HTA, le point des recommandations en 2022

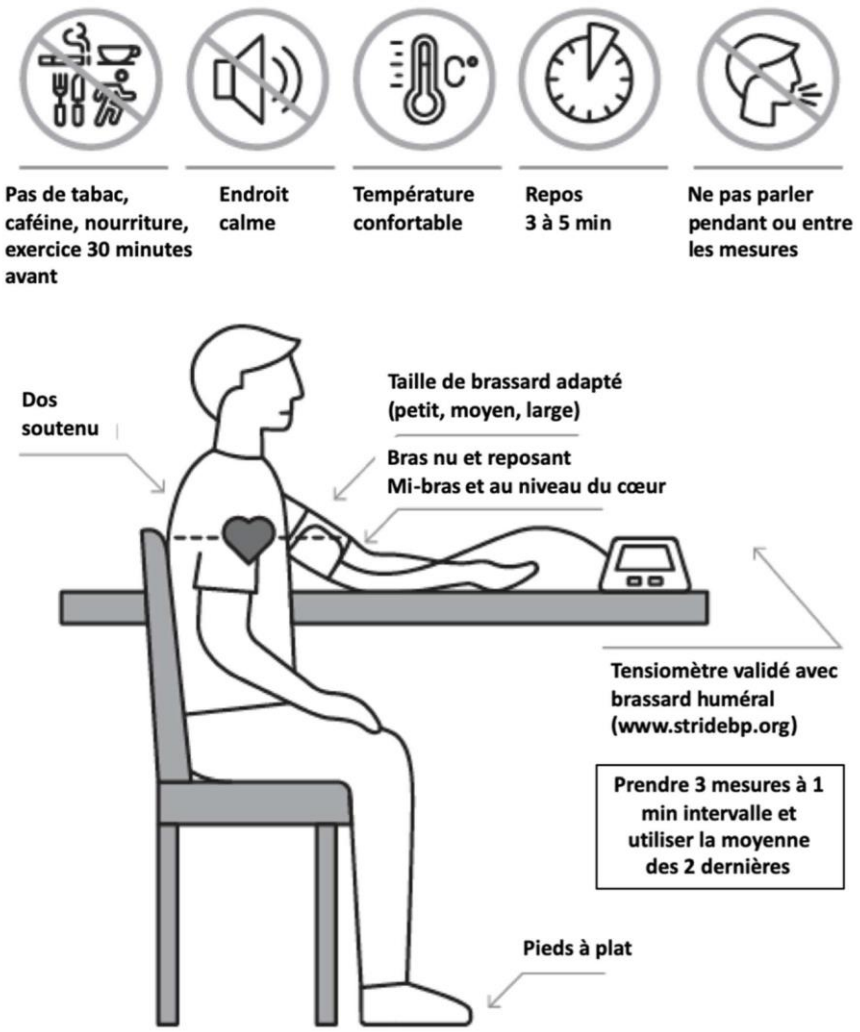
Patrick Friocourt

Recommandations récentes

- 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. J Am Coll Cardiol 2018;71:2199–269.
- 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. Journal of Hypertension 2018; 36(10): 1953-2041
- 2021 European Society of Hypertension practice guideline for office and out of office blood pressure measurement by Stergiou GS. et. al J Hypertens 2021
- Hypertension Canada's 2020 Comprehensive Guidelines for the Prevention, Diagnosis, Risk Assessment, and Treatment of Hypertension in Adults and Children. Canadian Journal of Cardiology 36 (2020) 596-624
- 2019 Chinese guideline for the management of hypertension in the elderly. Journal of Geriatric Cardiology (2019) 16: 67-99
- Hypertension Pharmacological Treatment in Adults: A World Health Organization Guideline Executive Summary. Hypertension. 2022;79:293–301
- …

Mesure de la pression artérielle

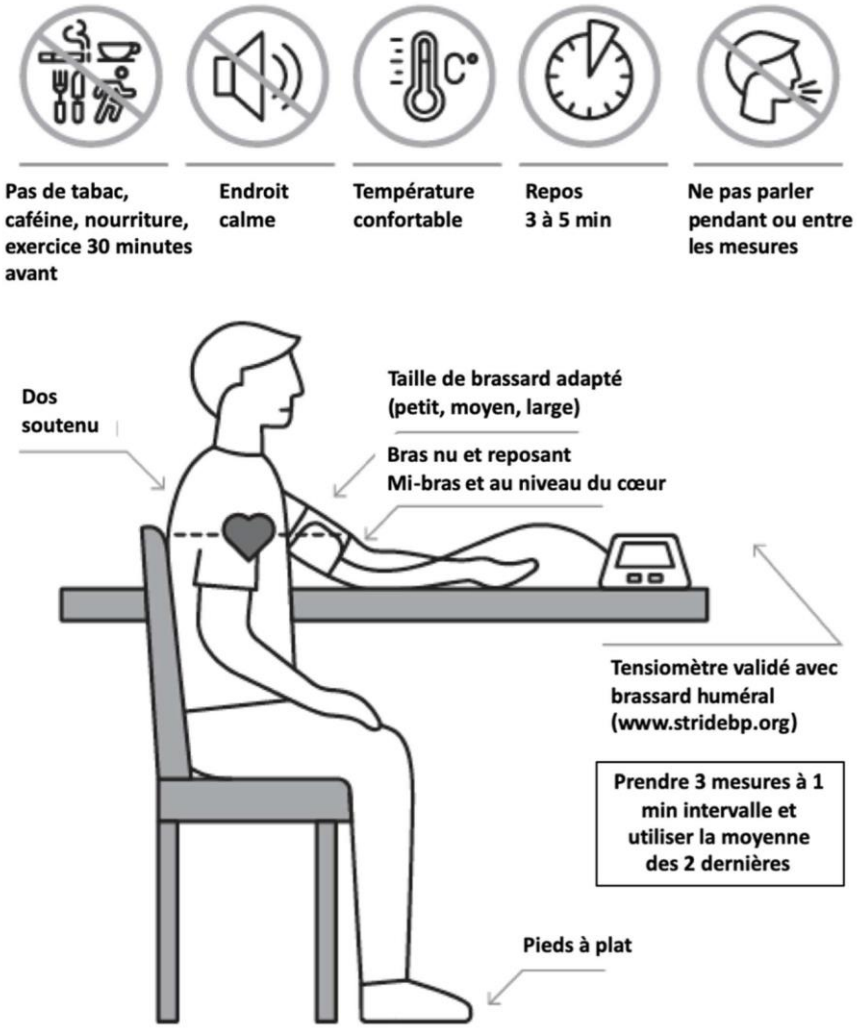
- Matériel
  - Tensiomètre électronique
  - Marqué CE et validé
  - Brassard huméral
  - Brassard adapté à la circonférence du bras
- Mesure
  - position assise ou couchée après quelques minutes de repos sans parler
  - initialement aux 2 bras (si asymétrie → valeur la plus élevée)
  - mesure répétée en consultation :
    - au moins 3 mesures consécutives à une minute d'intervalle
  - dépister l'hypotension orthostatique
  - réaliser l'automesure tensionnelle après quelques minutes de repos en position assise : règle des 3
  - préférer l'automesure à la MAPA



Société Française d'Hypertension Artérielle (SFHTA) - Décembre 2021

Mesure de la pression artérielle

- réaliser des mesures en dehors du milieu médical :
  - avant de débuter un traitement antihypertenseur
  - avant de modifier la posologie du traitement antihypertenseur **(Classe 1, Niveau B)**,
  - en cas de suspicion d'HTA résistante pour éliminer un effet blouse blanche **(Classe 1,**
  - avant une consultation dans le cadre du suivi de l'hypertension artérielle traitée
  - dans le suivi des patients ayant une HTA blouse blanche pour dépister l'apparition d'une HTA permanente
- considérer chez l'hypertendu traité une HTA masquée comme une HTA non contrôlée



Société Française d'Hypertension Artérielle* (SFHTA) - Décembre 2018

Définition HTA (ESC 2018)

Category	SBP (mmHg)		DBP (mmHg)
Office BP[a]	≥140	and/or	≥90
Ambulatory BP			
Daytime (or awake) mean	≥135	and/or	≥85
Night-time (or asleep) mean	≥120	and/or	≥70
24 h mean	≥130	and/or	≥80
Home BP mean	≥135	and/or	≥85

European Heart Journal (2018) 39, 3021–3104

HTA : classification (ESC 2018)

