Update of hypertension

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Objectives:
At the end of the presentation, the participant will:

1. Be updated on the current recommendations for diagnosis and treatment of hypertension

2. Be able to make optimal treatment decisions for hypertensive patients

3. Be aware of the comprehensive approach needed to prevent cardiovascular disease

2018 ESC/ESH Guidelines for the management of arterial hypertension

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

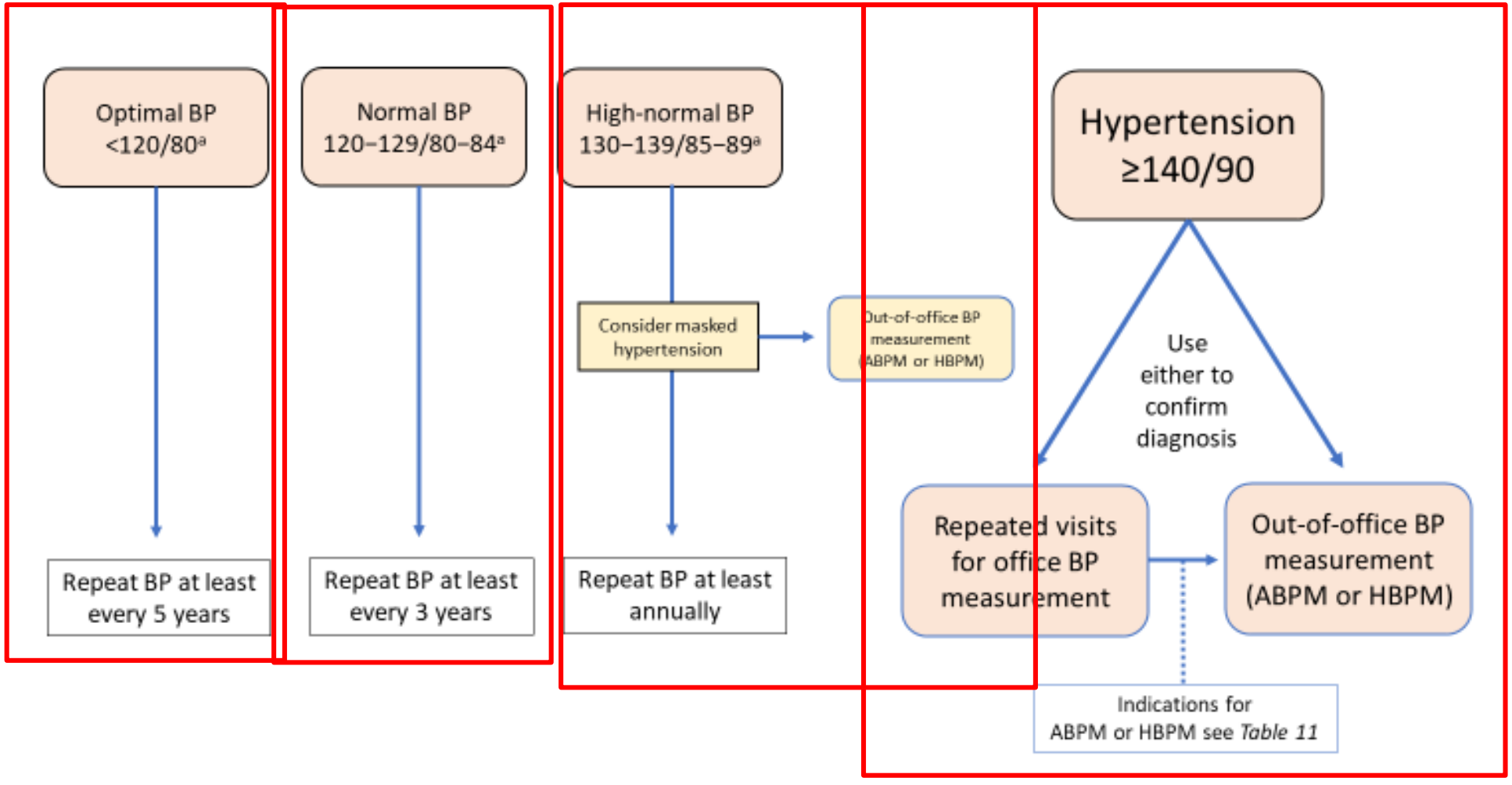
Authors/Task Force Members: Bryan Williams (ESC Chairperson) (UK)*, Giuseppe Mancia (ESH Chairperson) (Italy)*, Wilko Spiering (The Netherlands), Enrico Agabiti Rosei (Italy), Michel Azizi (France), Michel Burnier (Switzerland), Denis L. Clement (Belgium), Antonio Coca (Spain), Giovanni de Simone (Italy), Anna Dominiczak (UK), Thomas Kahan (Sweden), Felix Mahfoud (Germany), Josep Redon (Spain), Luis Ruilope (Spain), Alberto Zanchetti (Italy)†, Mary Kerins (Ireland), Sverre E. Kjeldsen (Norway), Reinhold Kreutz (Germany), Stephane Laurent (France), Gregory Y.H. Lip (UK), Richard McManus (UK), Krzysztof Narkiewicz (Poland), Frank Ruschitzka (Switzerland), Roland E. Schmieder (Germany), Evgeny Shlyakhto (Russia), Costas Tsioufis (Greece), Victor Aboyans (France), and Ileana Desormais (France)

