Υπέρταση: θεραπευτικός αλγόριθμος
2023 GUIDELINES

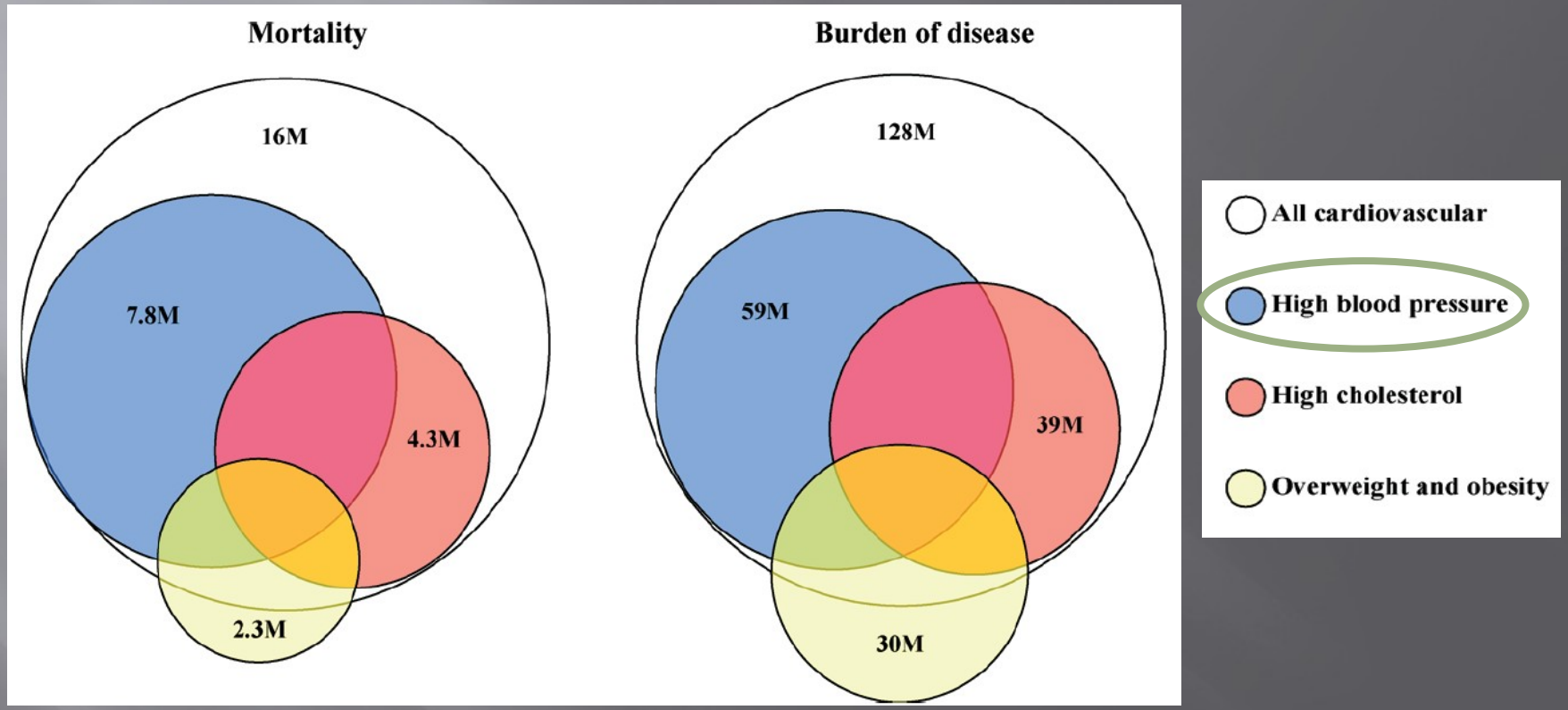
Δρ **ΧΑΡΑΛΑΜΠΟΣ ΛΥΔΑΚΗΣ**

Παθολόγος
Υπεύθυνος Αντιυπερτασικού Ιατρείου Βενιζελείου Νοσοκομείου
Προϊστάμενος Διευθυντής Β΄ Παθολογικής Βενιζελείου

Ειδικός Κλινικός στην Υπέρταση

(Clinical Hypertension Specialist - European Hypertension Society)

Global Mortality and Burden of Disease Attributable to CVD and Their Major Risk Factors for People Aged ≥30 Years



Ezzati M, et al. *PLoS Med*. 2005;2(5):e133.

2023 ESH Guidelines for the management of arterial hypertension

The Task Force for the management of arterial hypertension of the European Society of Hypertension

Endorsed by the European Renal Association (ERA) and the International Society of Hypertension (ISH)

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Editors' Commentary on the 2023 ESH Management of Arterial Hypertension Guidelines

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Short title: ESH 2023 Hypertension Guidelines

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Abstract:

Clinical practice guidelines are ideally suited to the provision of advice on the prevention, diagnosis, evaluation, and management of high blood pressure (BP). The recently published European Society of Hypertension (ESH) *2023 ESH Guidelines for the management of arterial hypertension* is the latest in a long series of high BP clinical practice guidelines. It closely resembles the 2018 European Society of Cardiology/ESH guidelines, with incremental rather than major changes. Although the ESH guidelines are primarily written for European clinicians and public health workers, there is a high degree of concordance between its recommendations and those in the other major BP guidelines. Despite the large number of national and international BP guidelines around the world, general population surveys demonstrate that BP guidelines are not being well implemented in any part of the world. The level of BP, which is the basis for diagnosis and management, continues to be poorly measured in routine clinical practice and control of hypertension remains sub-optimal, even to a conservative blood pressure target such as a systolic/diastolic BP <140/90 mm Hg. BP guidelines need to focus much more on implementation of recommendations for accurate diagnosis and strategies for improved control in those being treated for hypertension. An evolving body of implementation science can assist in meeting this goal. Given the enormous health, social, and financial burden of high BP better diagnosis and management should be an imperative for clinicians, government, and others responsible for the provision of healthcare services. Hopefully, the 2023 ESH will help enable this.

Keywords: Financial Stress; Goals; Hypertension; Cardiology; Government

Abstract:

Clinical practice guidelines are ideally suited to the provision of advice on the prevention, diagnosis, evaluation, and management of high blood pressure (BP). The recently published European Society of Hypertension (ESH) *2023 ESH Guidelines for the management of arterial hypertension* is the latest in a long series of high BP clinical practice guidelines. It closely resembles the 2018 European Society of Cardiology/ESH guidelines, with incremental rather than major changes. Although the ESH guidelines are primarily written for European clinicians and public health workers, there is a high degree of concordance between its recommendations and international BP guidelines around the world. General population surveys demonstrate that BP guidelines are not being well implemented in many parts of the world. The level of BP, which is the basis for diagnosis and management, continues to be poorly measured in routine clinical practice and control of hypertension remains sub-optimal, even to a conservative blood pressure target such as a systolic/diastolic BP <140/90 mm Hg. BP guidelines need to focus much more on implementation of recommendations for accurate diagnosis and strategies for improved control in those being treated for hypertension. An evolving body of implementation science can assist in meeting this goal. Given the enormous health, social, and financial burden of high BP better diagnosis and management should be an imperative for clinicians, government, and others responsible for the provision of healthcare services. Hopefully, the 2023 ESH will help enable this.

Σε σχέση με τις οδηγίες του 2018: μικρές σταδιακές αλλαγές μάλλον, παρά ριζικές αλλαγές.»

Keywords: Financial Stress; Goals; Hypertension; Cardiology; Government

Class of Recommendation		Level of Evidence		
	Definition		Definition	Interpretation
I	Evidence or general agreement that a treatment/test/procedure is beneficial, useful or effective AND that potential benefits clearly outweigh potential risk	A	- RCT or meta-analysis of RCTs with CVD outcomes - Single trial enough if sufficient power and without important limitations[a]	Strong evidence. Evidence of high certainty. Unlikely that future studies will change the effect estimate substantially
II	Conflicting evidence oropinion about the benefit, usefulness and effectiveness of a treatment/ test/procedure OR uncertainty about benefit-risk balance	B	- RCT with surrogate measures (BP, HMOD) - Observational studies with CVD outcomes and no major limitations[a] - Meta-analyses including the above study types	Moderate evidence. Evidence with some Future studies may modify, at least the magnitude of, the effect estimate
III	Evidence or general agreement that a treatment/test/procedure is not beneficial, useful or effective OR that potential risks outweigh the potential benefit	C	- Observational studies of surrogate measures - Any study type may be downgraded to level C due to limitations[a] - Expert opinion (EO)	Weak evidence. Evidence of low certainty. Future studies may change the effect estimate substantially

Lifestyle interventions

Recommendations and statements	CoR	LoE
In adults with elevated BP who are overweight or obese, weight reduction is recommended to reduce BP and improve CV outcomes.	I	A
Preferred dietary products include vegetables, fruits, beans, nuts, seeds, vegetable oils, and fish and poultry among meat products. Fatty meats, full-fat dairy, sugar, sweetened beverages, and sweets should be limited. Overall, a healthy dietary patterns including more plant-based and less animal-based food is recommended.	I	B
In adults with hypertension consuming a high sodium diet (most Europeans), salt substitutes replacing part of the NaCl with KCl is recommended to reduce BP and the risk for CVD.	I	A
Dietary salt (NaCl) restriction is recommended for adults with elevated BP to reduce BP. Salt (NaCl) restriction to < 5 g (~2g sodium) per day is recommended.	I	B
Increased potassium consumption, preferably via dietary modification, is recommended for adults with elevated BP, except for patients with advanced CKD.	I	B
Daily physical activity and structured exercise is recommended for adults with elevated BP to reduce BP and improve cardiovascular risk profile. It is recommended to strive for at least 150-300 minutes of aerobic exercise a week of moderate intensity, or 75-150 minutes a week of aerobic exercise of vigorous intensity or an equivalent combination. Sedentary time should also be reduced and supplemented with dynamic resistance exercise (2-3 times per week).	I	B
Adult men and women with elevated BP or hypertension who currently consume alcohol (≥3 drinks[a]/day) should be advised that reduction of alcohol intake close to abstinence will lower their BP.	I	B
Alcohol should not be recommended for CVD prevention, as previous studies linking moderate consumption to lower CV risk are likely confounded.	III	B
It is recommended to avoid excessive (binge) drinking to reduce BP, and the risks particularly for haemorrhagic stroke and premature death.	III	B
Smoking cessation, supportive care and referral to smoking cessation programs are recommended for all smokers to avoid ambulatory BP increases, reduce the risk of masked hypertension, and improve CV health outcome.	I	B
Reduced stress via controlled breathing exercises, mindfulness-based exercise and meditation may be considered.	II	C