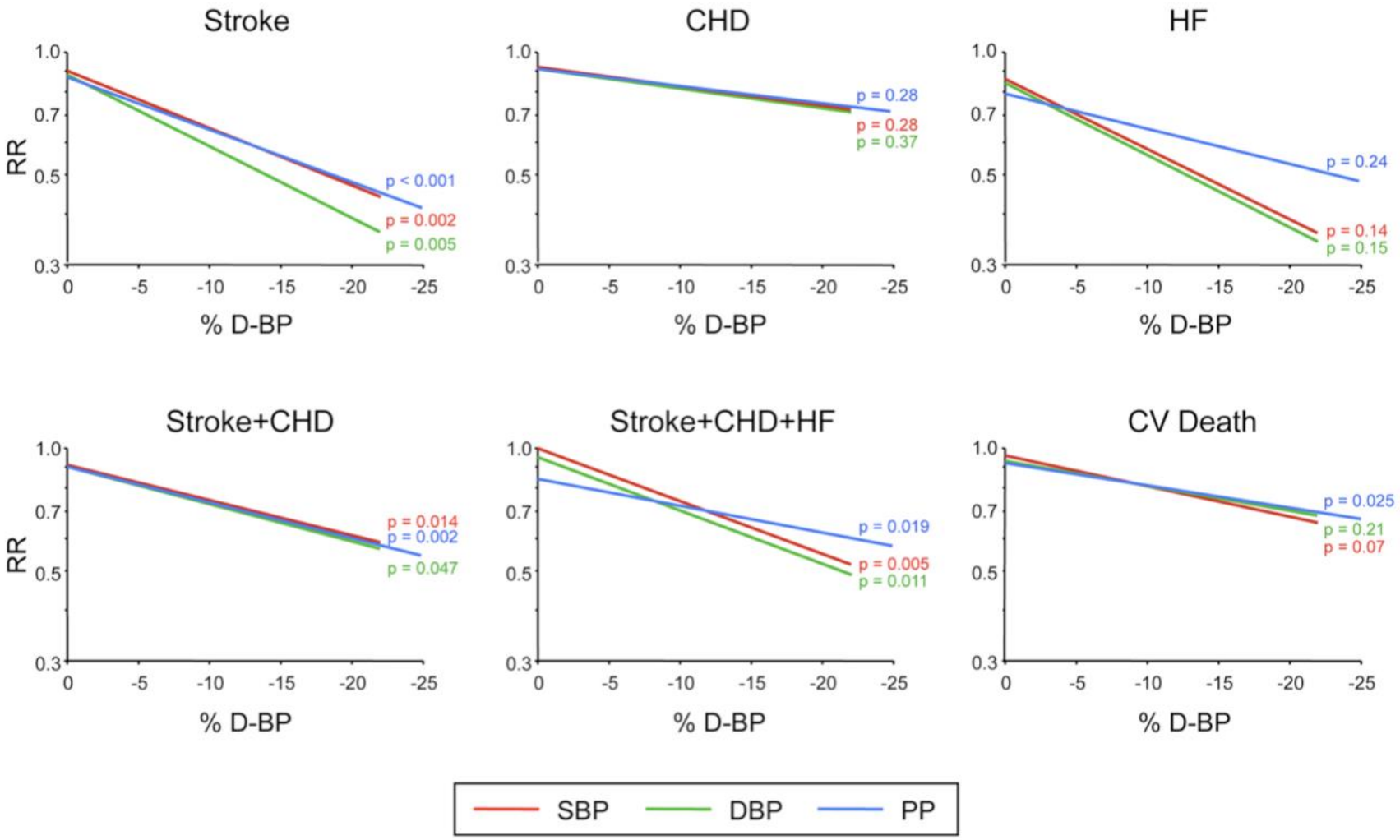
Category	Systolic (mmHg)		Diastolic (mmHg)
Optimal	<120	and	<80
Normal	120–129	and/or	80–84
High normal	130–139	and/or	85–89
Grade 1 hypertension	140–159	and/or	90–99
Grade 2 hypertension	160–179	and/or	100–109
Grade 3 hypertension	≥180	and/or	≥110
Isolated systolic hypertension[b]	≥140	and	<90

BP = blood pressure; SBP = systolic blood pressure.
[a]BP category is defined according to seated clinic BP and by the highest level of BP, whether systolic or diastolic.
[b]Isolated systolic hypertension is graded 1, 2, or 3 according to SBP values in the ranges indicated.
The same classification is used for all ages from 16 years.

European Heart Journal (2018) 39, 3021–3104

HTA : pourquoi traiter ?

Relation réduction des événements CV et réduction de la TA



Zanchetti Circ Res. 2015;116:1058-1073

Quelle valeur cible ?

HOW LOW TO GO?

2014 Meta-analysis of RCTs of Achieved SBP:

	RRR	NNT/5y
Stroke		
140-149 vs 150-159*	↓ 35%	52
130-139 vs 140-149**	↓ 27%	90
120-129 vs 130-139***	↓ 31%	106
Coronary Heart Disease:		
140-149 vs 150-159*	↓ 21%	169
130-139 vs 140-149**	↓ 23%	122
120-129 vs 130-139***	↓ 12% (NS)	---

*5RCTs; 12,406 pts **13 RCTs; 79,736 pts ***4 RCTs; 24,404 pts

J Hypertension 2014; 32:2296

https://www.acponline.org/system/files/documents/about_acp/chapters/dc/the_sprint_study.pdf

HTA personnes âgées

- Âge
  - > 60 ans
  - > 80 ans
  - « oldest old »
- État fonctionnel & fragilité
- Institution
- Situations praticulières

Vérifier réalité de l'HTA

- Variabilité tensionelle
  - Variations nycthémérales
  - HypoTA post prandiale
- HTA masquée
- HTA blouse blanche

→ multiplier contrôles
→ Automesure

HTA blouse blanche, HTA masquée

PA au cabinet	normale	élevée
élevée	Hypertension Blouse Blanche 15-25 %	Hypertension permanente
normale	Normotension	Hypertension Masquée 10-20 %

Automesure ou MAPA

Évaluation organes cibles : reco classes 1

- Cœur
  - ECG
  - Écho : si anomalies ECG ou signes dysfct VG
- Vx
  - échoDoppler carotides
- Reins
  - Clearance créatinine
  - Calcul rapport albumine/créatinine
- Œil
  - Si HTA grades 2 ou 3
- Cerveau
  - IRM ou scanner cérébral si signes neurologiques ou déclin cognitif (Reco Iia)

Évaluer le risque

Hypertension disease staging	Other risk factors, HMOD, or disease	BP (mmHg) grading			
		High normal SBP 130-139 DBP 85-89	Grade 1 SBP 140-159 DBP 90-99	Grade 2 SBP 160-179 DBP 100-109	Grade 3 SBP ≥180 or DBP ≥110
Stage 1 (uncomplicated)	No other risk factors	Low risk	Low risk	Moderate risk	High risk
	1 or 2 risk factors	Low risk	Moderate risk	Moderate to high risk	High risk
	≥3 risk factors	Low to Moderate risk	Moderate to high risk	High Risk	High risk
Stage 2 (asymptomatic disease)	HMOD, CKD grade 3, or diabetes mellitus without organ damage	Moderate to high risk	High risk	High risk	High to very high risk
Stage 3 (established disease)	Established CVD, CKD grade ≥4, or diabetes mellitus with organ damage	Very high risk	Very high risk	Very high risk	Very high risk

HMOD, hypertension-mediated organ damage

European Heart Journal (2018) 39, 3021–3104

TABLE 2 Best Proven Nonpharmacologic Interventions for Prevention and Treatment of Hypertension

Nonpharmacologic Intervention	Dose	Approximate Impact on SBP: Hypertension	Approximate Impact on SBP: Normotension
Physical activity			
Aerobic	• 90-150 min/week • 65%-75% heart rate reserve	−5/8 mm Hg	−2/4 mm Hg
Dynamic resistance	• 90-150 min/week • 50%-80% 1 repetition maximum • 6 exercises, 3 sets/exercise, 10 repetitions/set	−4 mm Hg	−2 mm Hg
Isometric resistance	• 4 × 2 min (hand grip), 1 min rest between exercises, 30%-40% maximum voluntary contraction, 3 sessions/week, • 8-10 weeks	−5 mm Hg	−4 mm Hg
Healthy diet			
DASH dietary pattern	Diet rich in fruits, vegetables, whole grains, and low-fat dairy products with reduced content of saturated and total fat	−11 mm Hg	−3 mm Hg
Weight loss			
Weight/body fat	Ideal body weight is best goal but ≥1 kg reduction in body weight for most adults who are overweight	−5 mm Hg	−2/3 mm Hg
Reduced intake of dietary [Na^+]			
Dietary sodium	<1,500 mg/day is optimal goal but ≥1,000 mg/day reduction in most adults	−5/6 mm Hg	−2/3 mm Hg
Enhanced intake of dietary [K^+]			
Dietary potassium	3,500-5,000 mg/day, preferably by consumption of a diet rich in potassium	−4/5 mm Hg	−2 mm Hg
Moderation in alcohol intake			
Alcohol consumption	In individuals who drink alcohol, reduce alcohol to • Men: <2 drinks/day • Women: <1 drink/day	−4 mm Hg	−3 mm Hg

Bakris J Am Coll Cardiol 2019;73:3018–26

Seuils pour traitement médicamenteux

Niveau pression	Tt médicamenteux	
PAS ≥ 160 mmHg PAD ≥ 90 mmHg	Toujours, quel que soit l'âge	Reco classe I, niveau A
PAS 140-159 mmHg	Sujet robuste (« fit ») 65 – 80 ans	Reco classe I, niveau A
PAS 130-139 mmHg PAD 85-89 mmHg	Tt médicamenteux - d'emblée si sujet à haut risque (présence patho cardiovasculaire notamment coronarienne) - Après 3 à 6 mois si non contrôle avec modif du mode de vie	Reco classe IIb, niveau A

European Heart Journal (2018) 39, 3021–3104

Valeurs cibles basses : SPRINT et al

- Sprint : PAS cible < 120 mmHg vs < 140 mmHg*
  - Ambulatoires, à risque CVD mais ni diabète, ni ATCD AVC, mesure TA automatique
  - Arrêt prématuré après 3,26 ans
- Sous groupe ≥ 75 ans**
  - 2636 pts, moy 79,9 ans, suivi 3,14 ans
  - Critère combiné : IDM non fatal, sd coconaire aigu sans IDM, AVC non fatal, IC décompensée non fatale, décès cardiovasculaire.