ESC European Society of Cardiology

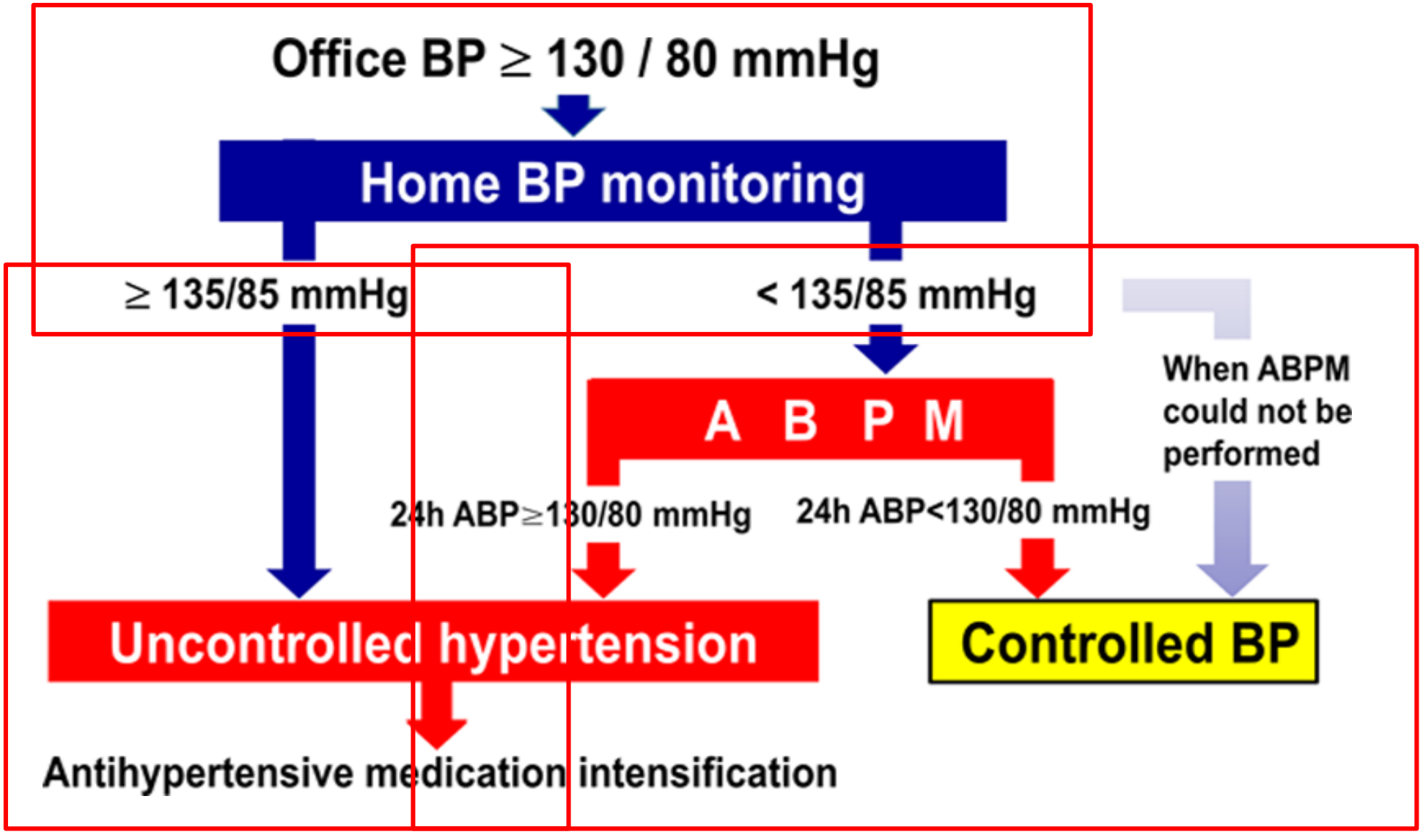
Williams, Mancia et al., J Hypertens 2018;36:1953-2041 and Eur Heart J 2018;39:3021-3104