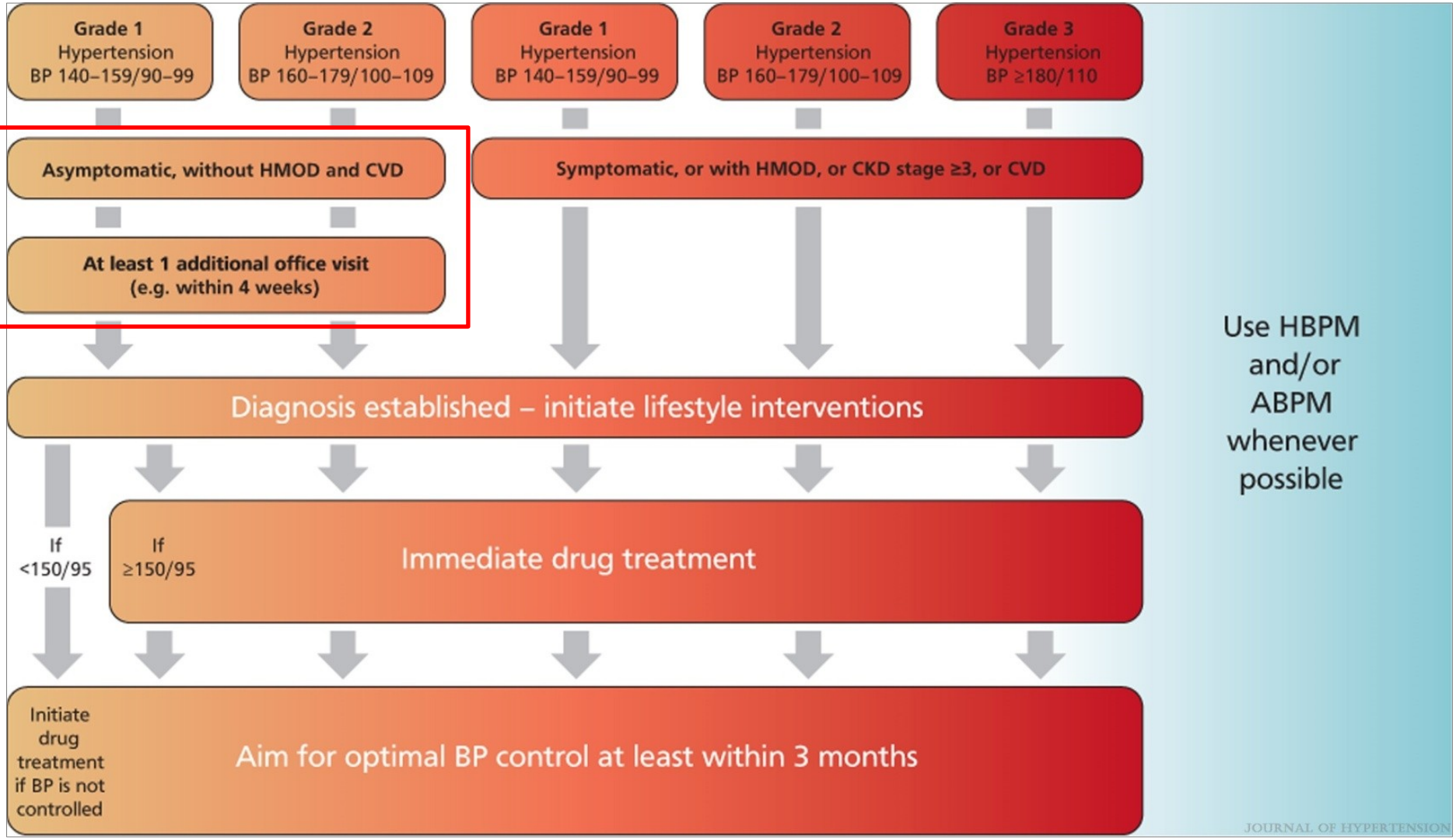
[a]There are varying definitions for drinks used in the literature; a drink may relate to about 350 ml of regular beer containing 5% alcohol by volume or 150 ml of wine containing

Μη κατανάλωση φρούτων λαχανικών: αύξηση κινδύνου 30%

Αλάτι <5 γρ (Na<2 γρ)

Άσκηση : 150-300 min μέτριας έντασης ή 75-150 min έντονης άσκησης

Diagnosis by office BP and initial management of hypertension.



2018

Threshold for treatment initiation : ⟶ >140 (>*160 in >80 years*)

Table 19 Summary of office blood pressure thresholds for treatment

Age group	Office SBP treatment threshold (mmHg)					Office DBP treatment threshold (mmHg)
	Hypertension	+ Diabetes	+ CKD	+ CAD	+ Stroke/TIA	
18 - 65 years	≥140	≥140	≥140	≥140[a]	≥140[a]	≥90
65 - 79 years	≥140	≥140	≥140	≥140[a]	≥140[a]	≥90
≥80 years	≥160	≥160	≥160	≥160	≥160	≥90
Office DBP treatment threshold (mmHg)	≥90	≥90	≥90	≥90	≥90	

BP = blood pressure; CAD = coronary artery disease; CKD = chronic kidney disease; DBP = diastolic blood pressure; SBP = systolic blood pressure; TIA = transient ischaemic attack.

[a]Treatment may be considered in these very high-risk patients with high–normal SBP (i.e. SBP 130–140 mmHg).

ESC/ESH 2018

2018 – no change in 2023

Threshold for treatment initiation : ⟶ >140 (>*160 in >80 years*)

Table 19 Summary of office blood pressure thresholds for treatment

Age group	Office SBP treatment threshold (mmHg)					Office DBP treatment threshold (mmHg)
	Hypertension	+ Diabetes	+ CKD	+ CAD	+ Stroke/TIA	
18 - 65 years	≥140	≥140	>130 (IA)	≥140[a]	≥140[a]	≥90
65 - 79 years	≥140	≥140		≥140[a]	≥140[a]	≥90
≥80 years	≥160	≥160	≥160	≥160	≥160	≥90
Office DBP treatment threshold (mmHg)	≥90	≥90	≥90	≥90	≥90	

BP = blood pressure; CAD = coronary artery disease; CKD = chronic kidney disease; DBP = diastolic blood pressure; SBP = systolic blood pressure; TIA = transient ischaemic attack.

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ESC/ESH 2018

2018

Target : ⟶ **in <65 years: 120 - 129**

in >65 years: 130-139 if tolerated

Table 23 Office blood pressure treatment target range

Age group	Office SBP treatment target ranges (mmHg)					Office DBP treatment target range (mmHg)
	Hypertension	+ Diabetes	+ CKD	+ CAD	+ Stroke[a]/TIA	
18 - 65 years	**Target to 130** *or lower if tolerated* Not <120	**Target to 130** *or lower if tolerated* Not <120	**Target to <140 to 130** *if tolerated*	**Target to 130** *or lower if tolerated* Not <120	**Target to 130** *or lower if tolerated* Not <120	70–79
65 - 79 years[b]	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	70–79
≥80 years[b]	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	70–79
Office DBP treatment target range (mmHg)	70–79	70–79	70–79	70–79	70–79	

CAD = coronary artery disease; CKD = chronic kidney disease (includes diabetic and non-diabetic CKD); DBP = diastolic blood pressure; SBP = systolic blood pressure; TIA = transient ischaemic attack.

[a]Refers to patients with previous stroke and does not refer to blood pressure targets immediately after acute stroke.

[b]Treatment decisions and blood pressure targets may need to be modified in older patients who are frail and independent.

2023

Target : ⟶

in <65 years: 120 - 129

in >65-79 years: 130-139 if tolerated

in >80 years: 140 -150 or <140 if tolerated

Table 23 Office blood pressure treatment target range

Age group	Office SBP treatment target ranges (mmHg)					Office DBP treatment target range (mmHg)
	Hypertension	+ Diabetes	+ CKD	+ CAD	+ Stroke[a]/TIA	
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65 - 79 years[b]	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	70–79
≥80 years[b]	140 -150 or <140 if tolerated					70–79
Office DBP treatment target range (mmHg)	70–79	70–79	70–79	70–79	70–79	

CAD = coronary artery disease; CKD = chronic kidney disease (includes diabetic and non-diabetic CKD); DBP = diastolic blood pressure; SBP = systolic blood pressure; TIA = transient ischaemic attack.

