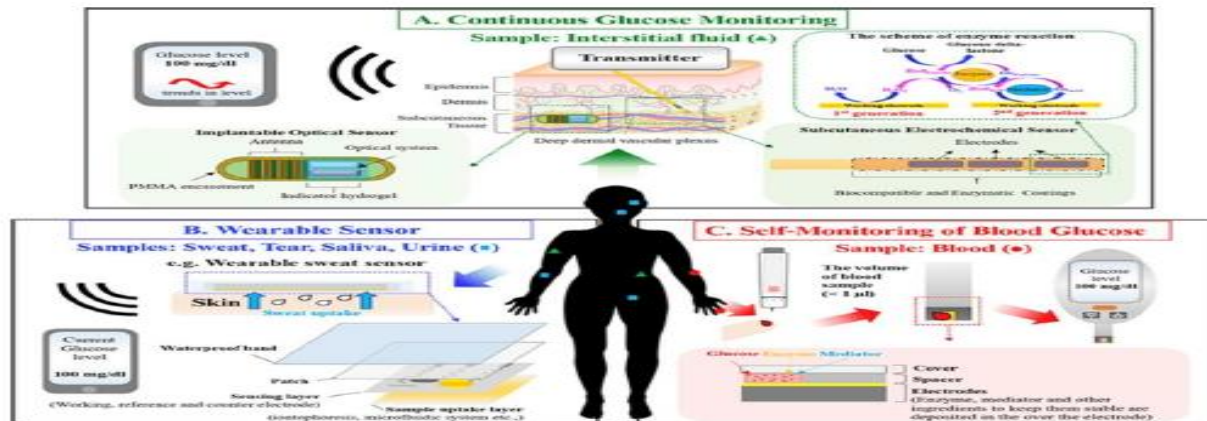


5<sup>th</sup> SEMINARY OF LAREDIAB  
11<sup>th</sup> CONGRESS OF AMIWIT

Friday 9 & Saturday 10 December 2022  
FACULTY OF SNV/STU - UNIVERSITY OF TLEMSEN