    → - 44% (HR=0,66 [IC 95% : 0,51-0,85])
  - Mortalité totale (critère secondaire) → - 33% (HR=0,67 [IC 95% : 0,49-0,91])
  - Effets secondaires graves non différents (48%) : hypoTA (2,4% vs 1,4%), syncopes (3,0% vs 2,4%), troubles ioniques (4,0% vs 2,7%), I rénale (5,5% vs 4,0%), chutes (4,9% vs 5,5%)

*SPRINT N Engl J Med 2015;373:2103-16

** Williamson *JAMA*. 2016;315(24):2673-2682.

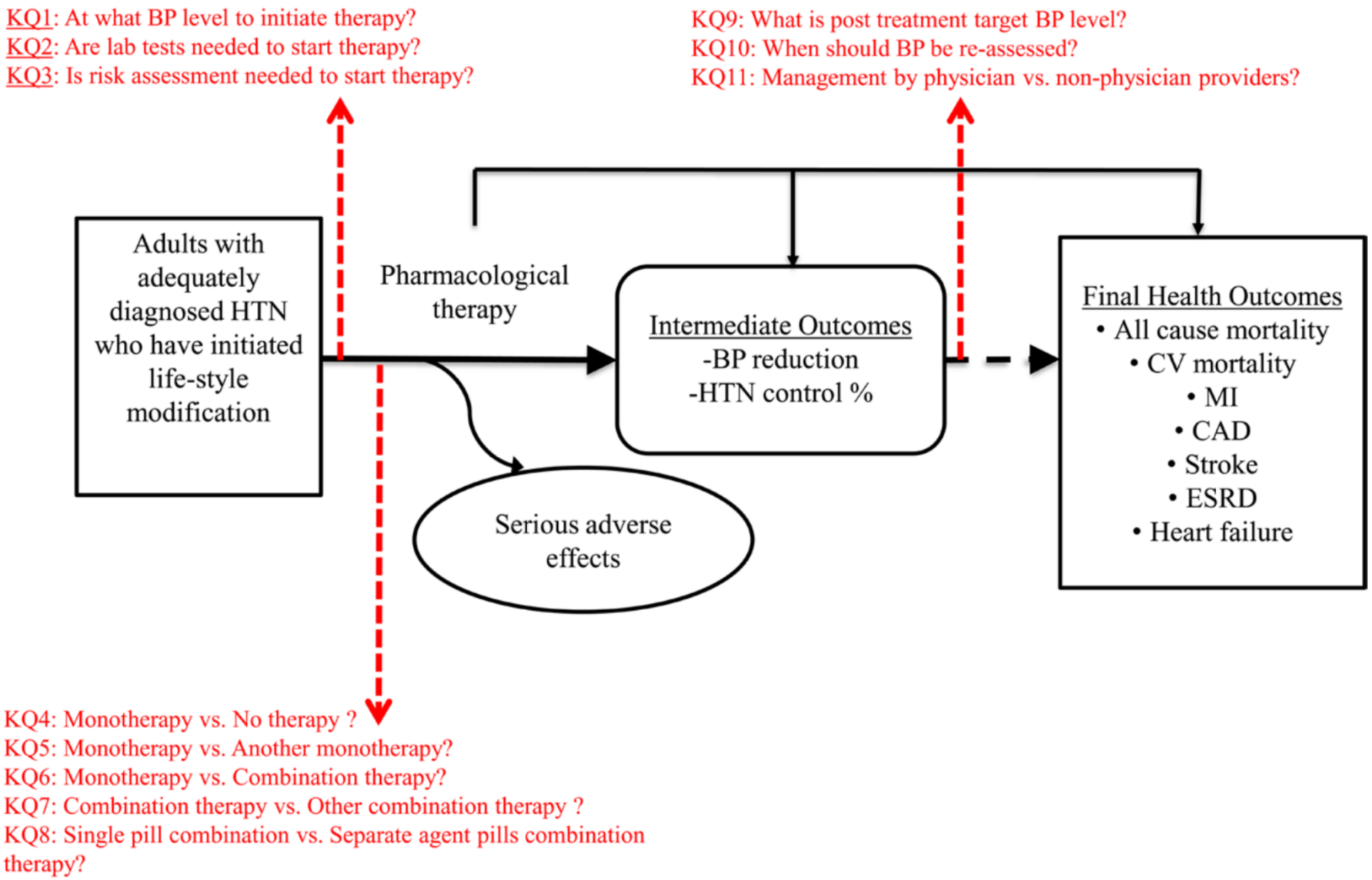
HTA : Evolution des recommandations

Guideline/trial	Target population, age in years	Treatment goal, mm Hg
JNC 7 (2003)	< 60	< 140/90
ESH/ESC (2013)	< 80	< 140/90
	> 80	< 150/90
JNC 8 (2014) (endorsed by ACP and AAFP, 2014)	< 60	< 140/90
	> 60	< 150/90
SPRINT trial (2015)	> 50	< 120/–
ACC/AHA (2017)	General population	< 130/80
ESH/ECC (2018)	< 65	< 130/ –
	> 65	Less aggressive