ESH European Society of Hypertension

Screening and diagnosis of hypertension



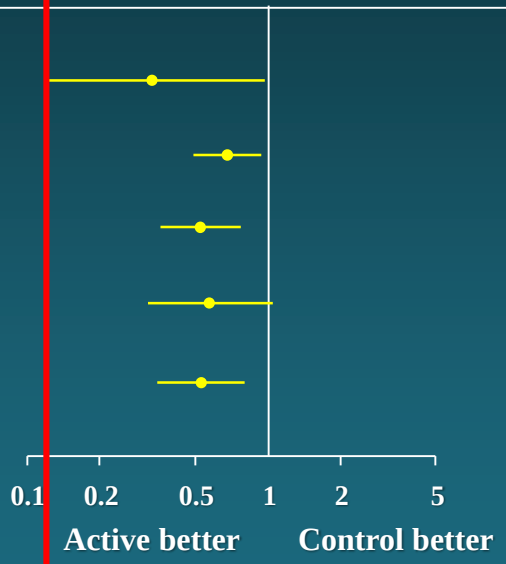
Williams, Mancia et al., J Hypertens 2018 and Eur Heart J 2018, in press



Kazuomi Kario. Hypertension. Emergence of Home Blood Pressure-Guided Management of Hypertension Based on Global Evidence, Volume: 74, Issue: 2, Pages: 229-236, DOI: (10.1161/HYPERTENSIONAHA.119.12630)

Effects of BP Lowering (10/5 mmHg SBP/DBP) in Trials with Average Baseline BP in Grade 1 and Average Low-to-Moderate CV Risk

Outcome	Trials (n)	Baseline SBP/DBP (mmHg)	Difference SBP/DBP (mmHg)	Standardized RR (95% CI)	Absolute Risk Reduction 1000 pts/5 years (95%CI)	NNT 5 years (95% CI)
Stroke	4	146/91	-7.1/-4.5	0.33 (0.11-0.98)	-21 (-26, -1)	47 (39, 1301)
CHD	5	145/91	-6.5/-4.2	0.68 (0.48-0.95)	-12 (-18, -2)	86 (55, 531)
Stroke + CHD	4	146/91	-7.1/-4.5	0.51 (0.36-0.75)	-34 (-43, -19)	29 (23, 54)
CV Death	4	146/91	-7.1/-4.5	0.57 (0.32-1.02)	-9 (-14, +1)	110 (72, -2223)
All-cause Death	4	146/91	-7.1/-4.5	0.53 (0.35-0.80)	-19 (-25, -8)	54 (40, 119)