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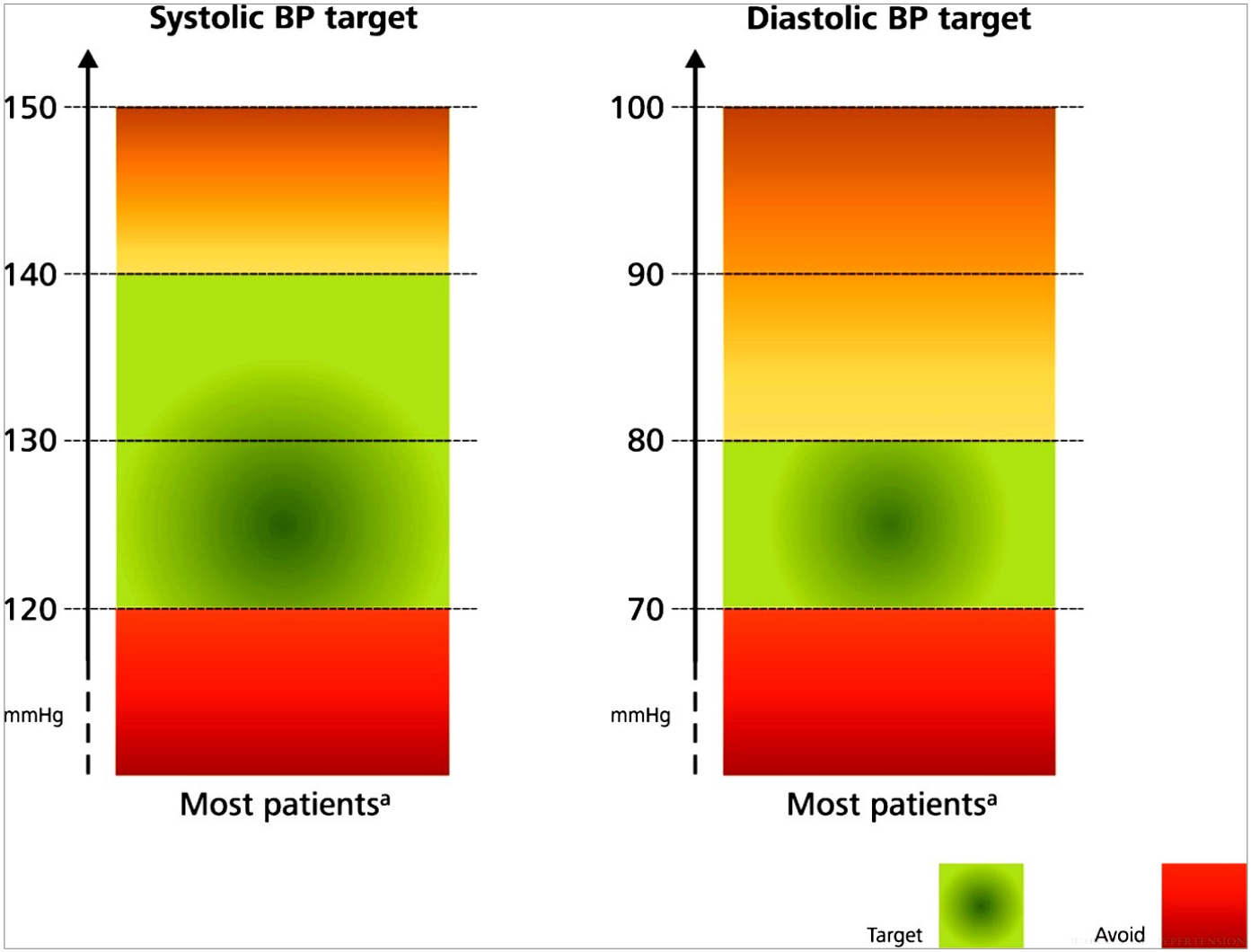
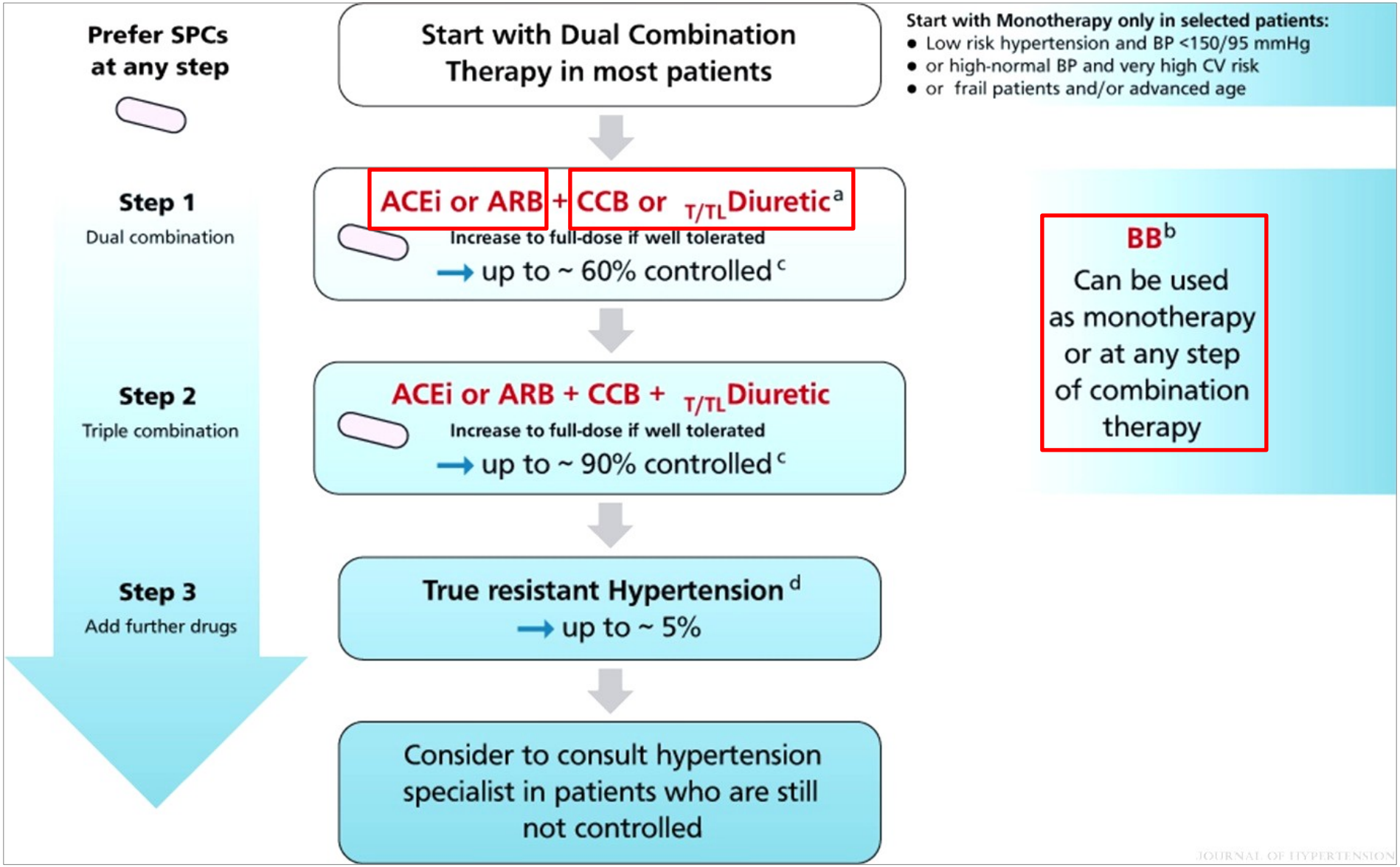
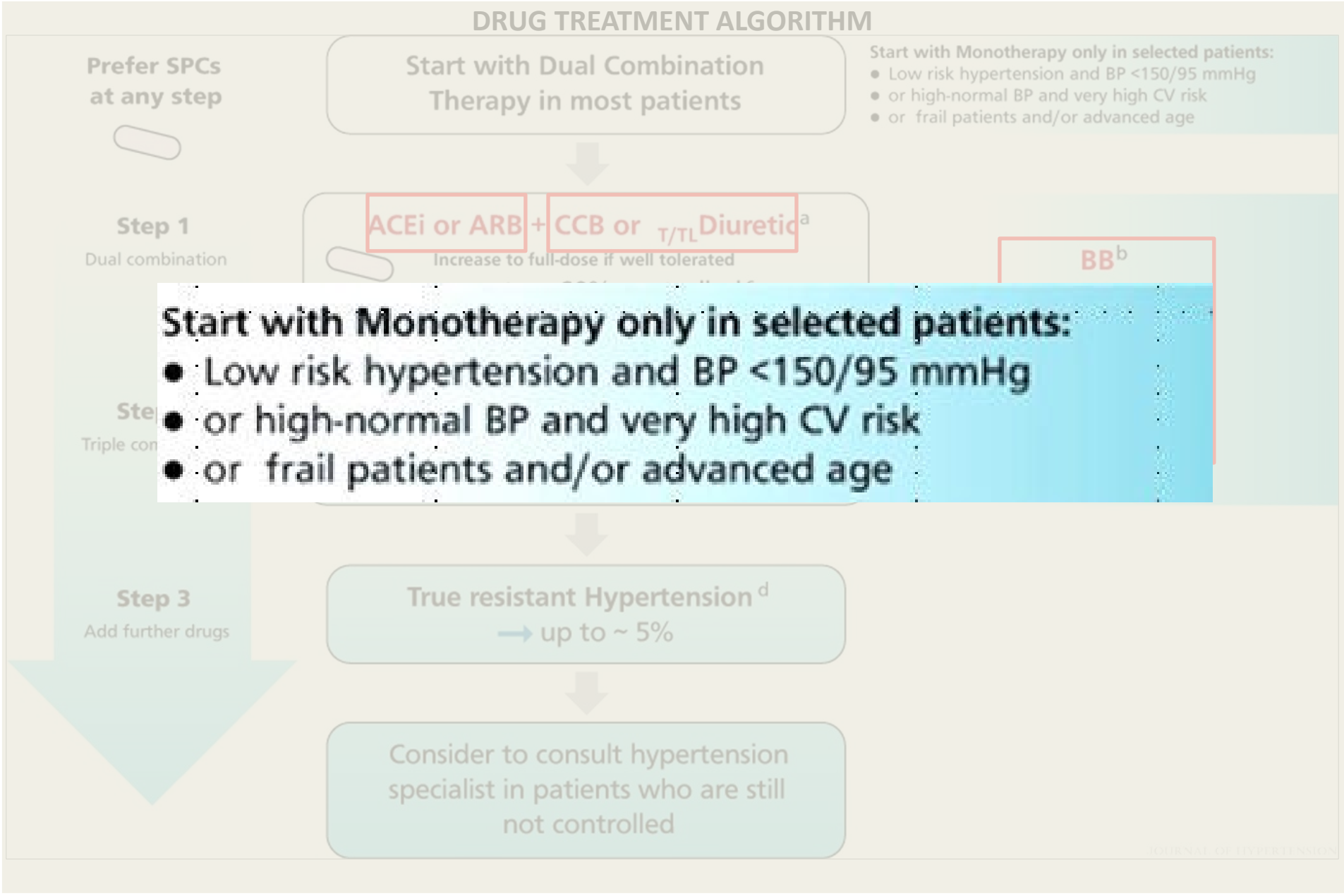
[b]Treatment decisions and blood pressure targets may need to be modified in older patients who are frail and independent.