Fernandes Contemporary Clinical Trials 81 (2019) 44–54

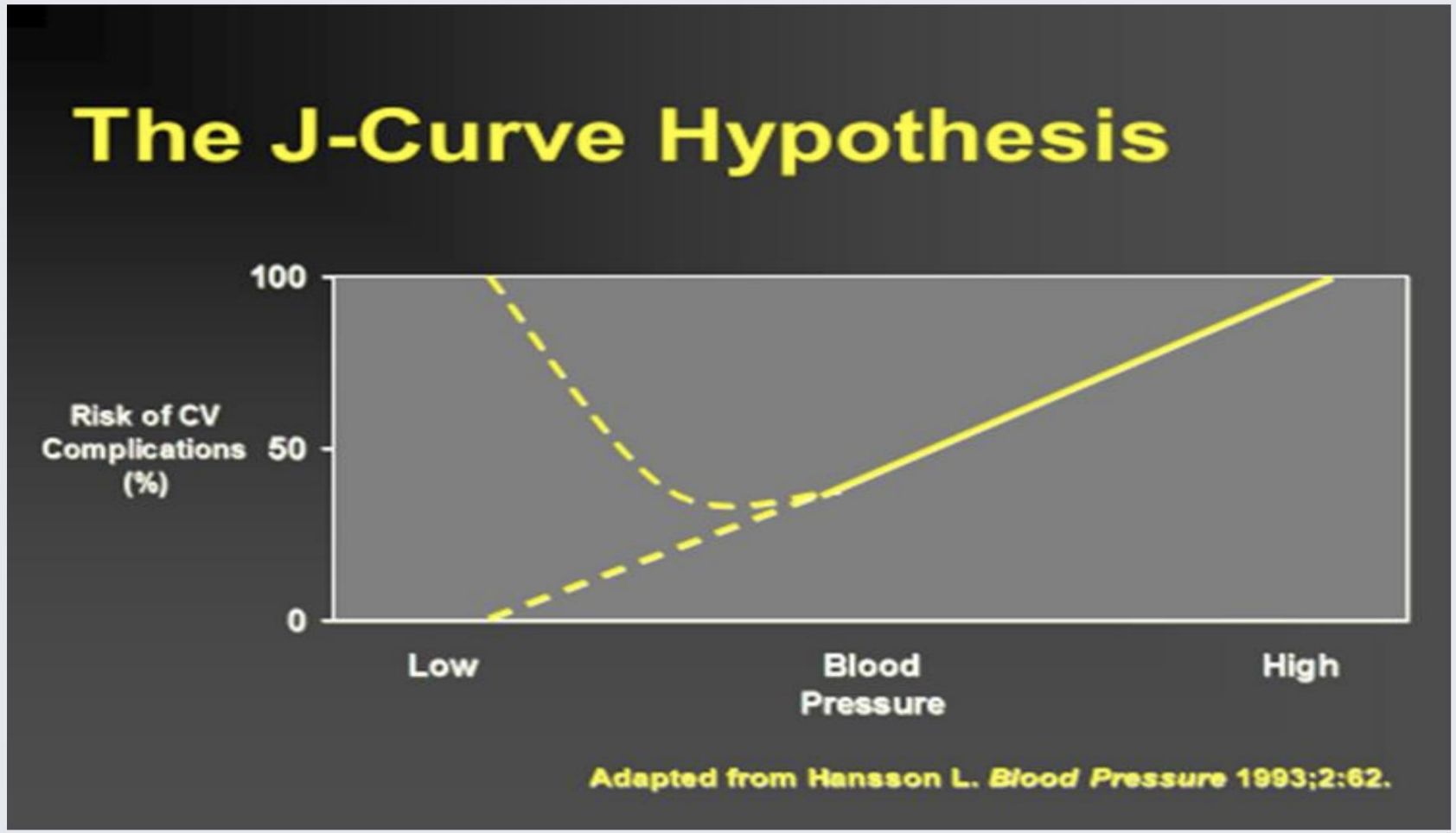
OMS

Analytic framework. Hypertension Management



Hypertension. 2022;79:293–301

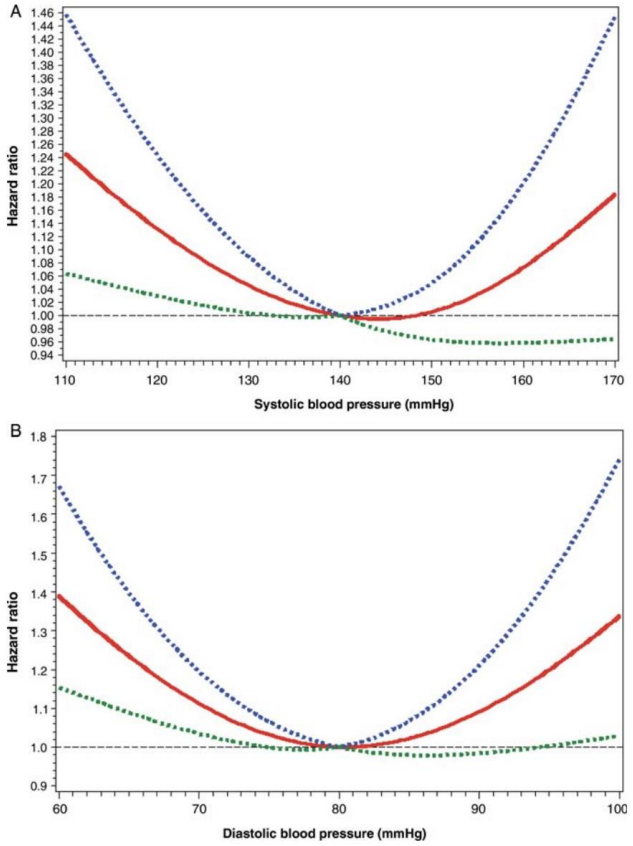
CONCERNS ABOUT J=SHAPE CURVE



https://www.acponline.org/system/files/documents/about_acp/chapters/dc/the_sprint_study.pdf

Lower is not always better

- Dans ACCORD (diabétiques) le Tt intensif (à 120 mmHg PAS) n'est pas associé à une réduction du risque CV par comparaison au Tt standard (à 140 mmHg PAS), mais les risque d'AVC est réduit avec le Tt intensif*
- Dans TNT (coronariens) on retrouve une courbe en J entre PA et survenue d'accident CV : une PA basse (<110–120/<60–70 mmHg) étant associée à une augmentation du risque de survenue d'événement CV**



Risque décès coronarien, IDM non fatal, arrêt cardiaque récupéré, AVC (fatal ou non)**

Ces résultats contredisent le dicton qu'en matière de PA, le plus bas est toujours meilleur (sauf peut-être pour PAS et AVC)

*Cushman WC N Engl J Med 2010;362: 1575–1585
** Bangalore European Heart Journal (2010) 31, 2897–2908

Tt intensif vs Tt standard après 80 ans

	HR population totale	HR population MoCA élevé	HR population MoCA bas
Événements CV	0,66 (049-0,90)	0,40 (0,28-0,57)	1,33 (0,87-2,03)
Mortalité	0,67 (0,49-0,93)		
MCI	0,70 (0,51-0,96)		

Après 80 ans, le Tt antiHTA intensif

- réduit le risque d'événement cardiovasculaire majeur, de MCI et de mortalité
- avec une augmentation du risque d'altération de la fct rénale

Les bénéfices du contrôle tensionnel par un traitement intensif
peuvent ne pas être observés chez les sujets ayant une altération des fonctions cognitives.

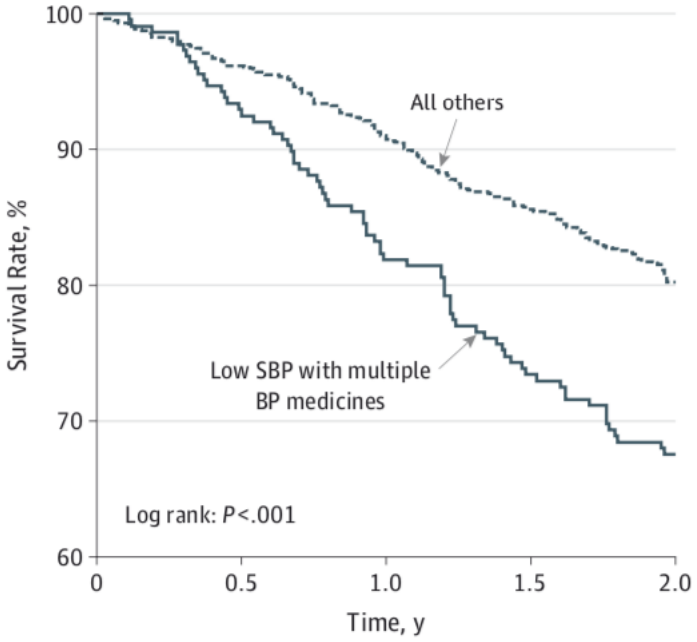
Pajewski J Am Geriatr Soc 68:496-504, 2020

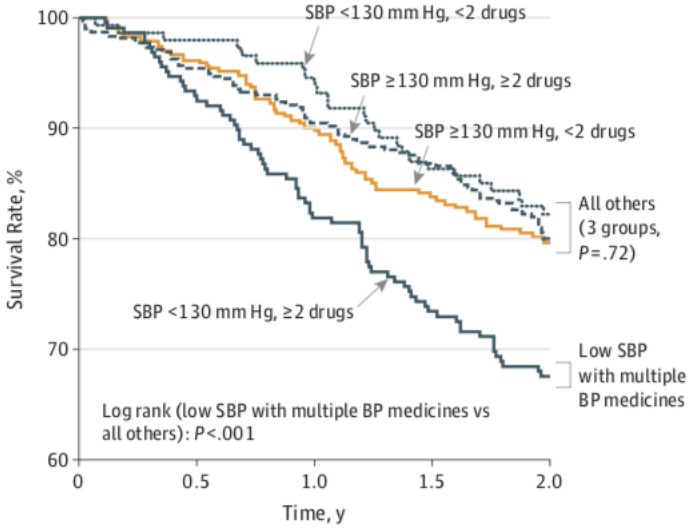
MoCA : Montreal Cognitive Assessment

étude Partage

Multiple Blood Pressure Medications, Achieved Blood Pressure, and Mortality in Older Nursing Home Residents: The PARTAGE Study

- 1127 pts, 78% femmes
- 80 ans (moy 87,6 ans)
- EHPAD France
- Suivi > 2 ans





HR = 2,09

Benetos *JAMA Intern Med*. doi:10.1001/jamainternmed.2014.8012

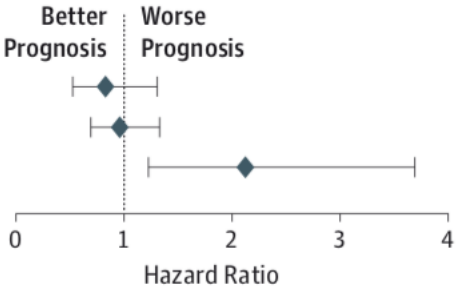
étude Partage

Multiple Blood Pressure Medications, Achieved Blood Pressure, and Mortality in Older Nursing Home Residents: The PARTAGE Study

Figure 1. Hazard Ratios (HRs) for All-Cause Mortality According to Systolic Blood Pressure (SBP) Levels, Number of Antihypertensive (anti-HTN) Drugs, and Interaction Between SBP and Number of Anti-HTN Drugs

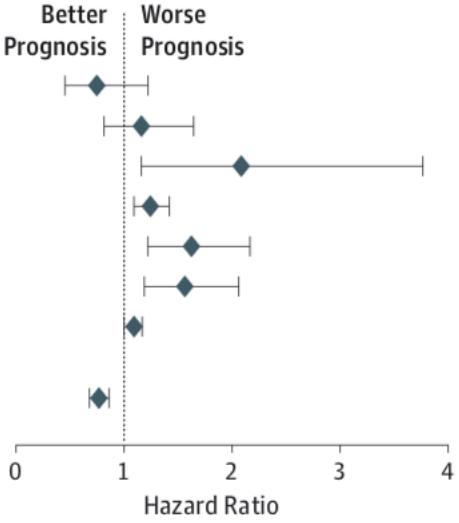
A

Unadjusted analysis	HR (95% CI)	*P* Value
SBP <130 mm Hg	0.83 (0.53-1.31)	.42
≥2 Anti-HTN drugs	0.97 (0.70-1.33)	.83
SBP <130 mm Hg and ≥2 anti-HTN drugs	2.13 (1.23-3.69)	.007



B

Adjusted analysis	HR (95% CI)	*P* Value
SBP <130 mm Hg	0.75 (0.46-1.22)	.25
≥2 Anti-HTN drugs	1.16 (0.82-1.64)	.41
SBP <130 mm Hg and ≥2 anti-HTN drugs	2.09 (1.16-3.77)	.01
Age, per 5 y	1.25 (1.10-1.42)	<.001
Male sex	1.63 (1.22-2.17)	<.001
BMI ≤25	1.57 (1.19-2.06)	.001
Charlson Comorbidity Index score, per 1-point increase	1.09 (1.03-1.16)	.005
ADL score, per 1-point increase	0.77 (0.68-0.86)	<.001



The forest plots indicate a significant interaction in survival curves according to SBP and the number of anti-HTN drugs, contrasting patients with an SBP of less than 130 mm Hg who were receiving multiple BP medicines (n = 227) and all other participants (n = 900). Risk of death in the group with low SBP receiving multiple BP medicines did not change significantly after adjustment for several cofactors (hazard ratio [HR], 2.09; 95% CI, 1.16-3.77; *P* = .01, panel B). ADL indicates activities of daily living; BMI, body mass index (calculated as weight in kilograms divided by height in meters squared).

