to initiate antihypertensive drug therapy at high-normal BP.	**Treatment thresholds** **High-normal BP (130–139/85–89 mmHg):** · Drug treatment may be considered **when CV risk is very high** due to established CVD, especially CAD
Treatment of low-risk grade 1 hypertension: Initiation of antihypertensive drug treatment **should be considered** in grade 1 hypertensive patients at low to moderate risk, when remains within this range despite a reasonable period of time with lifestyle measures.	**Treatment of low-risk grade 1 hypertension**: · In patients with grade 1 hypertension at low–moderate risk and without evidence of HMOD, **BP-lowering drug treatment is recommended** if the patient remains hypertensive, after a period of lifestyle intervention.

European Heart Journal (2018) doi:10.1093/eurheartj/ehy339
European Journal of Hypertension (2018) doi:10.1097/HJH.0000000000001940

What's new and what's changed in the 2018 ESC/ESH hypertension guidelines?

CHANGE IN RECOMMENDATIONS

ESC European Society of Cardiology
ESH European Society of Hypertension

2013	2018
Treatment thresholds **Older patients** Antihypertensive drug treatment **may be considered** in the elderly (at least when younger than 80 years) **when SBP is in the 140–159** mmHg range, provided that antihypertensive treatment is well tolerated.	**Treatment thresholds** **Older patients** BP-lowering drug treatment and lifestyle intervention **is recommended** in fit older patients (> 65 years but not > 80 years) when **SBP is in the grade 1 range** (140–159 mmHg), provided that treatment is well tolerated.
BP treatment targets A SBP goal of < 140 mmHg is recommended.	**BP treatment targets** It is recommended that the first objective of treatment should be to lower BP to < 140/90 mmHg in all patients and provided that the treatment is well tolerated, treated BP values **should be targeted to 130/80 mmHg or lower, in most patients**. In patients < 65 years it is recommended that SBP should be lowered to a BP range of 120 to < 130 mmHg in most patients.

European Heart Journal (2018) doi:10.1093/eurheartj/ehy339
European Journal of Hypertension (2018) doi:10.1097/HJH.0000000000001940

What's new and what's changed in the 2018 ESC/ESH hypertension guidelines?

ESC European Society of Cardiology

European Society of Hypertension

CHANGE IN RECOMMENDATIONS

2013	2018
BP treatment targets in older patients (65–80 years) A SBP target between of 140 and 150 mmHg is recommended for older patients (65–80 years).	**BP treatment targets in older patients (65–80 years)** In older patients (≥65 years), it is recommended that SBP should be targeted to a **BP range of 130 to <140 mmHg**.
BP treatment targets in patients aged over 80 years A **SBP target between 140 and 150 mmHg** should be considered, provided that they are in good physical and mental condition.	**BP treatment targets in patients aged over 80 years** A **SBP target range of 130 to < 140 mmHg** is recommended for people older than 80 years, if tolerated.
DBP targets A **DBP target of < 90 mmHg** is always recommended, except in patients with **diabetes** in whom values **< 85 mmHg** are recommended.	**DBP targets** A **DBP target of < 80 mmHg should be considered for all hypertensive patients**, independent of the level of risk and comorbidities.

2018 ESC/ESH Guidelines for the management of arterial hypertension
European Heart Journal (2018) doi:10.1093/eurheartj/ehy339
European Journal of Hypertension (2018) doi:10.1097/HJH.0000000000001940

What's new and what's changed in the 2018 ESC/ESH hypertension guidelines?

CHANGE IN RECOMMENDATIONS

ESC European Society of Cardiology

ESH European Society of Hypertension

2013	2018
Initiation of drug treatment Initiation of antihypertensive therapy with a two-drug combination may be considered in patients with markedly high baseline BP or at high CV risk.	**Initiation of drug treatment** It is recommended **to initiate antihypertensive treatment with a two-drug combination**, preferably in a **SPC.** The exceptions are frail older patients and those at low risk and with grade 1 hypertension (particularly if SBP is < 150 mmHg).
Resistant hypertension Mineralocorticoid receptor antagonists, amiloride, and the alpha-1 blocker doxazosin should be considered if no contraindication exists**.**	**Resistant hypertension** Recommended treatment of resistant hypertension is the **addition of low-dose spironolactone to existing treatment**, or the addition of further diuretic therapy if intolerant to spironolactone, with either eplerenone, amiloride, higher-dose thiazide/thiazide-like diuretic or a loop diuretic, or the addition of bisoprolol or doxazosin.

2018 ESC/ESH Guidelines for the management of arterial hypertension
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European Journal of Hypertension (2018) doi:10.1097/HJH.0000000000001940