Office BP targets in the general adult hypertensive population .



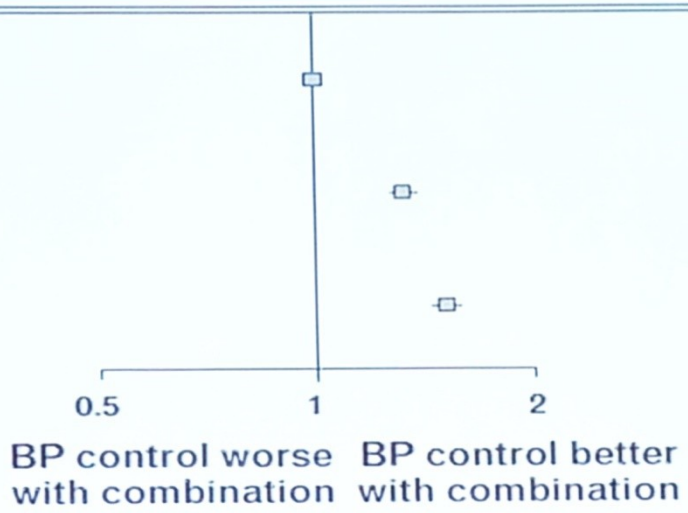
DRUG TREATMENT ALGORITHM



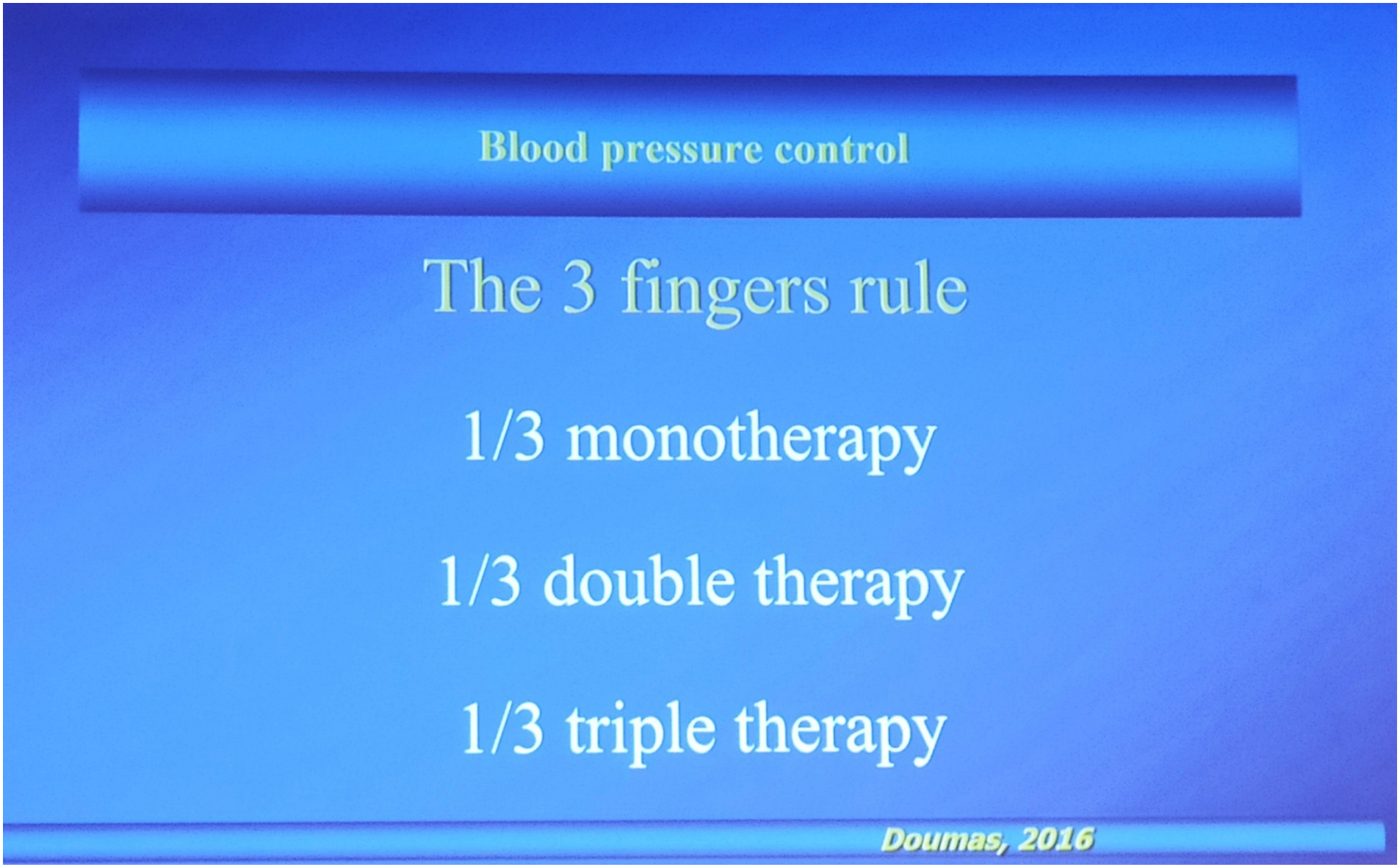


BP control: monotherapy vs. combination

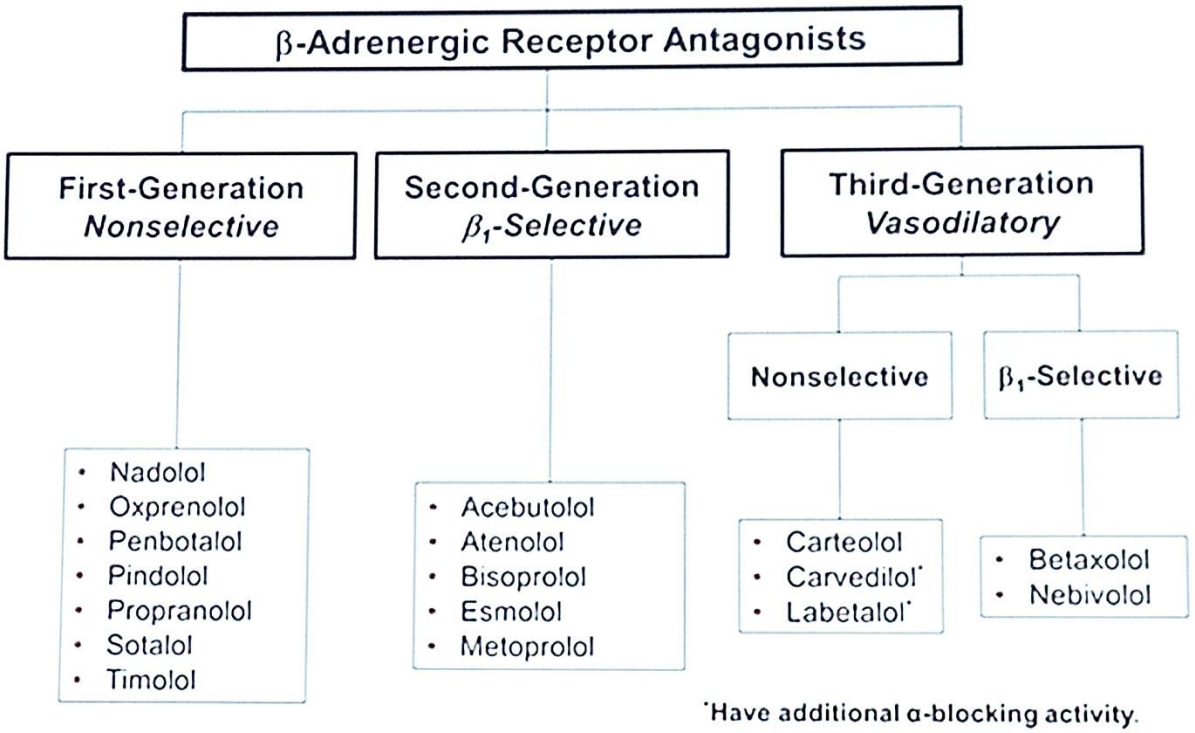
Initial TP	n	Hazard ratio (95% CI)	Hazard ratio (95% CI)
Monotherapy	79099		Ref
Free combination	18329		1.34 (1.31–1.37)
Single pill combination	9194		1.53 (1.47–1.58)