Benetos *JAMA Intern Med*. doi:10.1001/jamainternmed.2014.8012

Tt intensif : que penser ?

- Pour la population générale des hypertendus, les bénéfices de tenter d'obtenir une valeur tensionnelle cible plus basse que la valeur cible standard (≤ 140/90 mm Hg) ne dépassent pas les dommages associés à cette intervention.
- Des recherches supplémentaires sont nécessaires pour voir si certains groupes de patients pourraient bénéficier ou subir un préjudice par des valeurs cible plus basses.
- Les résultats de cette revue s'appliquent principalement aux sujets âgés à risque cardiovasculaire modéré à élevé et peuvent ne pas s'appliquer aux autres populations.

Arguedas JA, Leiva V, Wright JM.
Blood pressure targets in adults with hypertension.
Cochrane Database of Systematic Reviews 2020, Issue 12. Art. No.: CD004349

Antihypertenseurs : effets indésirables et précautions d'emploi après 80 ans

Drug Class	Most Common Adverse Effects	Special Precautions/Considerations in Old Individuals
CCB Dihydropyridine CCB Non dihydropyridine CCB	Signs related to sympathetic activation (flushing, headache, tachycardia) are less frequent than in younger subjects. Lower limb edema (frequent since many other factors for LLE). Bradycardia, AV block, worsening heart failure, constipation (verapamil), fatigue, dyspnea.	LLE, which is relatively frequent with these drugs, can be erroneously interpreted as a clinical sign of heart failure. In addition, LLE can contribute to the decrease in social and physical activities for practical reasons (difficulties in walking with shoes). Second-line selection; diltiazem can also cause LLE. With verapamil, LLE is unusual, but constipation may be a major problem in very old individuals, as it can lead to fecal impaction, with nausea, anorexia, delirium, and functional decline. Never combine verapamil with β-blockers.
Diuretics Thiazide Loop diuretic	Hyponatremia, hypokalemia, hyperuricemia and gout attacks, hypotension, dehydration. Similar to Thiazides	For both thiazide and loop diuretics: Diuretic should be titrated according to the patient's volemic status. The latter may be difficult to assess in very old and frail individuals. Creatinine and electrolyte monitoring is warranted after each dose change. Association with SSRI antidepressants increases the risk of severe hyponatremia. Risk of aggravation of urine incontinence. For this reason, diuretics may have an impact on the social life of the patient and can contribute to his/her isolation. Other patients often do not take their treatment if they want to have outdoor activities. Thiazide-like indapamide has been tested in the only RCT specific for subjects >80 y. Small doses (up to 25 mg of HCTZ or equivalent) are safe and well tolerated. Loop diuretics are not indicated for hypertension unless there is severe renal insufficiency (estimated creatinine clearance <30 mL/[min·1.73 m^2]). In the presence of both hypertension and heart failure, loop diuretics can be used for both diseases, either alone or in combination with thiazides.
ACE inhibitors	Dry cough, hyperkalemia, rash, angioedema, dizziness, fatigue, acute renal failure	ACE inhibitors have been tested in the only RCT specific for subjects >80 y. Avoid if you suspect dehydration, do not simultaneously increase diuretics to avoid a worsening in renal function. Regular control of creatinine and potassium levels.
Angiotensin II receptor antagonists	Hyperkalemia, rash, dizziness, fatigue, acute renal failure	The same as for ACE inhibitors: Do not combine ARB with ACE inhibitor or renin inhibitor. Be cautious with aldosterone antagonist because of increased risk of hyperkalemia.
β- adrenoreceptor antagonists (β-blockers)	Bradycardia, cardiac decompensation, peripheral vasoconstriction, bronchospasm, fatigue, depression, dizziness, confusion, hypoglycemia	Fatigue, which is multifactorial in older subjects, can be accentuated. Nightmares, sleep disturbances, depression, and confusion may be present especially for the β-blockers crossing the blood brain barrier. Cardiac conduction problems can also be aggravated. Caution when used in combination with acetylcholinesterase inhibitors (for Alzheimer disease): risk of major bradycardia.
Aldosterone antagonists	Hyperkalemia, hyponatremia, and gastrointestinal disturbances, including cramps and diarrhea, gynecomastia	Aldosterone antagonist should not be given in instances of severe renal insufficiency, estimated creatinine clearance <30 mL/(min·1.73 m^2) or hyperkalemia. Creatinine and electrolyte monitoring is warranted after each dose change.
α-adrenoreceptor antagonists (α-blockers)	Dizziness, fatigue, nausea, urinary incontinence, orthostatic hypotension, syncope	Usually not indicated. Risk of hypotension (orthostatic, postprandial) and syncope.
Central α-adrenoreceptor agonists	Drowsiness, dry mouth, dizziness, constipation, depression, anxiety, fatigue, urinary retention or incontinence, orthostatic hypotension, confusion, and delirium	High risk of delirium and confusion. Depression, which is atypical and frequent in older subjects (and tricky to diagnose vs cognitive disorders), can be aggravated.

ACE indicates angiotensin-converting enzyme; ARB, angiotensin receptor blockers; AV, atrioventricular; CCB, calcium channel blockers; LLE, lower limb edema; HCTZ, hydrochlorothiazide; RCT, randomized controlled trial; and SSRI, selective serotonin reuptake inhibitors.

Benetos Circ Res. 2019;124:1045-1060

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Benetos Circ Res. 2019;124:1045-1060

Objectifs de pression artérielle sous Tt

Au cabinet de consultation* :

- PAS < 140/90 mmHg chez tous si Tt bien toléré, voire < 130/80 chez la plupart des pts (reco I A)

- PAS < 65 ans → 120-129 mmHg

- PAS après 65 ans → 130-139 mmHg
  - 130-139 mmHg (reco I A)
  - Surveillance effets indésirables (HypoTA orthostatique +++) (reco I C)
  - Quel que soit le risque CV, qu'il y ait ou non maladie CV établie (reco I A)