HTA ESSENTIALS 2022



**ESC**

European Society  
of Cardiology

European Heart Journal (2022) **43**, 3302–3311

<https://doi.org/10.1093/eurheartj/ehac432>

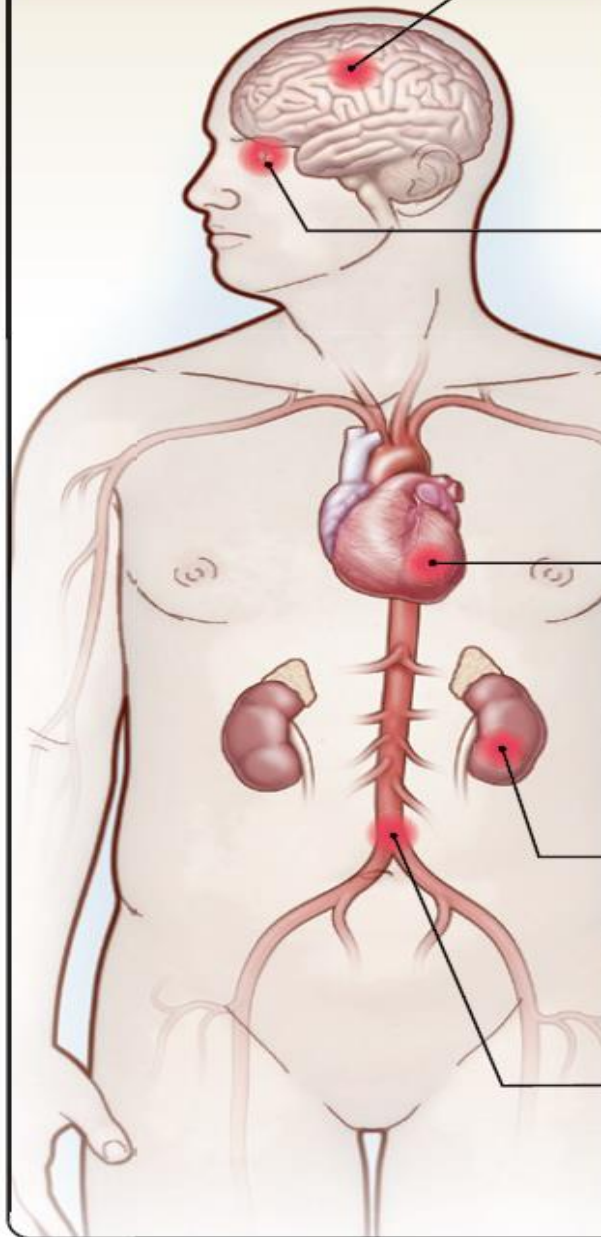
**SPECIAL ARTICLE**

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# **Harmonization of the American College of Cardiology/American Heart Association and European Society of Cardiology/European Society of Hypertension Blood Pressure/Hypertension Guidelines**

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## Target-organ damage



### Brain

Stroke sequelae  
Multi-infarct dementia

### Eye

Retinopathy including  
cotton-wool exudates  
Hemorrhage  
Papilledema

### Heart

Diastolic dysfunction  
Left ventricular hypertrophy  
Obstructive cardiomyopathy  
Heart failure with preserved  
ejection fraction  
Accelerated coronary  
atherosclerosis  
Myocardial infarction  
Heart failure with reduced  
ejection fraction

### Kidney

Chronic kidney disease  
Albuminuria  
Reduced GFR  
End-stage kidney failure

### Vascular

Aortic aneurysm — ascending  
or descending  
Atherosclerotic occlusive  
disease with limb or  
organ ischemia  
Arterial or aortic dissection

# MESURES DE LA PA

- ✓ **Mesure PA = Fondamentale DT2**
- ✓ **Méthode = Rigoureuse**
- ✓ **PA consultation nécessaire mais insuffisante**
- ✓ **L'AMT reflète mieux l'état tensionnel (Corrélée atteinte organe cible)**
- ✓ **MAPA = indications bien précises**



# BP MEASUREMENT

**Table 1** BP Measurement

<b>American College of Cardiology/American Heart Association</b>	<b>European Society of Cardiology/European Society of Hypertension</b>
Strong emphasis on measurement accuracy.	Strong emphasis on measurement accuracy.
Use of repeated office readings ( $\geq 2$ readings on $\geq 2$ occasions).	Use of repeated readings (3 readings, with additional readings when first 2 differ by $\geq 10$ mm Hg or BP unstable because of an arrhythmia). BP is recorded as the average of the last 2 BP readings.
Confirmation of office hypertension by means of out-of-office (HBPM or ABPM) BP measurements.	Confirmation of hypertension by means of repeated office, or out-of-office (ABPM or HBPM) BP measurements.
Out-of-office measurements to recognize masked and white coat hypertension.	Out-of-office BP measurements to recognize masked and white coat hypertension.
	Heart rate should be also recorded during BP measurements.

**Table 3** European Society of Cardiology/European Society of Hypertension Table of Out-of-Office Equivalence for an Office Systolic Blood Pressure/Diastolic Blood Pressure of 140/90 mm Hg

Office	Home	Ambulatory blood pressure monitoring		
		Daytime	Nighttime	24 hours
140/90	135/85	135/85	120/70	130/80

All measurements are mm Hg. Table modified from Williams et al<sup>2</sup> with permission. Copyright © 2018, Oxford University Press to facilitate comparison.