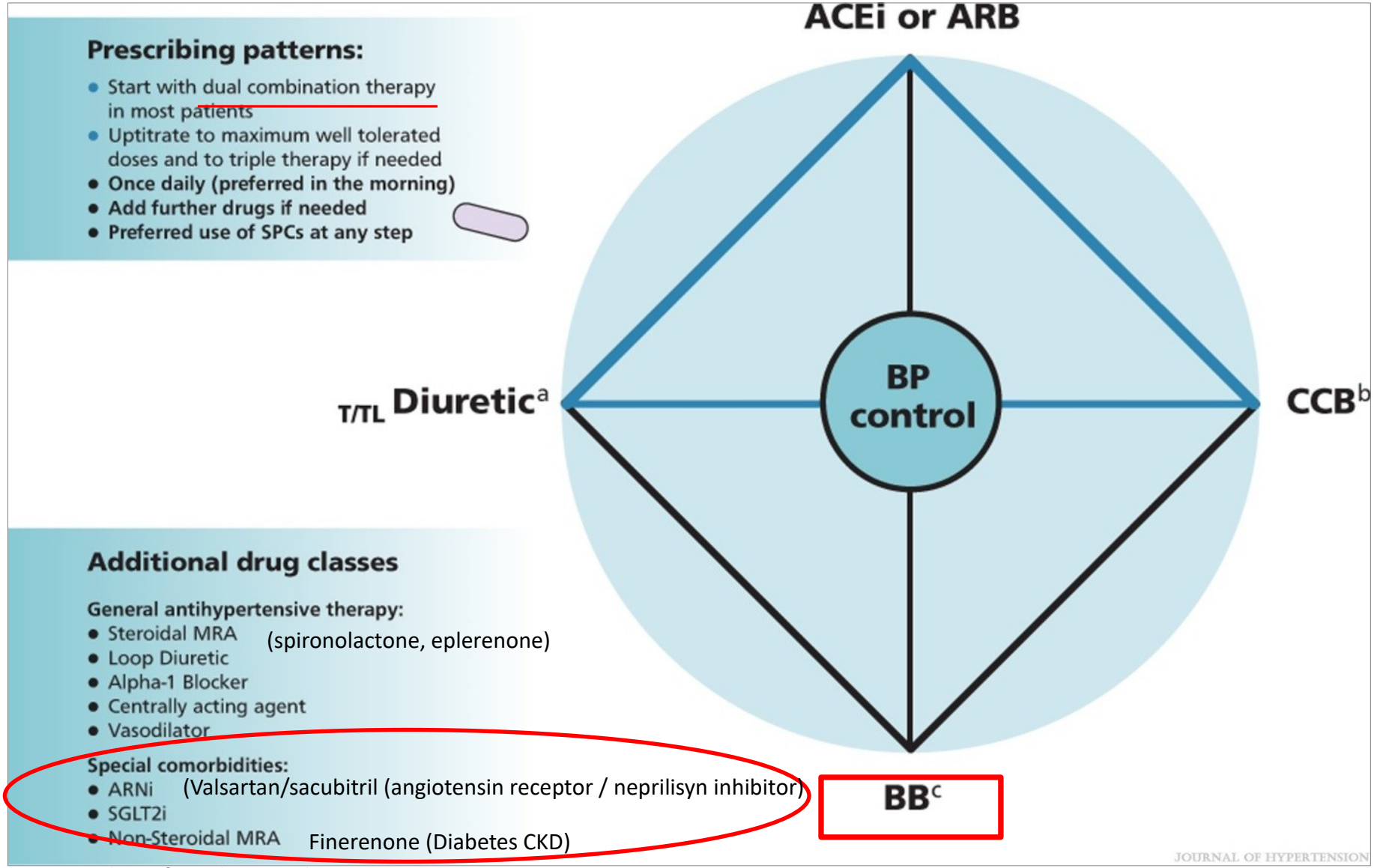
Gradman, Hypertension 2013



Classification of b-blockers



Manrique et al. JCH 2009



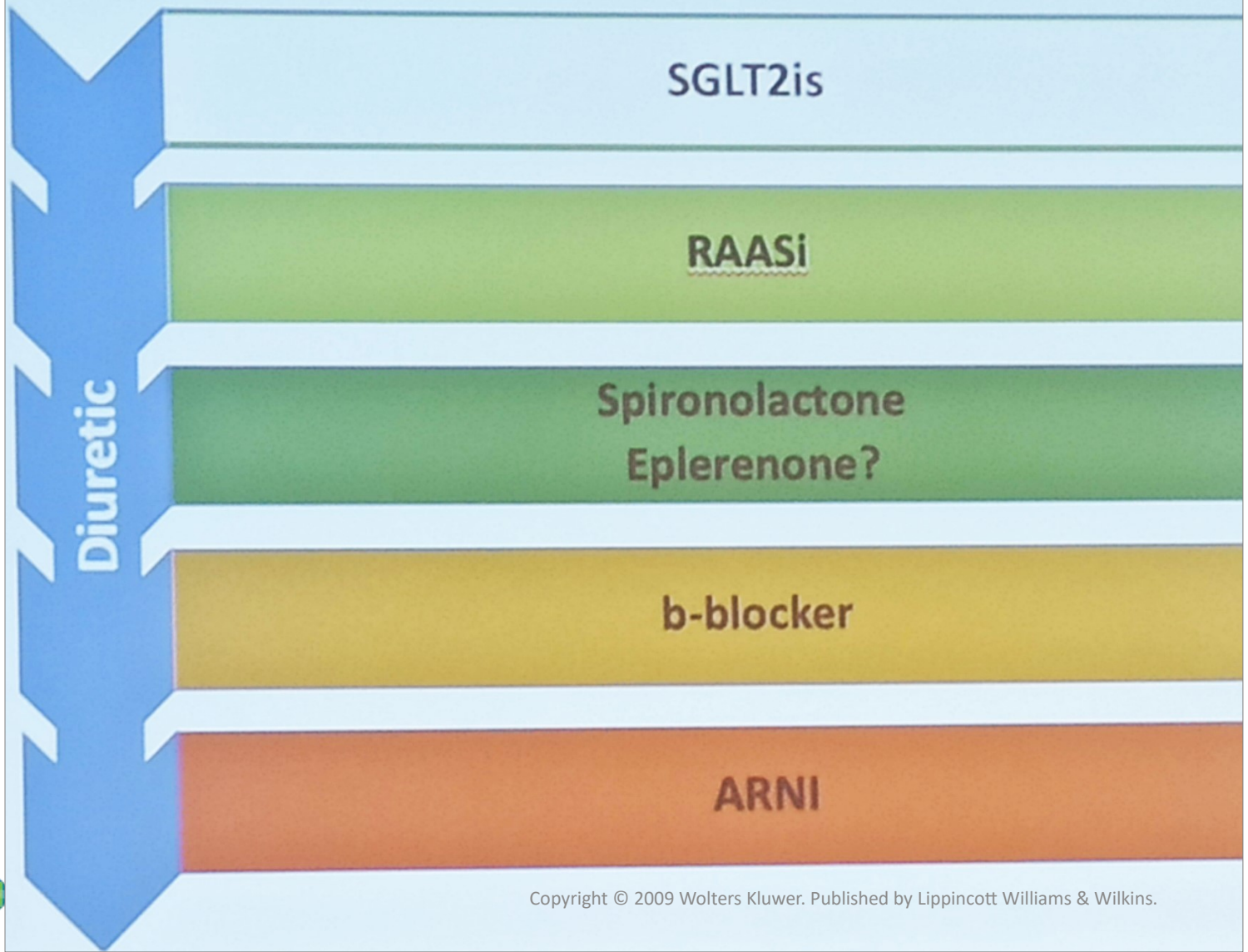
Drug classes for BP-lowering therapy.

(a) Use of Diuretics: Loop Diuretic if eGFR is 30 to 45 ml/min/1.73 m2. If eGFR <30 ml/min/1.73 m2 use Loop Diuretic.

(b) Non-DHP CCB should not be combined with BB.

(c) BB should be used as guideline directed medical therapy in respective indications or considered in several other conditions .

Therapeutic Arsenal



EMPEROR-Preserved in the Context of Other Studies

Trial	Treatment arms	Primary endpoint	Results (HR and 95% CI)	Risk reduction	P-value
EMPEROR-Preserved (2021)	Empagliflozin vs placebo	CV death + HHF	0.79 (0.69–0.90)	-21%	0.0001
PARAGON-HF (2019)	Sacubitril/valsartan vs valsartan	CV death + total (first and recurrent) HHF	0.87 (0.75–1.01)	-13%	0.06
TOPCAT (2014)	Spironolactone vs placebo	CV death + HHF + aborted cardiac arrest	0.89 (0.77–1.04)	-11%	0.14
I-PRESERVE (2008)	Irbesartan vs placebo	All-cause mortality + CV Hospitalization	0.95 (0.86–1.05)	-5%	0.35
PEP-CHF (2006)	Perindopril vs placebo	All-cause mortality + HHF	0.92 (0.70–1.21)	-8%	0.55
CHARM-Preserved (2003)	Candesartan vs placebo	CV death + HHF	0.86 (0.74–1.00)	-14%	0.05