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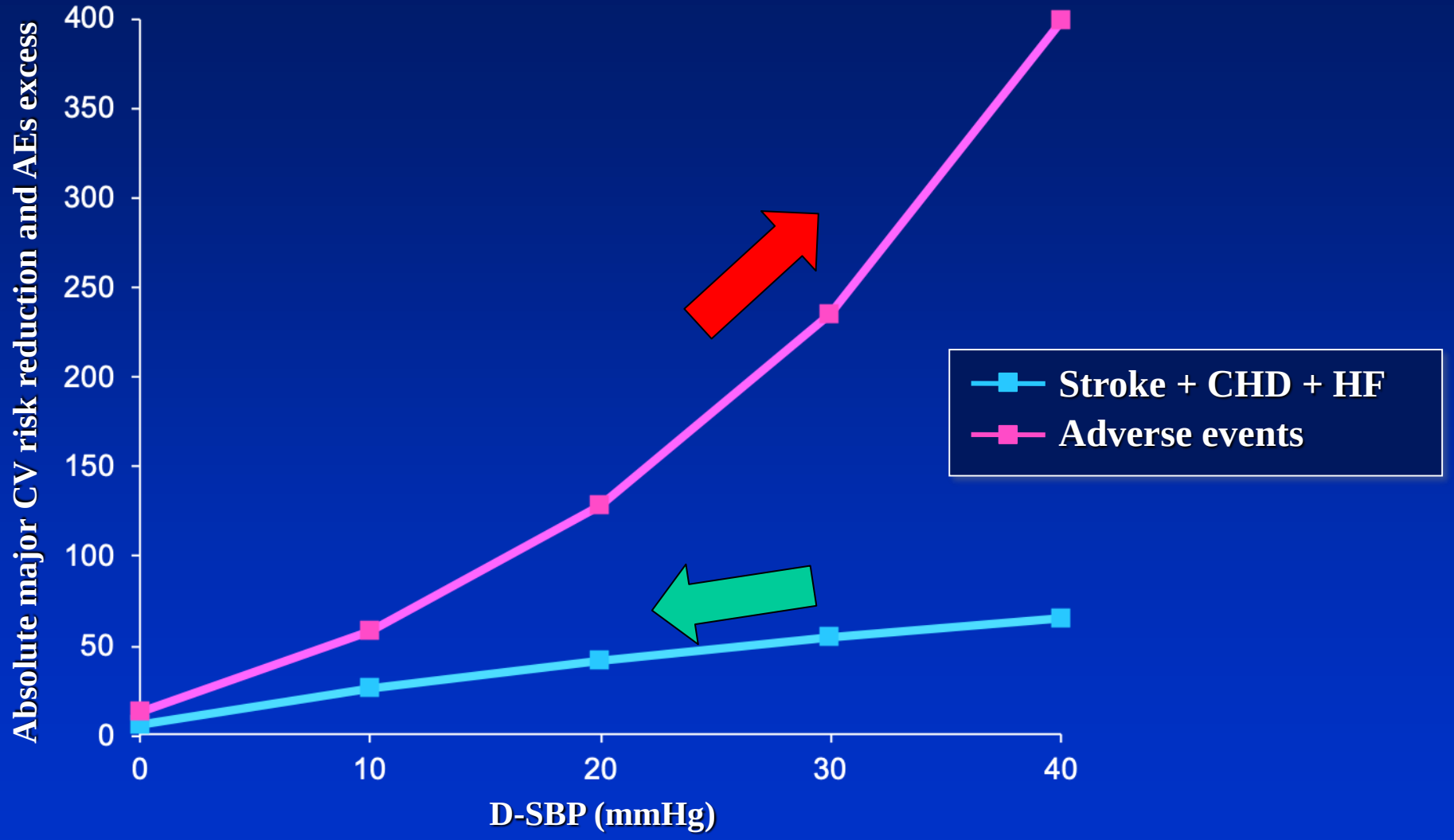
Thomopoulos et al., J Hypertens 2014; 32: 2296

Relationships of Numbers of Outcomes Prevented and Numbers of Excess in Treatment Discontinuations* to the Extent of SBP Reductions



* Attributed to treatment adverse events

Thomopoulos, Parati, Zanchetti, J Hypertens 2016; 34: 1451-1463

Office BP treatment targets in hypertensive patients - General Recommendations

	Class / Level
• The first objective of treatment should be to lower BP to <**140/90** mmHg in all patients	IA
• If treatment is well tolerated, BP should be targeted to **130/80** mmHg or lower in most patients	IA

Office BP treatment target ranges

Age group	Office SBP treatment target ranges (mmHg)					Diastolic treatment target range (mmHg)
	Hypertension	+ Diabetes	+ CKD	+ CAD	+ Stroke/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	< 80 to 70
65–79 years	**Target to < 140 to 130** *if tolerated*	**Target to < 140 to 130** *if tolerated*	**Target to < 140 to 130** *if tolerated*	**Target to < 140 to 130** *if tolerated*	**Target to < 140 to 130** *if tolerated*	< 80 to 70
≥ 80 years	**Target to < 140 to 130** *if tolerated*	**Target to < 140 to 130** *if tolerated*	**Target to < 140 to 130** *if tolerated*	**Target to < 140 to 130** *if tolerated*	**Target to < 140 to 130** *if tolerated*	< 80 to 70