# PATIENT EVALUATION

ACC/AHA	ESC/ESH
<ul style="list-style-type: none"><li>-Personal and family medical history.</li><li>-Physical examination, that includes BPs in both arms on first occasion.</li><li>-Laboratory testing that includes a complete blood count, fasting blood sugar, blood count, lipid profile, serum creatinine/estimated glomerular filtration rate (eGFR), serum calcium, and thyroid stimulating hormone (TSH).</li><li>-Urinalysis.</li><li>-Electrocardiogram.</li><li>-Optional testing: echocardiogram, uric acid, and urinary albumin/creatinine ratio.</li></ul>	<ul style="list-style-type: none"><li>-Personal and family medical history.</li><li>-Physical examination that includes BPs in both arms on first occasion.</li><li>-Laboratory testing for hemoglobin/hematocrit, fasting blood glucose and glycated HbA<sub>1c</sub>, blood cholesterol (total, LDL and HDL), triglycerides, potassium and sodium, uric acid, creatinine/eGFR, and liver function tests.</li><li>-Urinalysis and urine protein testing, or ideally albumin/creatinine ratio.</li><li>-12-lead electrocardiogram.</li><li>-Additional testing: Echocardiography, carotid ultrasound, pulse wave velocity, ankle-brachial index, cognitive function testing, and brain imaging for evidence of hypertension-mediated organ damage (HMOD).</li></ul>

# CVD RISK ASSESSMENT

## 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 and PAD.
- **Unequivocal documented CVD on imaging** includes significant plaque (i.e.  $\geq 50\%$  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<sup>2</sup>)
- **A calculated 10-year SCORE of  $\geq 10\%$**

## 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  $\geq 180/110$  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<sup>2</sup>)
- **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  $< 1\%$**