N Engl j med 385;16 October 14, 2021

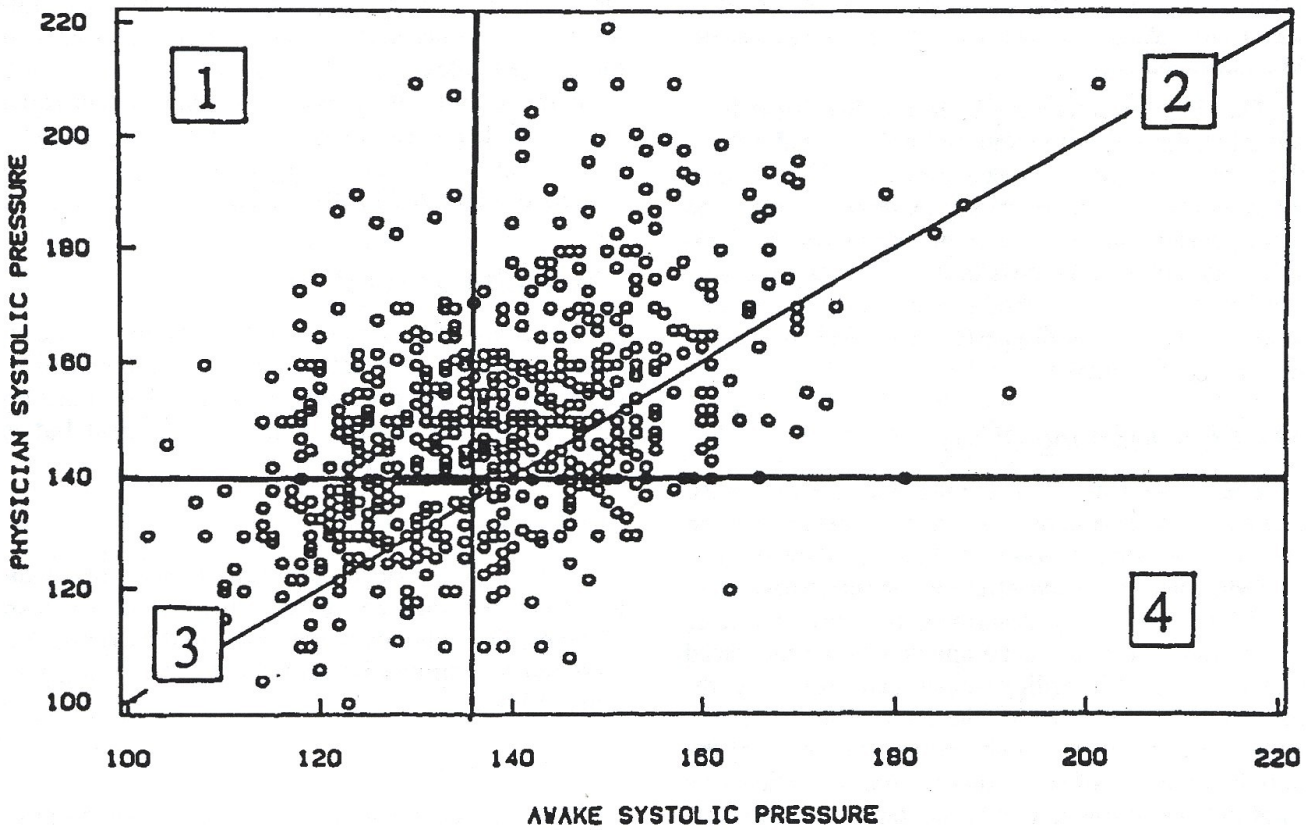
Υπέρταση λευκής μπλούζας (white coat hypertension)

Συγκεκαλυμμένη υπέρταση (masked hypertension)

ΑΞΙΟΛΟΓΗΣΗ

ΠΙΕΣΕΩΝ ΙΑΤΡΕΙΟΥ ΚΑΙ 24ΩΡΗΣ ΗΜΕΡΗΣΙΑΣ ΚΑΤΑΓΡΑΦΗΣ

Πίεση ιατρείου



24ωρη καταγραφή (Συστολική)

Pickering TG. J Hypertens 1992

ΠΙΕΣΕΙΣ ΙΑΤΡΕΙΟΥ ΚΑΙ 24ΩΡΗΣ ΗΜΕΡΗΣΙΑΣ ΚΑΤΑΓΡΑΦΗΣ

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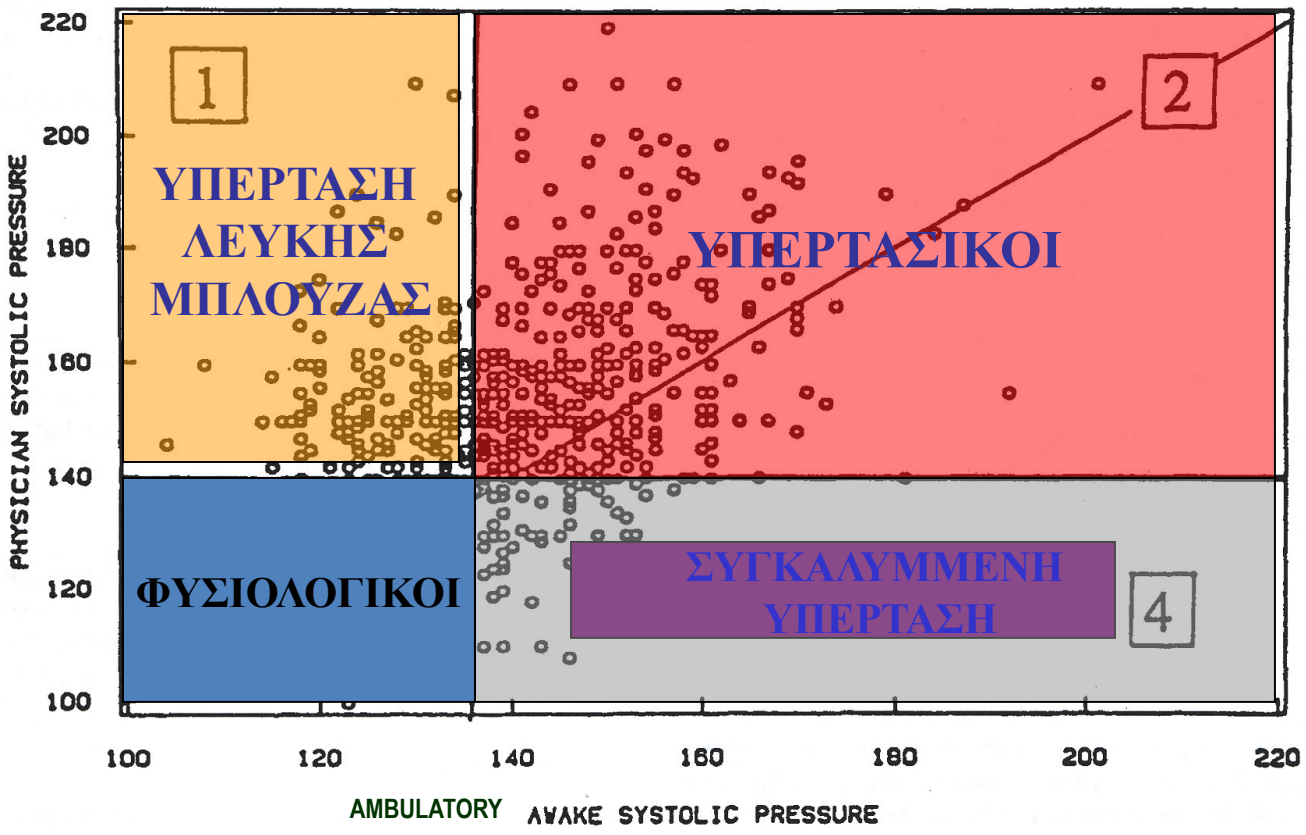


24ωρη καταγραφή (Συστολική)

Pickering TG. J Hypertens 1992

WHITE COAT HYPERTENSION

White-coat hypertension (WCH)

Recommendations and statements	CoR	LoE
Out-of-office BP measurement by ABPM and/or HBPM should be done when WCH is suspected, particularly in people with grade 1 hypertension.	I	B
In patients with WCH, assessment of CV risk factors and HMOD is recommended.	I	B
Out-of-office BP measurements should be done by ABPM and/or HBPM and repeated during follow up to timely identify sustained hypertension or new HMOD.	I	B
In patients with WCH, lifestyle interventions to reduce CV risk and close follow are recommended.	I	B
Whether BP lowering drug treatment should be used is still unresolved, but it can be considered in patients with HMOD and high CV risk.	II	C

MASKED HYPERTENSION

Masked hypertension (MH)

Recommendations and statements	CoR	LoE
Out-of-office BP measurement by ABPM and/or HBPM should be done in people with high normal blood pressure to identify MH.	I	B
In patients with MH, lifestyle interventions and close follow up are recommended to reduce CV risk and to timely identify sustained hypertension and new HMOD.	I	C
Whether BP lowering drug treatment should be used in MH is still unresolved, but it can be considered in patients with HMOD and high CV risk.	II	C

JOURNAL OF HYPERTENSION

WHITE COAT UNCONTROLLED HYPERTENSION (WUCH)
MASKED UNCONTROLLED HYPERTENSION (MUCH)

White-coat uncontrolled hypertension (WUCH) and masked uncontrolled hypertension (MUCH)