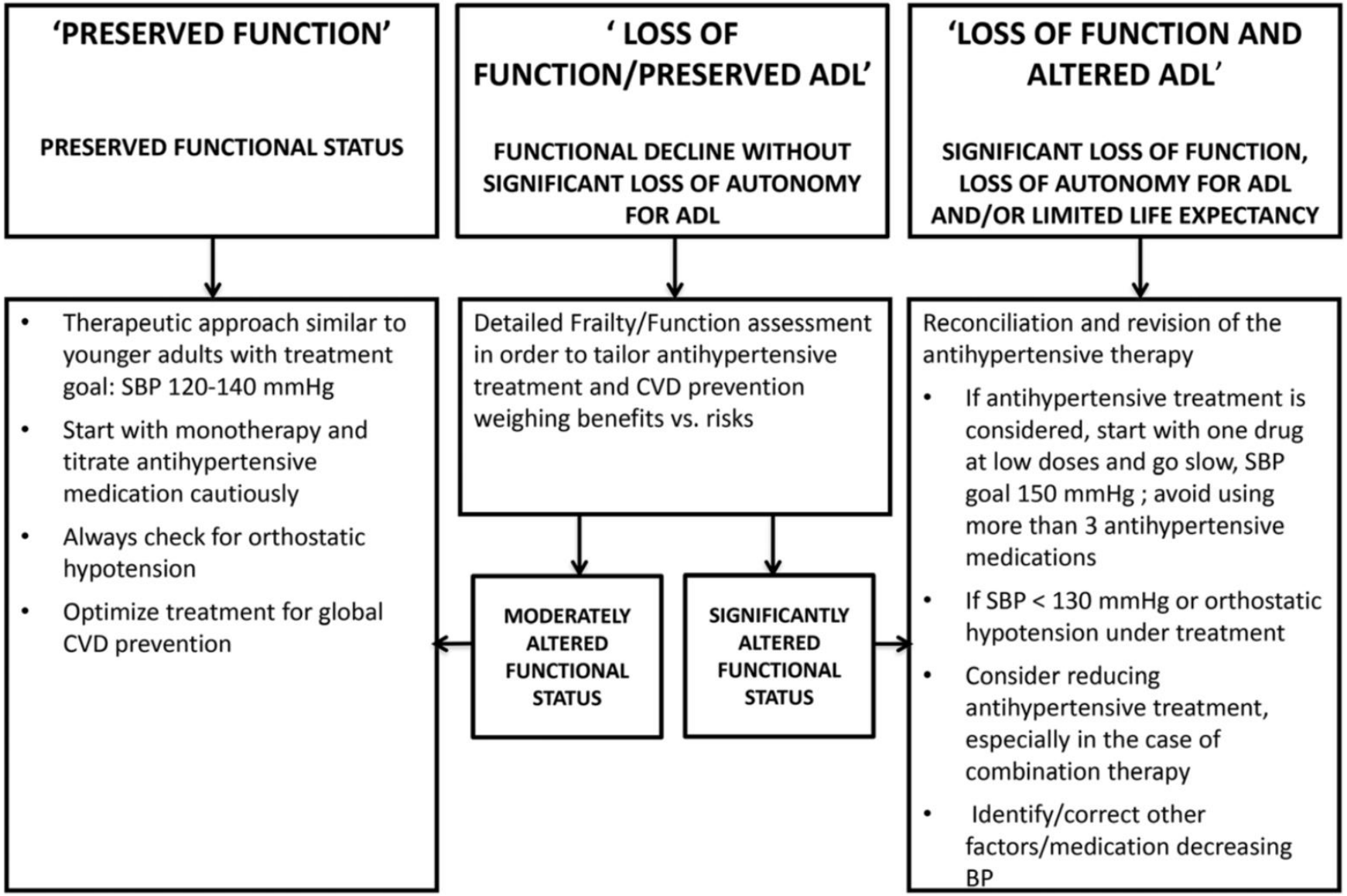
- PAD < 80 mmHg à envisager quels que soient le risque CV et les comorbidités (reco IIa B)

En automesure :

- Automesure : valeurs cibles < 5 mmHg (reco japonnaises 2019**)

* European Heart Journal (2018) 39, 3021–3104
** Korean Circ J. 2019;49(12):1123-1135)

Algorithme de prise en charge de l'HTA des sujets > 80 ans



Benetos Circ Res. 2019;124:1045-1060

Comparaison Reco ACC/AHA et ESC selon le terrain

TABLE 4 Blood Pressure Goals in Patients With Hypertension According to Clinical Conditions

Category	ESC/ESH 2018	AHA/ACC 2017
Age ≥65 yrs	130 to <140/70 to 79 mm Hg	<130/<80 mm Hg
Diabetes	Close to 130 (or lower if tolerated/ 70 to 79 mm Hg	<130/<80 mm Hg
Coronary artery disease	Close to 130 (or lower if tolerated/ 70 to 79 mm Hg	<130/<80 mm Hg
Chronic kidney disease (eGFR <60 ml/min/1.73 m^2)	130 to <140/70 to 79 mm Hg	<130/<80 mm Hg
Post-stroke	Close to 130 (or lower if tolerated/ 70 to 79 mm Hg	<130/<80 mm Hg

Bakris J Am Coll Cardiol 2019;73:3018–26

Approche thérapeutique : HTA non compliquée

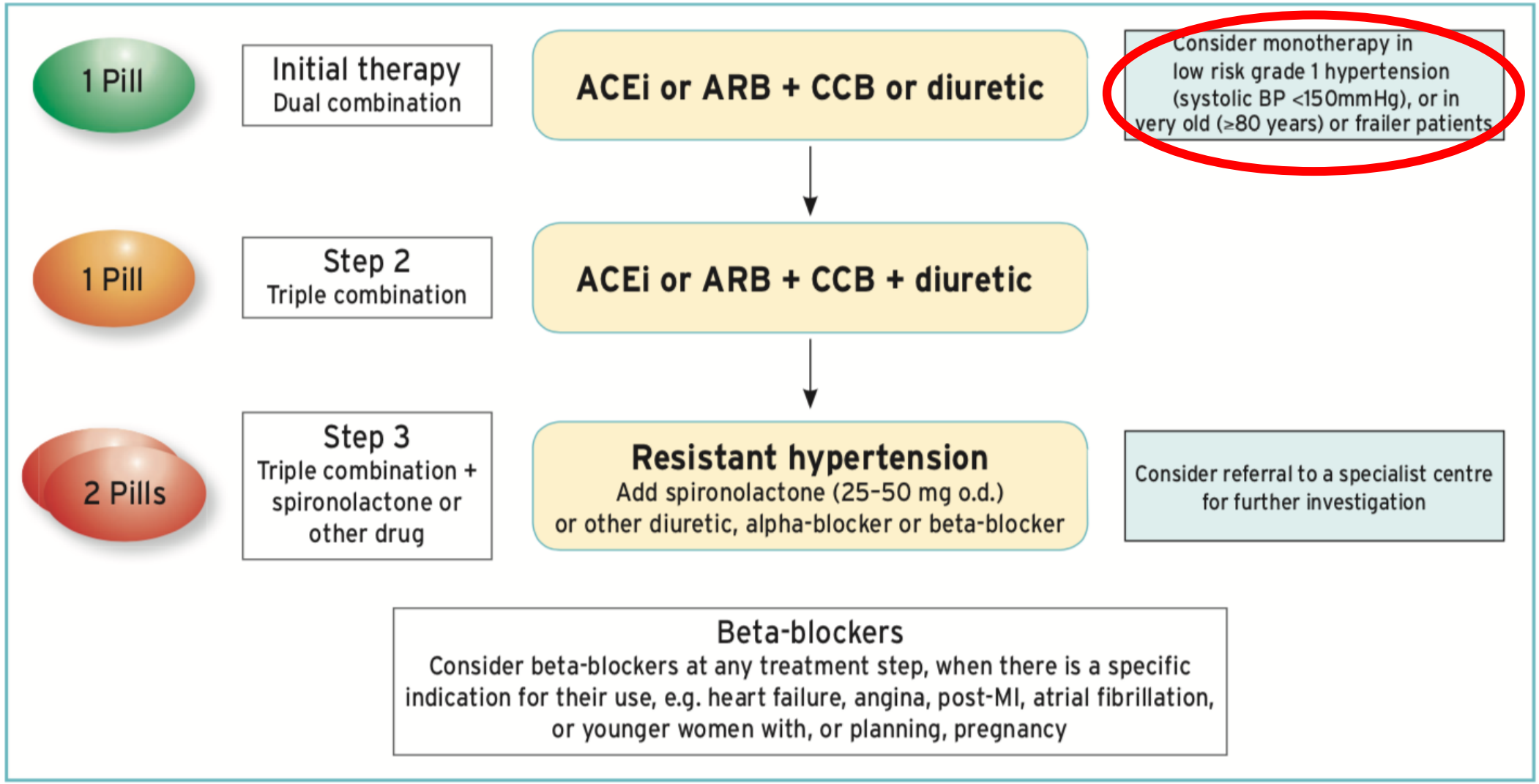
1. Bithérapie (1 pilule) : ISRA + antagoniste calcique ou diurétique
2. Si échec, trithérapie (1 pilule) : ISRA + antagoniste calcique + diurétique
3. Si échec (HTA résistante confirmée par MAPA) :
   - Renforcer les règles hygiéno-diététiques
   - Ajouter spironolactone faible dose ou autre chose :
   - Diurétique
   - α bloquant
   - Bêtabloquant (bisoprolol)

N.B. :

Bêtabloquant à introduire plus tôt si indication (angor, post- infarctus, fibrillation atriale).