# Lifestyle interventions for prevention and management of hypertension.

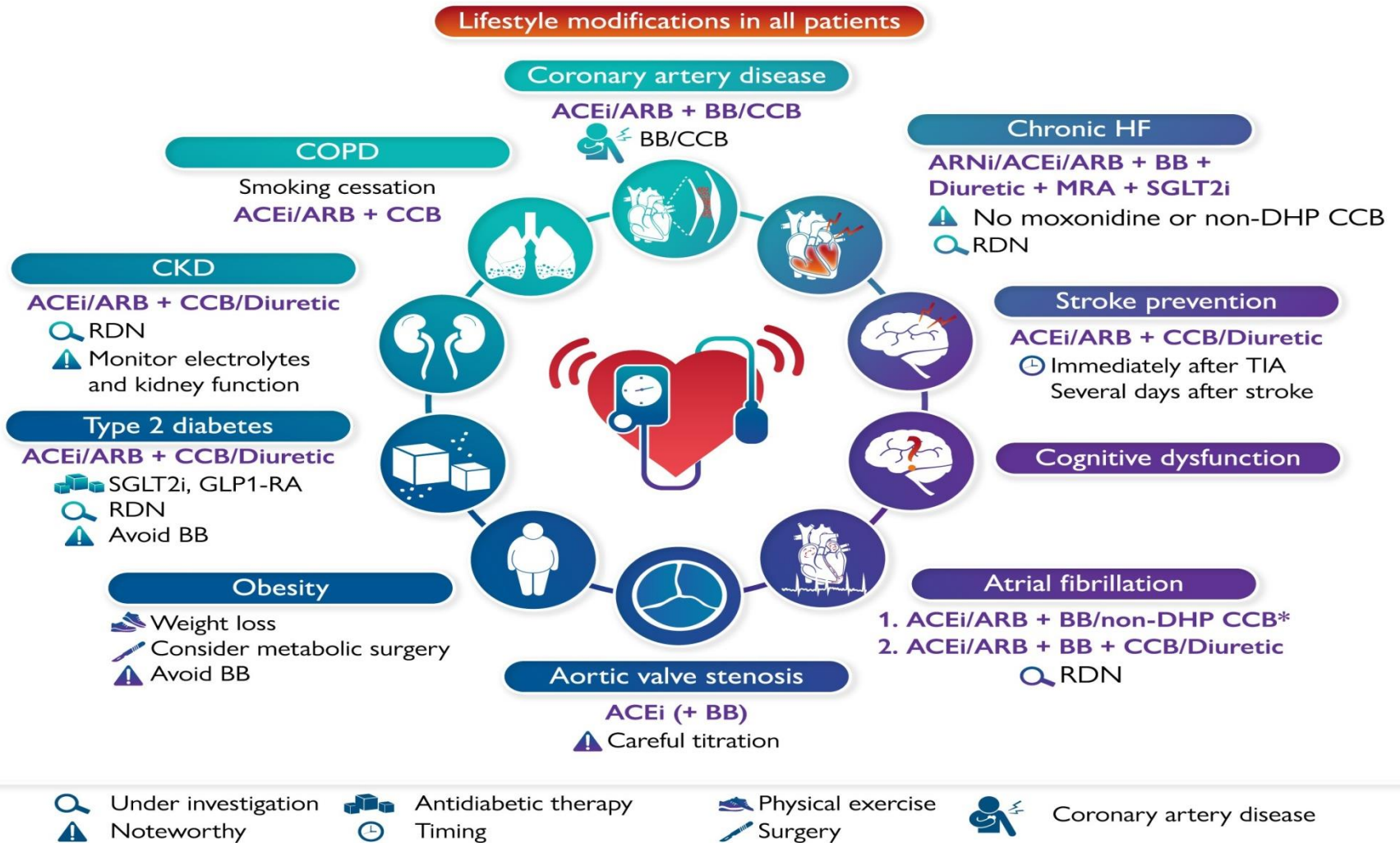
ACC/AHA	ESC/ESH
<ul style="list-style-type: none"><li>-Healthy diet, preferably by following Dietary Approaches to Stop Hypertension (DASH) diet.</li><li>-Weight loss, if overweight or obese.</li><li>-Reduced dietary sodium intake.</li><li>-Enhanced potassium intake, through diet.</li><li>-Physical activity.</li><li>-Moderation or abstinence from alcohol.</li><li>-Tobacco cessation recommended for prevention of CVD.</li></ul>	<ul style="list-style-type: none"><li>-Healthy balanced diet, for example the Mediterranean diet.</li><li>-Weight loss, if overweight or obese.</li><li>-Reduced dietary sodium intake.</li><li>-Physical activity.</li><li>-Moderation in alcohol consumption and avoid binge drinking.</li><li>-Smoking cessation recommended for prevention of CVD.</li></ul>