ESC European Society of Cardiology

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

European Society of Hypertension

Drugs for the treatment of hypertension

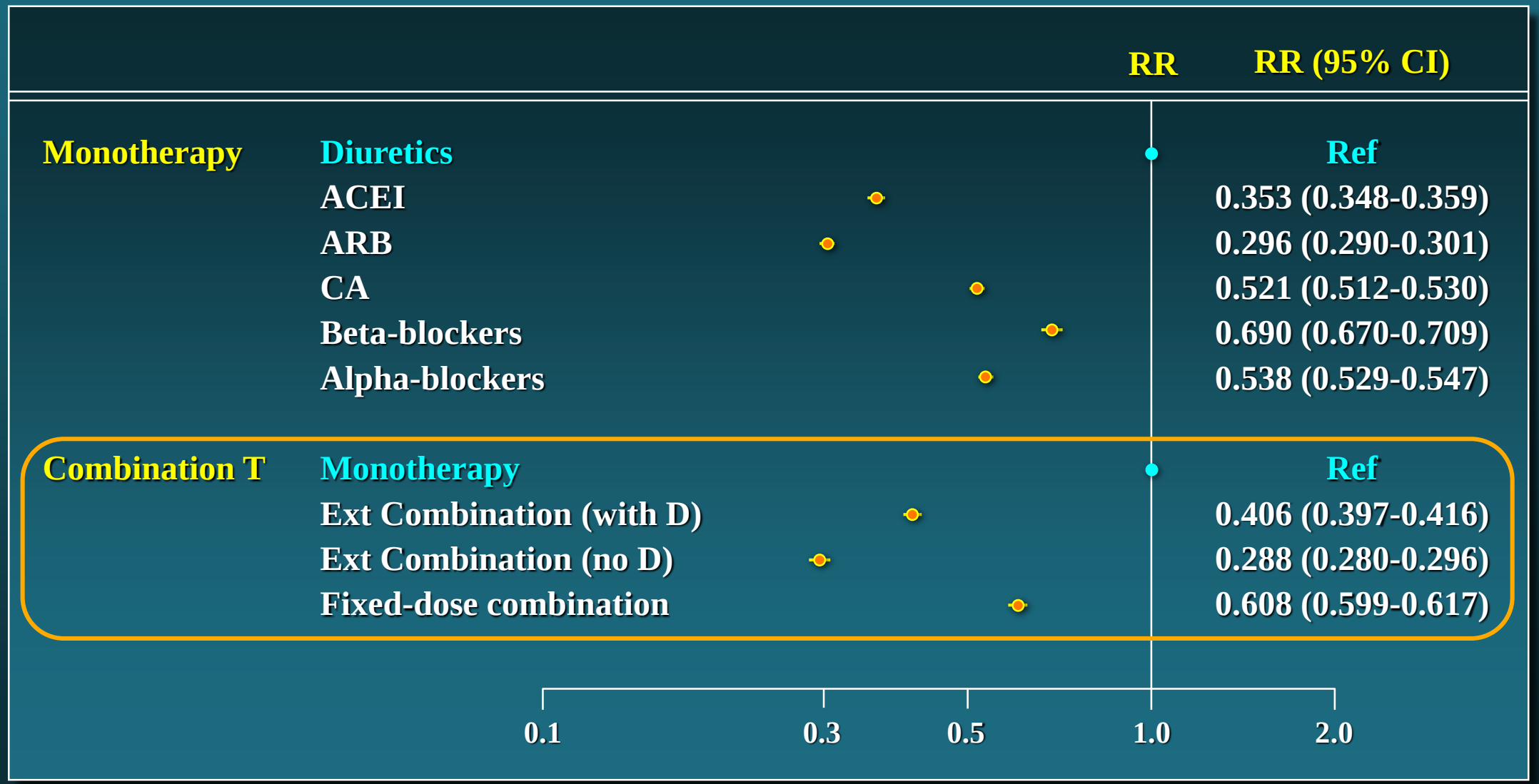
- Five drug classes (ACEIs/ARBs/BBs/CCBs/Ds) have evidence of:
  - Proven ability to reduce BP
  - CV event reduction in placebo-controlled studies
  - Broad equivalence on overall CV morbidity/mortality
- These Guidelines recommend that the same 5 classes of drugs should form the basis of antihypertensive therapy