ISRA : Inhibiteur du Système Rénine-Angiotensine

Approche thérapeutique : HTA non compliquée



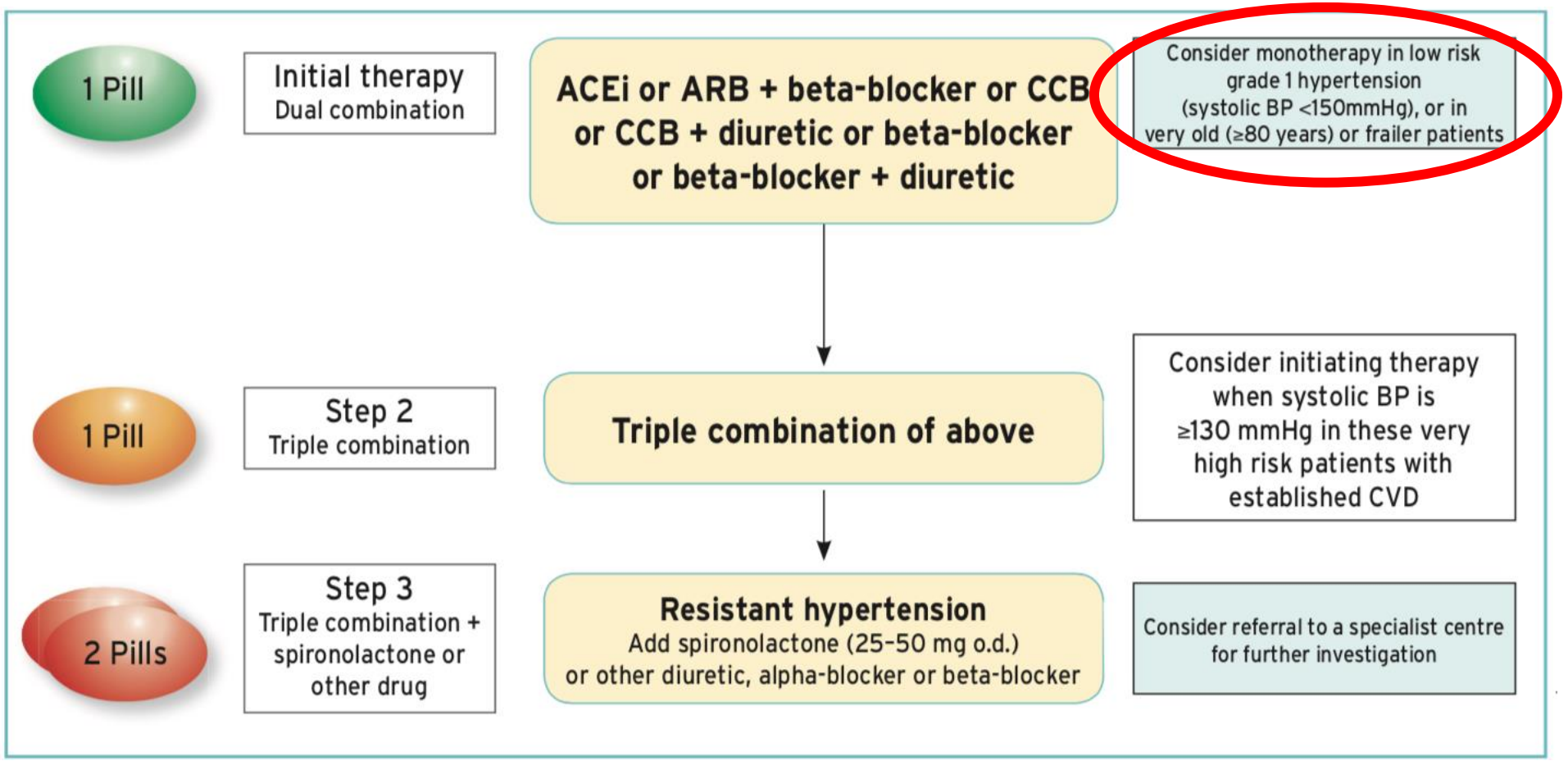
European Heart Journal (2018) 39, 3021–3104

Choix de la classe thérapeutique en fonction des comorbidités associées

Comorbidités	Choix préférentiel
Patient diabétique à partir du stade microalbuminurie ou insuffisance rénale	IEC ou ARA2
Patient avec une insuffisance rénale ou une protéinurie	IEC ou ARA2
Patient insuffisant cardiaque	IEC (sinon ARA2), bêtabloquants ayant l'AMM dans cette indication, diurétiques
Patient coronarien	IEC, bêtabloquants
Patient post-AVC	Diurétiques thiazidiques, IEC (sinon ARA2), et inhibiteurs calciques

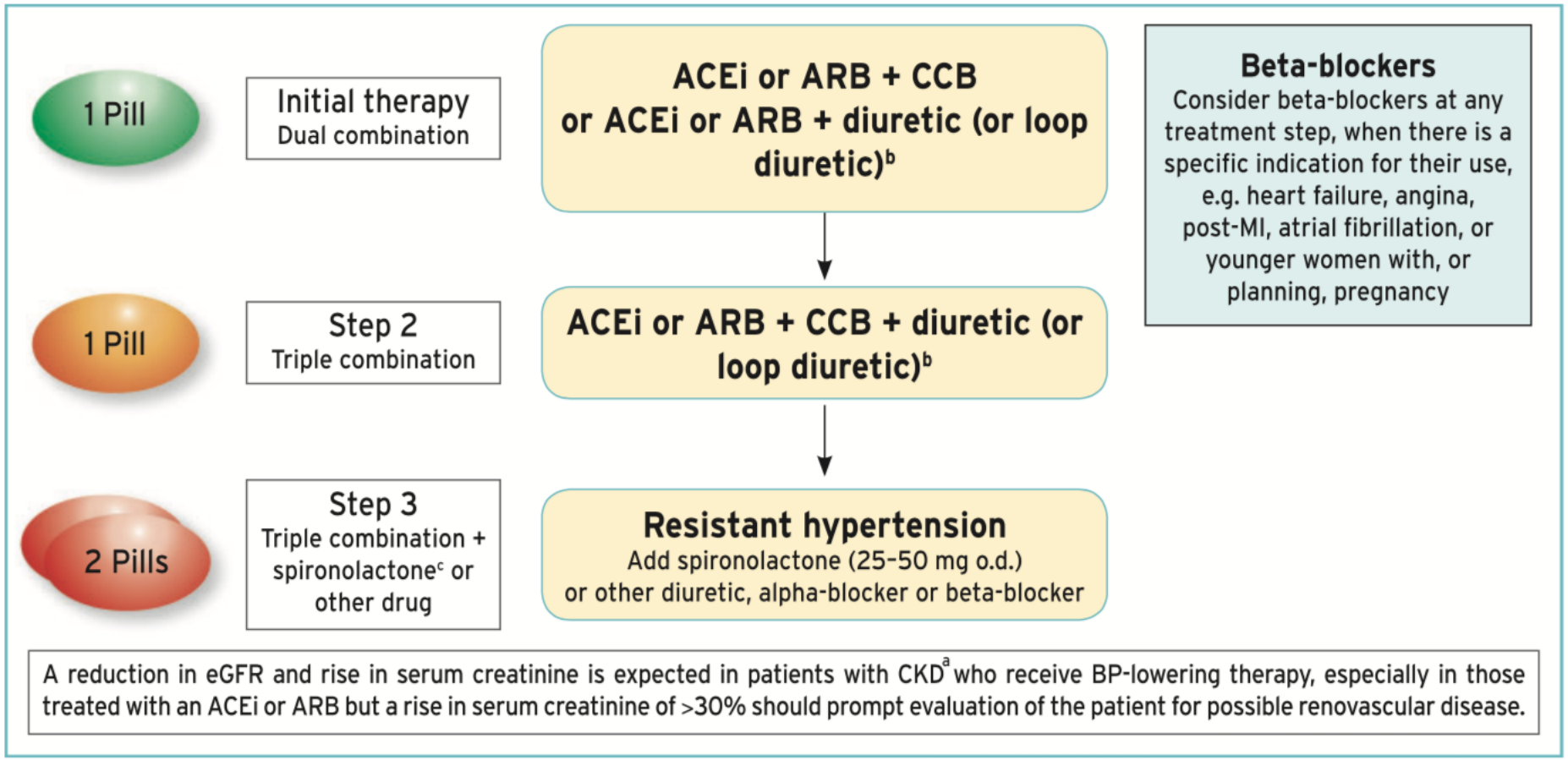
HAS 2016

Approche thérapeutique : HTA coronarien



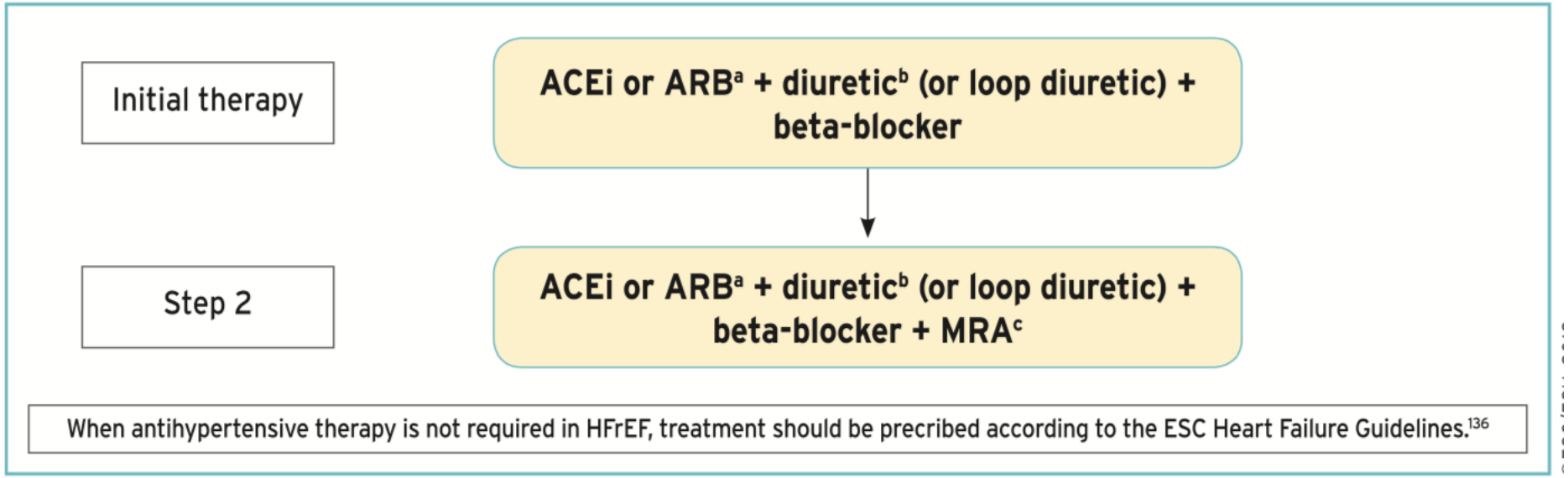
European Heart Journal (2018) 39, 3021–3104