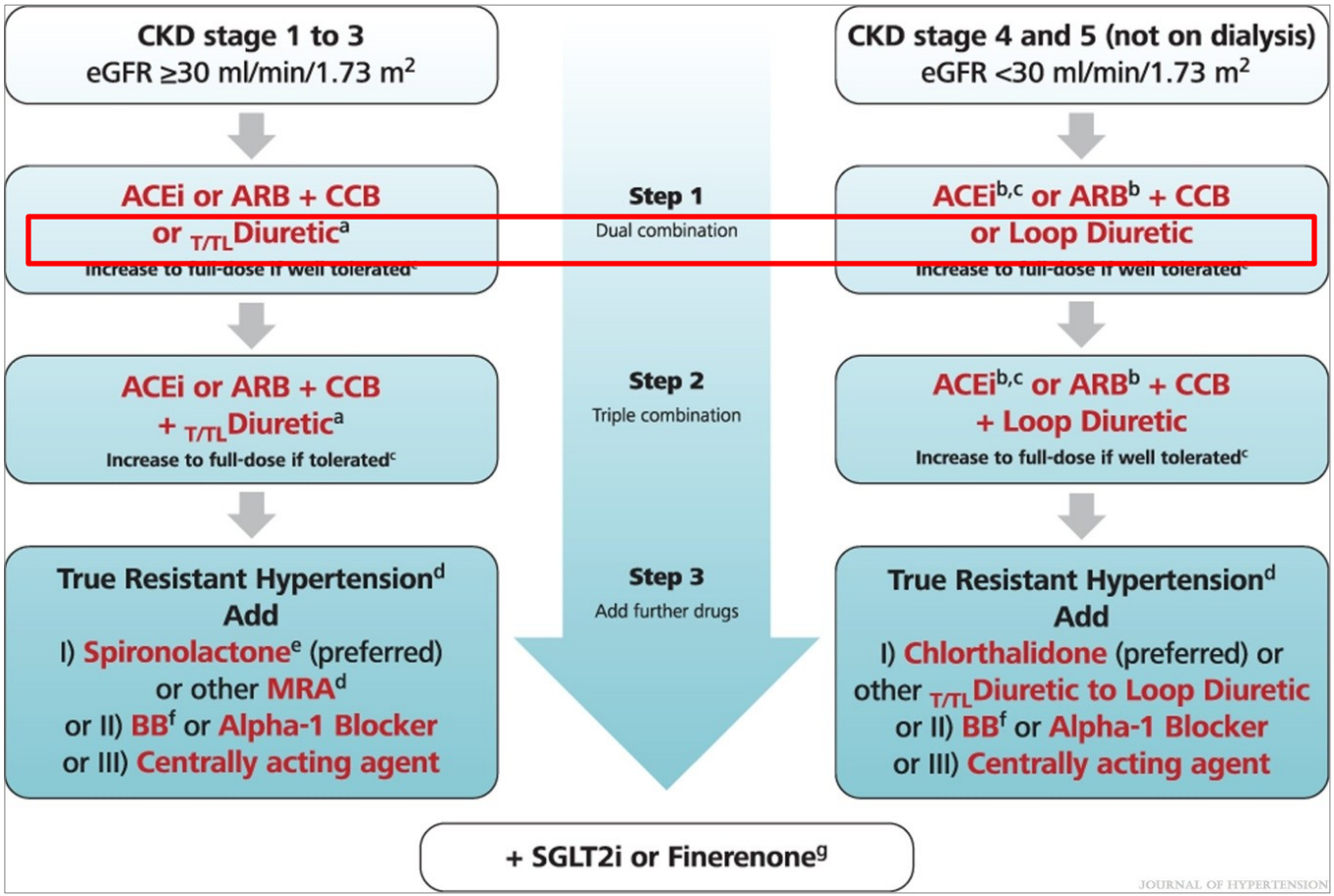
Recommendations and statements	CoR	LoE
The recommendations for WCH and MH apply to WUCH and MUCH, respectively, except that WUCH and MUCH refer to treated people.	I	C
Considering the limitations of available evidence on WUCH and MUCH, uptitration of drug treatment can be done in both conditions to ideally control both BP phenotypes if well tolerated.	II	C

HYPERTENSION AND DIABETES

Treatment strategies in diabetes

Recommendations and statements	CoR	LoE
BP should be monitored to detect hypertension in all patients with diabetes, because it is a frequent comorbidity associated with an increase CV risk and risk for kidney events.	I	A
Non-dipping or elevated night-time BP are frequent in type 2 diabetes and should be monitored by ABPM or HBPM.	I	B
Antihypertensive treatment in type 2 diabetes is recommended to protect against macrovascular and microvascular complications.	I	A
Immediate lifestyle interventions and antihypertensive drug treatment are recommended for people with type 2 diabetes when office SBP is ≥ 140 mmHg and DBP is ≥ 90 mmHg.	I	A
Drug treatment strategies in patients with type 2 diabetes should be the same as for patients without diabetes but the primary aim is to lower BP below <130/80 mmHg	I	A
BP control is difficult in diabetes and combination treatment is almost always necessary.	I	B
SGLT2is are recommended to reduce cardiac and kidney events in type 2 diabetes. These agents have a BP lowering effect.	I	A
The non-steroidal MRA finerenone can be used, because of its nephroprotective and cardioprotective properties in patients with diabetic CKD and moderate to severe albuminuria. Finerenone has a BP lowering effect.	I	A
There are only limited data on the potential benefits of combining SGLT2is and finerenone.	II	C

HYPERTENSION AND CKD



HYPERTENSION AND CKD

Treatment strategies in patients with kidney disease

Recommendations and statements	CoR	LoE
BP should be monitored at all stages of CKD, because hypertension is the second most important risk factor for end-stage kidney disease (ESKD).	I	A
Non-dipping or elevated night-time BP are frequent in CKD patients and should be monitored by ABPM or HBPM.	I	B
In both diabetic and non-diabetic CKD with hypertension, BP-lowering treatment slows the decline of kidney function and reduces the risk of ESKD and CV outcomes.	I	A
Immediate lifestyle interventions and antihypertensive drug treatment are recommended in most patients with CKD independently of the CKD stage if SBP≥ 140mmHg or DBP ≥90mmHg.	I	C
In all patients with CKD the primary goal is to lower office BP to <140 mmHg systolic and <90 mmHg diastolic.	I	A
In most CKD patients (young patients, patients with an albumin/creatinine ratio ≥ 300 mg/g, high CV risk patients) office BP should be lowered to <130/80 mmHg if tolerated.	II	B
In kidney transplant patients with hypertension, office BP should be lowered to <130 mmHg systolic and <80 mmHg diastolic.	II	B
In patients with CKD regardless of the presence of albuminuria, BP should not be lowered below 120/70 mmHg.	III	C
An ACEi or an ARB, titrated to the maximum tolerated doses is recommended for patients with CKD and moderate (UACR 30 to 300 mg/g) or severe (UACR > 300 mg/g) albuminuria.	I	A

Target	
CKD	<140/90
Albuminuria >300	<130/80
Kidney transplant	130/80

Hypertension and antiplatelet treatment

Recommendations of antiplatelet therapy in hypertension

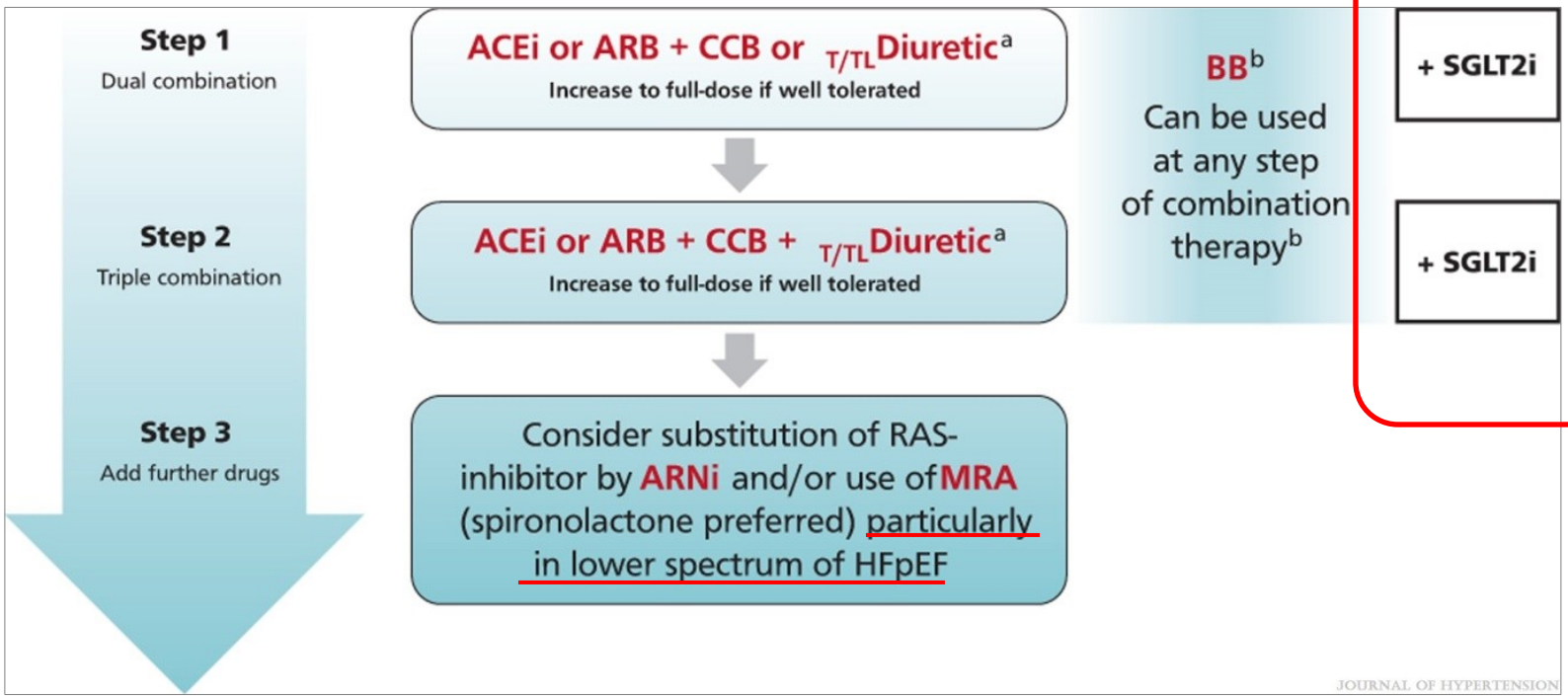
Recommendations and statements	CoR	LoE
Low-dose aspirin is not recommended for primary prevention in patients with hypertension.	III	A
Antiplatelet therapy is recommended for secondary prevention in hypertensive patients.	I	A
Use of a polypill containing low-dose aspirin can be considered in hypertensive patients for secondary prevention.	II	A

Isolated systolic hypertension in the young (ISHY)

Recommendations and statements	CoR	LoE
Due to the frequent presence of a pronounced white-coat effect, out-of-office BP measurement is recommended.	I	C
Central BP measurement can be considered to identify ISHY individuals at low CV risk to detect spurious hypertension, if available.	II	C
Close follow-up and lifestyle interventions are recommended.	I	C
In individuals with high out-of-office BP or high central BP, particularly with other CV risk factors or HMOD, BP lowering drug treatment can be considered.	II	C

HYPERTENSION AND HFpEF

BP-lowering therapy in hypertension and **HFpEF**



(a) Use of Diuretics: Use T/TLDiuretic if eGFR >45 ml/min/1.73 m2. Consider transition to Loop Diuretic if eGFR is between 30 to 45 ml/min/1.73 m2. Use loop Diuretic if eGFR <30 ml/min/1.73 m2 or in patients with fluid retention/oedema.