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

Initial monotherapy invariably recommended by GLs

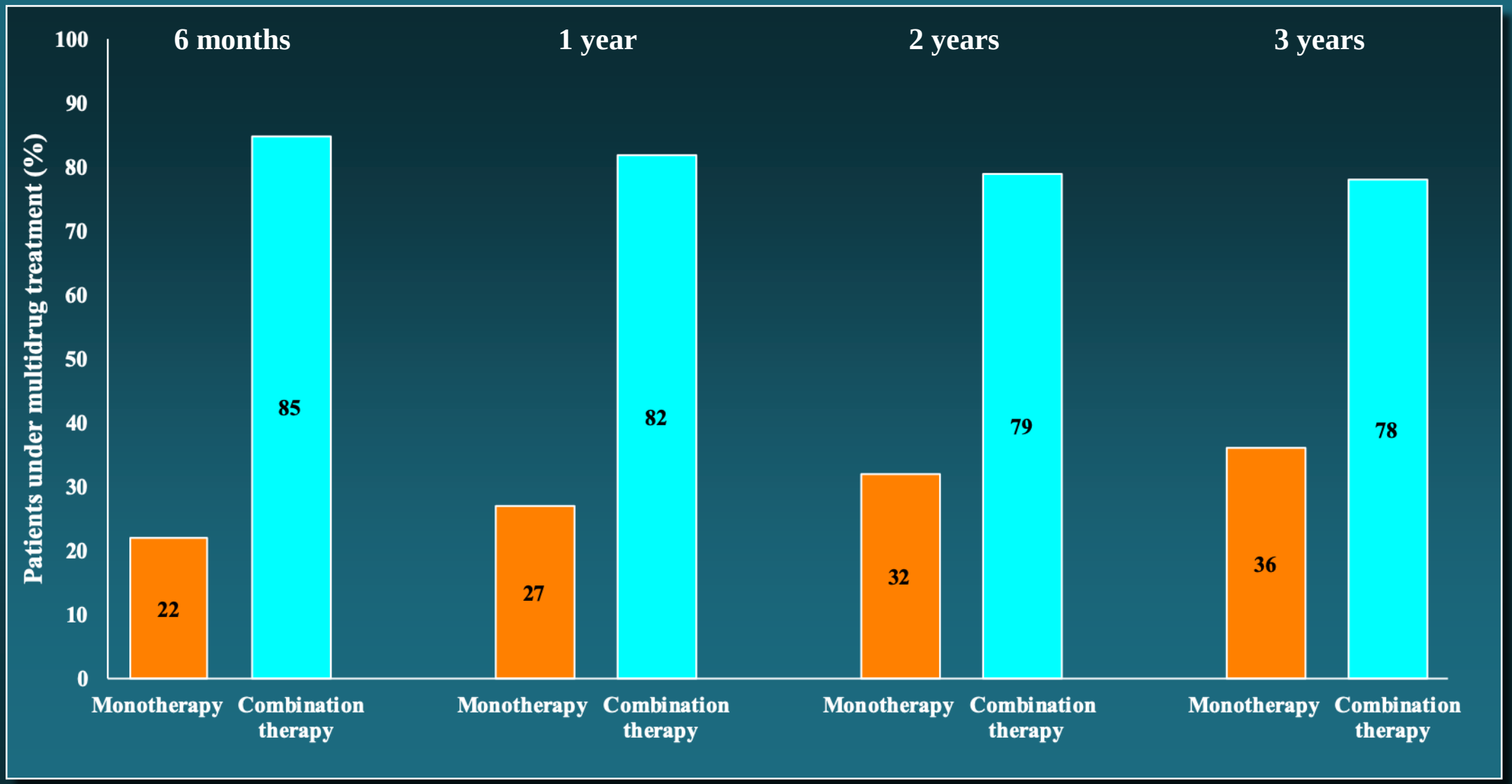
- Increasing dose of initial monotherapy (side effects/ineffective)
- Substitution with another monotherapy (time consuming/low adherence/ineffective)
- Stepped-case approach,i.e.monotherapy with sequential addition of other drugs (patients remain in monotherapy or stop treatment due to therapeutic inertia/low adherence

Relationship between risk of Discontinuation of antihypertensive treatment and initially prescribed drugs (n=433680)



Mancia et al., J Hypertens 2014,32,1708

Use of combination treatment (2 drugs) over the FU in pts starting treatment with one drug or a two-drug FDC (n=126,635 from 190,6476)