## OFFICE BP TREATMENT TARGETS

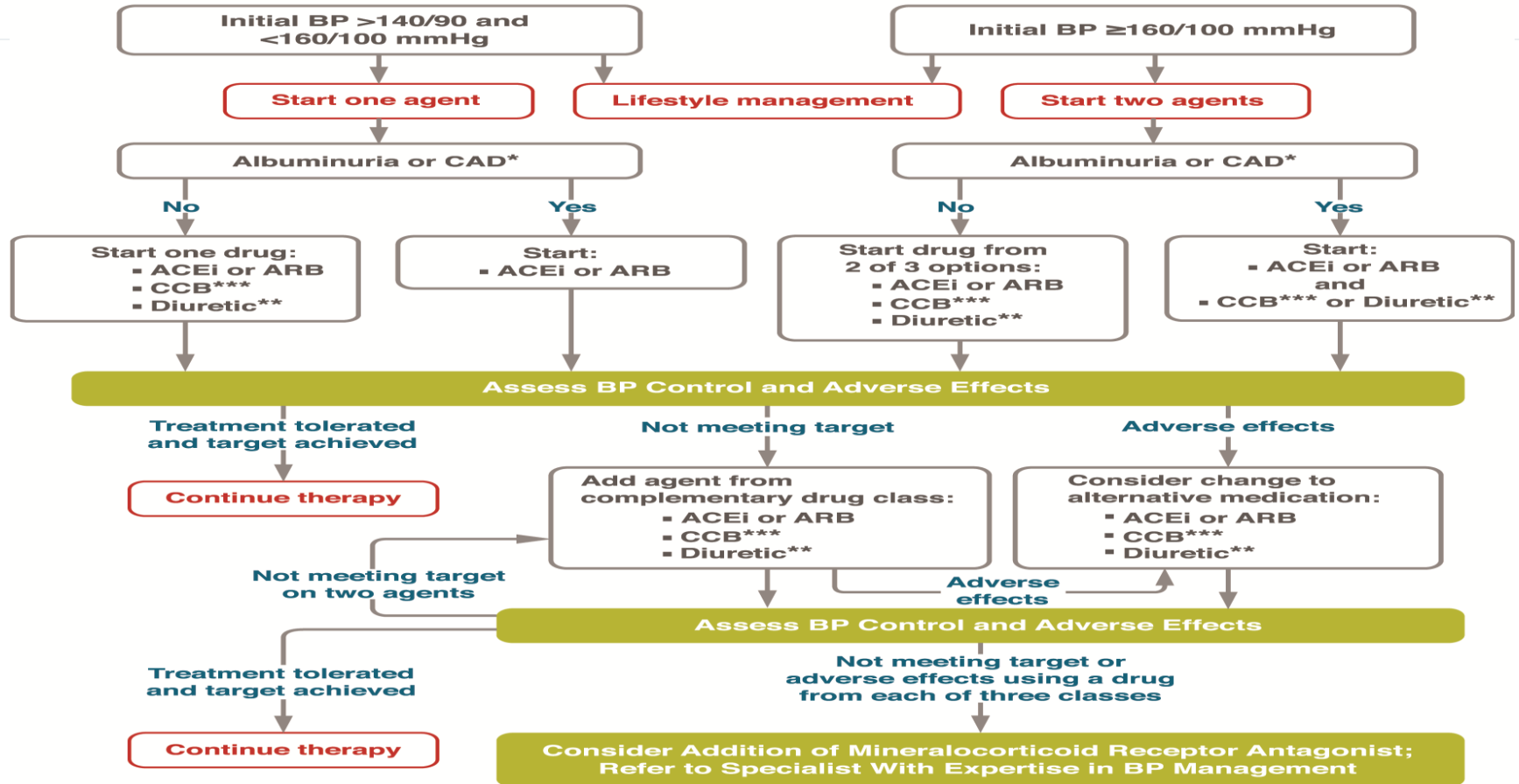
**Table 8** European Society of Cardiology/European Society of Hypertension Office Blood Pressure Treatment Targets for Antihypertensive Drug Therapy for Management of Hypertension

Age, y	Systolic blood pressure, mm Hg				Diastolic blood pressure, mm Hg
	Hypertension	+Diabetes	+Coronary heart disease	+Stroke/transient ischemic attack	
18-65	130 or lower, if tolerated but not <120				<140 to 130, if tolerated
≥65	130-139, if tolerated				70-79

**Graphical Abstract** Dependent on comorbidities, some medications should be preferred while others are contraindicated.



## Recommendations for the Treatment of Confirmed Hypertension in People With Diabetes



**Figure Legend:**

Recommendations for the treatment of confirmed hypertension in people with diabetes. \*An ACE inhibitor (ACEi) or angiotensin receptor blocker (ARB) is suggested to treat hypertension for patients with coronary artery disease (CAD) or urine albumin-to-creatinine ratio 30–299 mg/g creatinine and strongly recommended for patients with urine albumin-to-creatinine ratio ≥300 mg/g creatinine. \*\*Thiazide-like diuretic; long-acting agents shown to reduce cardiovascular events, such as chlorthalidone and indapamide, are preferred. \*\*\*Dihydropyridine calcium channel blocker (CCB). BP, blood pressure. Adapted from de Boer et al. (17).

***THANKS FOR YOUR  
ATTENTION***

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