Approche thérapeutique : HTA et I rénale



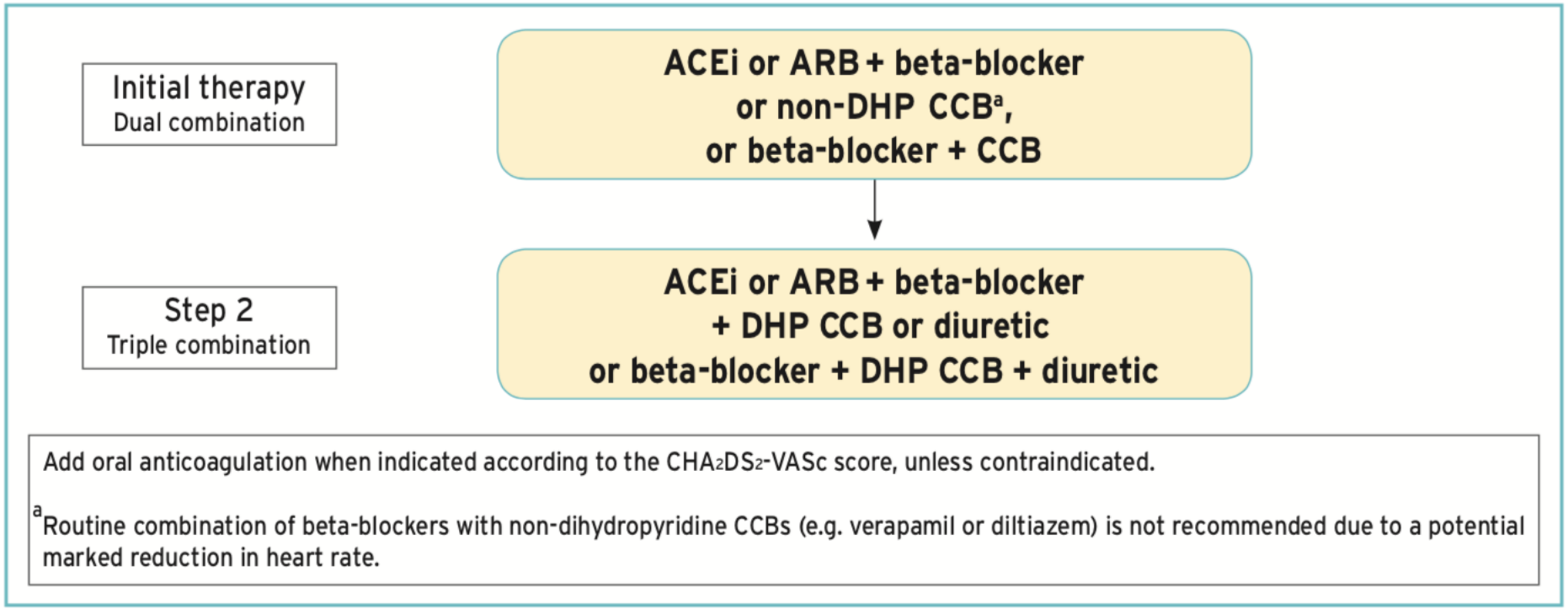
European Heart Journal (2018) 39, 3021–3104

Approche thérapeutique : HTA et I cardiaque Fct VG altérée



European Heart Journal (2018) 39, 3021–3104

Approche thérapeutique : HTA et FA



European Heart Journal (2018) 39, 3021–3104

Valeurs tensionnelles cibles : recommandations Japon, Etats-unis et Europe

	JSH 2014	JNC-8 (2014)	ACC/AHA 2017	ESC/ESH 2018	JSH 2019 (Plan)
Young-middle age	<140/90 mm Hg	<140/90 mm Hg	<130/80 mm Hg*	120–130/70 to <80 mm Hg	<130/80 mm Hg†
Aged, y	75 and older: <150/90 mm Hg	60 and older: <150/90 mm Hg	65 and older: <SBP 130 mm Hg	65–79: 130 to <140/ 70 to <80 mm Hg	75 and older: <140/90 mm Hg
DM	<130/80 mm Hg	<140/90 mm Hg	<130/80 mm Hg	120–130/70 to <80 mm Hg‡	<130/80 mm Hg
CKD (proteinuria+)	<130/80 mm Hg	<140/90 mm Hg	<130/80 mm Hg	130 to <140/70 to <80 mm Hg‡	<130/80 mm Hg
CKD (proteinuria–)	<140/90 mm Hg				<140/90 mm Hg
Secondary stroke prevention	<140/90 mm Hg	<140/90 mm Hg	<130/80 mm Hg	120 -130/70 to <80 mm Hg‡	<130/80 mm Hg§
Ischemic heart disease	<140/90 mm Hg	<140/90 mm Hg	<130/80 mm Hg	120–130/70 to <80 mm Hg‡	<130/80 mm Hg

ACC indicates American College of Cardiology; ASCVD, atherosclerotic cardiovascular disease; AHA, American Heart Association; BP, blood pressure; CKD, chronic kidney disease; DM, diabetes mellitus; ESC, European Society of Cardiology; ESH, European Society of Hypertension; JNC-8, Eighth Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure; JSH, Japanese Society of Hypertension Guidelines for the Management of Hypertension; and SBP, systolic BP.

*<10 y-ASCVD risk 10% to initiate medication at 140/90 mm Hg.

†Antihypertensive medication starts at ≥140/90 mm Hg in low- to middle-risk patients.

‡130 to <140/70 to <80 mm Hg for people aged 65 years and over.

§<140/90 mm Hg for bilateral cervical arteries stenosis, main cerebral artery occlusion or not-evaluated cases.

Hirawa Circ Res. 2019;124:981-983. DOI: 10.1161/CIRCRESAHA.119.314991.

Objectifs de pression artérielle sous Tt

Au cabinet de consultation* :

- PAS < 140/90 mmHg chez tous si Tt bien toléré, voire < 130/80 chez la plupart des pts (reco I A)

- PAS < 65 ans → 120-129 mmHg

- PAS après 65 ans → 130-139 mmHg
  - 130-139 mmHg (reco I A)
  - Surveillance effets indésirables (HypoTA orthostatique +++) (reco I C)
  - Quel que soit le risque CV, qu'il y ait ou non maladie CV établie (reco I A)

- PAS après 80 ans robuste → < 140/90 mmHg sans hypoTA ortho
  → < 150 mmHg sans hypoTA ortho

- PAD < 80 mmHg à envisager quels que soient le risque CV et les comorbidités (reco IIa B)

En automesure :

- Automesure : valeurs cibles < 5 mmHg (reco japonnaises 2019**)

* European Heart Journal (2018) 39, 3021–3104
** Korean Circ J. 2019;49(12):1123-1135)

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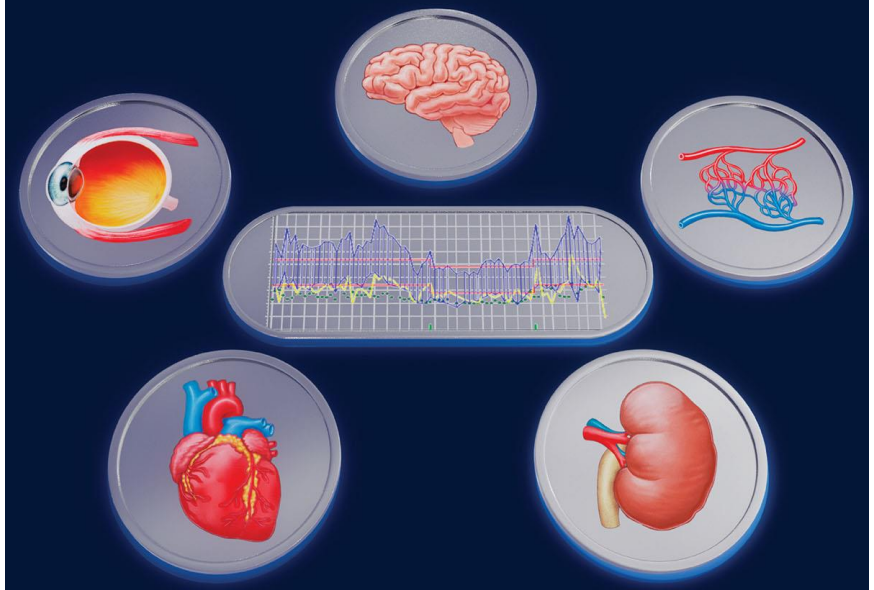
American Heart Association.

Circulation Research



Pathophysiology and Treatment of Hypertension Compendium

Guest Editors: John E. Hall & Giuseppe Mancia