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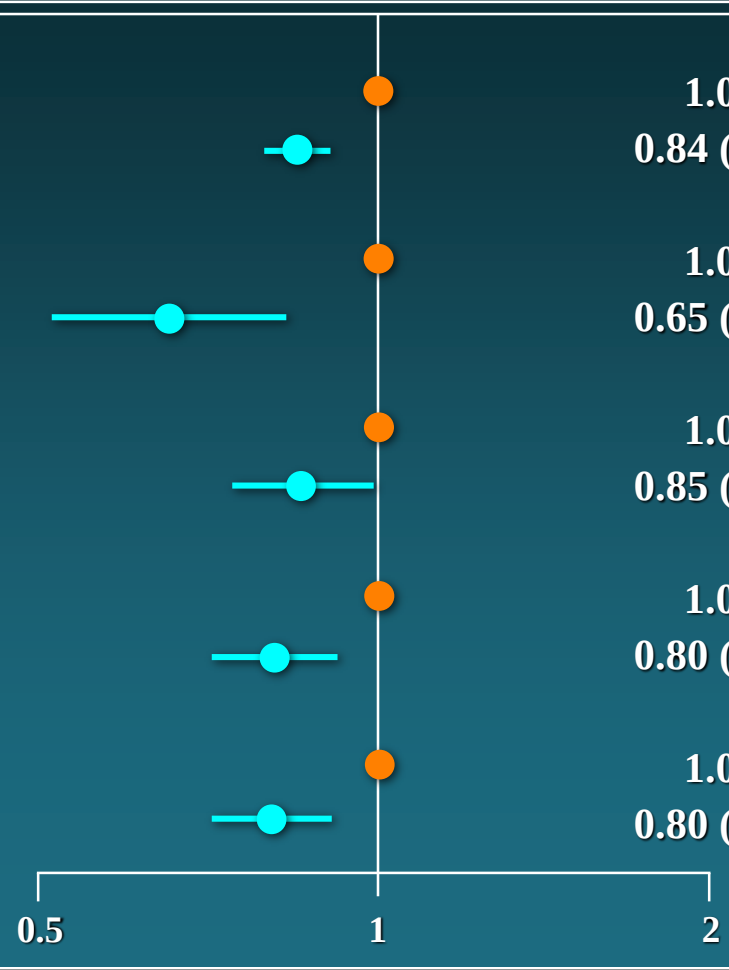
Rea, Corrao, Merlino, Mancia, Hypertension, in press

Risk of CV events over a 3 year FU in pts on initial FDC or monotherapy largely failing to move to combination therapy due to therapeutic inertia (PS analysis)

Outcome	Treatment strategy	HR (95% CI)	p
Any CV events	Monotherapy	1.00 (Ref)	<0.001
	Combination therapy	0.84 (0.79-0.90)	
Heart failure	Monotherapy	1.00 (Ref)	<0.001
	Combination therapy	0.65 (0.51-0.82)	
Cerebrovascular disease	Monotherapy	1.00 (Ref)	0.027
	Combination therapy	0.85 (0.74-0.98)	
Ischemic heart disease	Monotherapy	1.00 (Ref)	<0.001
	Combination therapy	0.80 (0.71-0.91)	
Death	Monotherapy	1.00 (Ref)	<0.001
	Combination therapy	0.80 (0.72-0.89)	