(b) BB should be used as guideline directed medical therapy in respective indications or considered in several other conditions (Table 16).

HYPERTENSION, AF AND ORAL ANTICOAGULATION

Management of patients with hypertension and AF during oral anticoagulation

Recommendations and statements	CoR	LoE
Stroke prevention with oral anticoagulants should be considered in AF patients with hypertension, even when hypertension is the single additional risk factor (CHA_2DS_2-VASc score of 1 in men and 2 in women).	II	B
Initiation of oral anticoagulation should ideally start if SBP is below 160 mmHg. If SBP is ≥160 mmHg, it is recommended in priority to reduce BP to reduce the risk of major bleeding including intracranial haemorrhage.	I	B
In hypertensive patients with AF receiving oral anticoagulation, the same treatment targets and choice of agents are recommended as for the general population.	I	B
Non-DHP CCBs (Diltiazem and verapamil) for rate control should be used with caution because they may interfere with oral anticoagulants and increase bleeding risk.	III	B

JOURNAL OF HYPERTENSION

NIGHT TIME HYPERTENSION

Night-time hypertension and BP phenotypes

Recommendations and statements	CoR	LoE
It is recommended to assess night-time BP using ABPM because it is more predictive for outcomes than daytime BP, and because nocturnal hypertension, non-dipping and reverse dipping are associated with increased CV risk	I	B
For the identification of night-time BP phenotypes, repeating ABPM is necessary, because of poor reproducibility.	I	B
Elevated night-time BP may be reduced by antihypertensive treatment.	II	C
In the general hypertensive population morning dosing or bedtime dosing results in similar outcome.	I	B

HYPERTENSION AND GLAUKOMA

Glaucoma and hypertension

Recommendations and statements	CoR	LoE
It is recommended that patients with hypertension >60 years old (or >40 years old in African Americans) may be screened for glaucoma.	II	C
In hypertensive patients with glaucoma, ABPM and closer ophthalmologic examinations should be associated with frequent BP measurements, including ABPM, particularly in patients with unexplained visual field deterioration.	I	C
In patients with glaucoma, both very low and very high BP should be avoided, particularly during the night.	I	B
In patients with glaucoma, bedtime administration of antihypertensive drugs should be avoided as it may increase the risk of excessive lowering of BP and thus visual field loss.	III	B
BBs, have been associated with lower intraocular pressure and decreased risk of primary open-angle glaucoma and maybe preferred in hypertensive patients with glaucoma.	II	B

- **Physicians stop antihypertensive treatment in elderly hypertensives when DBP falls <60mmHg.**

✓ In elderly individuals treated for hypertension, a **lower DBP is a surrogate of an increase in aortic stiffening** and premature wave reflections. This is the most likely explanation for the increase in cardiovascular events in these patients

The Diastolic Blood Pressure J-Curve in Hypertension Management: Links and Risk for Cardiovascular Disease

Integrated Blood Pressure Control 2021:14

Main Learning Points

1. Numerous observational studies have documented a J-curve association between diastolic blood pressure (DBP) and adverse cardiac events, with increased risk for events observed at very high and very low levels of DBP.
2. This finding may deter physicians from more intensive treatment of systolic hypertension in the setting of low DBP.
3. More recent analyses using both Mendelian randomisation and post-hoc examination of the SPRINT and ACCORD trials suggest that the association of low DBP with adverse cardiac events is due to confounding or reverse causation and, thus, the diastolic BP J-curve does not appear to be a causal phenomenon.
4. These findings suggest that antihypertensives should not be withheld or reduced in those with systolic hypertension and low DBP.

How might you approach a hypertensive patient who comes to your clinic with a low diastolic blood pressure?

First, interpret this as a poor prognostic sign from a CV perspective, which should prompt you to optimize them from a prevention standpoint.

Second, discuss the risks and benefits of guideline-recommended BP goals with the patient and consider whether a more lenient blood pressure goal might be indicated; for example, are they frail or do they have chronic kidney disease.

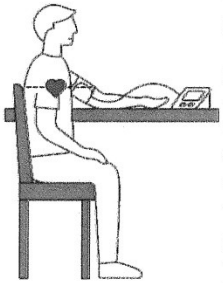
Third, up-titrate antihypertensive therapy as you deem appropriate, particularly for individuals with persistent elevations in systolic BP, **without worrying as much about dropping the diastolic BP too low**.

78 ετών χωρίς
άλλα προβλήματα

ΜΕΤΡΗΣΗ ΑΡΤΗΡΙΑΚΗΣ ΠΙΕΣΗΣ ΣΤΟ ΣΠΙΤΙ[1]

Ονοματεπώνυμο .....

Ημ/νία Γέννησης: ..... Πιεσόμετρο: .....



Οδηγίες:
Χρησιμοποιήστε πιστοποιημένο αυτόματο πιεσόμετρο βραχίονα

Πριν από την επίσκεψη στον ιατρό:
-Μετρήσεις για 7 ημέρες (τουλάχιστον 3)
- Πρωί & Απόγευμα πριν τη λήψη των φαρμάκων
- 2 μετρήσεις κάθε φορά με μεσοδιάστημα 1 λεπτού
- Οι μετρήσεις να γίνονται σε καθιστή θέση μετά από 5 λεπτά ανάπαυση

Μακροχρόνια παρακολούθηση:
Διπλή μέτρηση, 1 ή 2 φορές την εβδομάδα ή το μήνα

1η ημέρα 1/7/2023

	Ώρα	Συστολική	Διαστολική	Σφύξεις
1η	8	148	61	78
2η	:	125	57	77
1η	8	162	62	79
2η	:	143	63	79

2η ημέρα 2/7/2023

	Ώρα	Συστολική	Διαστολική	Σφύξεις
1η	: 8	159	58	81
2η	:	131	54	77
1η	8	152	54	80
2η	:	132	48	73

3η ημέρα 3/7/202....

	Ώρα	Συστολική	Διαστολική	Σφύξεις
1η	8	141	53	81
2η	:	139	57	79
1η	8	146	58	76
2η	:	136	62	73

4η ημέρα 4/7/2023

	Ώρα	Συστολική	Διαστολική	Σφύξεις
1η	8	145	58	83
2η	:	133	50	78
1η	8	134	54	80
2η	:	132	52	76

5η ημέρα 5/7/2023

	Ώρα	Συστολική	Διαστολική	Σφύξεις
1η	8	140	57	84
2η	:	132	53	76
1η	: 8	136	77	73
2η	:	139	57	72

6η ημέρα 6/7/2023

	Ώρα	Συστολική	Διαστολική	Σφύξεις
1η	8	123	47	76
2η	:	120	46	77
1η	8	151	60	74
2η	:	142	60	74

7η ημέρα 7/7/2023

	Ώρα	Συστολική	Διαστολική	Σφύξεις
1η	: 8	139	52	78
2η	:	121	50	74
1η	:			
2η	:			

ΣΗΜΕΙΩΣΤΕ ΕΔΩ ΤΟΝ ΜΕΣΟ ΟΡΟ ΟΛΩΝ ΤΩΝ ΜΕΤΡΗΣΕΩΝ ΕΚΤΟΣ ΤΗΣ 1ης ΜΕΡΑΣ:

141 - 57 (79)

141/57

BP-PM01-0722

Προσαρμογή από Stergiou GS, et al 2021

1. Stergiou GS, et al. 2021 European Society of Hypertension practice guidelines for office and out-of-office blood pressure measurement. J Hypertens 2021 Jul 1; 39(7): 1293-1302

Οι πληροφορίες αυτές προορίζονται για γενική πληροφόρηση και ενημέρωση του κοινού και σε καμία περίπτωση δεν μπορούν να αντικαταστήσουν τη συμβουλή ιατρού ή άλλου αρμόδιου επαγγελματία υγείας.

2023

Target : ⟶

in <65 years: 120 - 129

in >65-79 years: 130-139 if tolerated

in >80 years: 140 -150 or <140 if tolerated

Table 23 Office blood pressure treatment target range

Age group	Office SBP treatment target ranges (mmHg)					Office DBP treatment target range (mmHg)
	Hypertension	+ Diabetes	+ CKD	+ CAD	+ Stroke[a]/TIA	
18 - 65 years	**Target to 130** *or lower if tolerated* Not <120	**Target to 130** *or lower if tolerated* Not <120	**Target to <140 to 130** *if tolerated*	**Target to 130** *or lower if tolerated* Not <120	**Target to 130** *or lower if tolerated* Not <120	70–79
65 - 79 years[b]	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	**Target to 130-139** *if tolerated*	70–79
≥80 years[b]	140 -150 or <140 if tolerated					70–79
Office DBP treatment target range (mmHg)	70–79	70–79	70–79	70–79	70–79	

CAD = coronary artery disease; CKD = chronic kidney disease (includes diabetic and non-diabetic CKD); DBP = diastolic blood pressure; SBP = systolic blood pressure; TIA = transient ischaemic attack.

[a]Refers to patients with previous stroke and does not refer to blood pressure targets immediately after acute stroke.

[b]Treatment decisions and blood pressure targets may need to be modified in older patients who are frail and independent.

TABLE 4. Definitions of hypertension according to the correspondence of home and ambulatory BP values with office BP

Method	SBP (mmHg)		DBP (mmHg)
Office BP[a]	≥140	and/or	≥90
Ambulatory BP			
Awake mean	≥135	and/or	≥85
Asleep mean	≥120	and/or	≥70
24 h mean	≥130	and/or	≥80
Home BP mean	≥135	and/or	≥85

PAUL K. WHELTON:

“The medical profession is not making enough effort to have patients reach target levels.

"We all try to make the guidelines as approachable as possible, but they are encyclopedic, and **many doctors just continue doing what they are doing. That is our big challenge.”**