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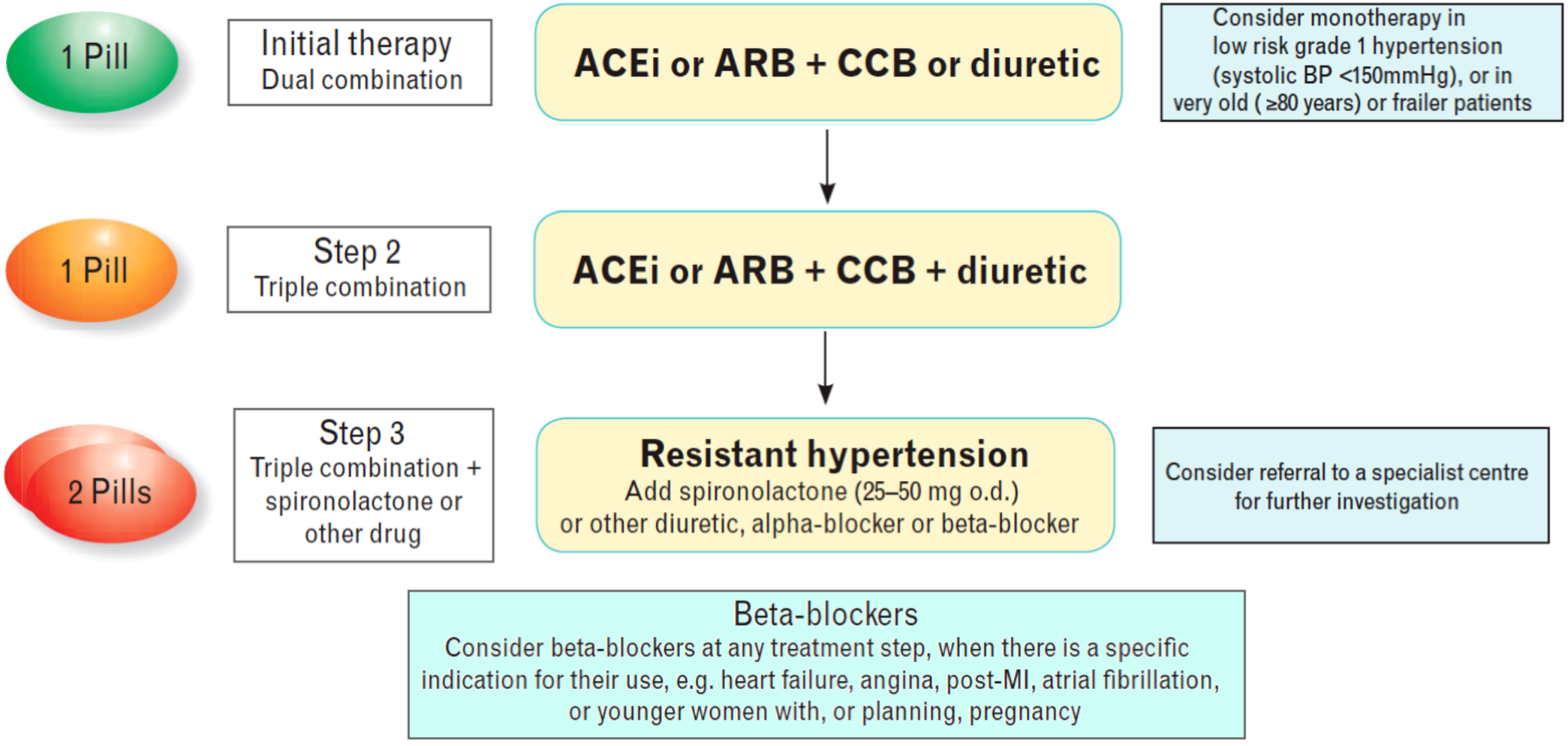
Rea, Corrao, Merlino, Mancia, Hypertension, 2018

The recommended (evidence-based) treatment strategy to improve BP control

- Initial combination treatment IN MOST PTS, especially useful in the context of lower BP targets
- Initial monotherapy reserved to
  - -BP in the high normal range
  - -Old, frail patients
  - -Grade 1 hypertension with SBP close to 140mmHg
- Single-pill-based combination therapy, to improve adherence to treatment

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;36:1953-2041 and Eur Heart J 2018;39:3021-3104

CHARACTERISTICS OF BETA-BLOCKERS

Beta-blocker	Selection ß1/ß2	vasodilation	Glycemia / Lipid emia	doses
Non-vasodilating				
Bisoprolol	103	--	↑	One a day
Metoprolol* *succinate (CR/XL)	79	--	↑	One a day
Vasodilating				
Carvedilol	7.3	α1 blockade	→	Twice a day
Nebivolol	293	NO activation	→↓	One a day

Toblli JE et al. Vasc Health Risk Manag. 2012;8:151-160
Leonetti G. Vasc Health Risk Manag. 2012;8:307-22.
Jacob S & Henriksen EJ. J Clin Hypertens. 2004;6:690-696

rt J 2018;39:3021-3104

Summary:

Classification of Blood Pressure in Adults:

Optimal: <120/80 mmHg

Normal: 120-129/<80 mmHg

High normal: 130-139/80-89 mmHg

Hypertension: ≥140/≥90 mmHg

- Five drug classes (ACEIs/ARBs/BBs/CCBs/Ds) have evidence
- BB for any step if needed
- Initial combination treatment IN MOST PTS, especially useful in the context of lower BP targets