

Traitement non pharmacologique de l'hypertension artérielle en 2018

JM Krzesinski

Service de Néphrologie- Hypertension

ULiège-CHU Liège

Vignette clinique

- Patient de 45 ans, hérédité hypertensive, employé de bureau et sédentaire
- Découverte d'une HTA validée à 145/95 mmHg,
- IMC 28 kg/m², chol LDL 140 mg/dl, bilan glycémique et rénal normal, pas d'HVG

Que lui proposer?

- Règles Hygiéno-diététiques?
- Médicaments anti-hypertenseurs d'emblée?
- Les 2 ensemble?

Vignette clinique

- Patient de 45 ans, hérédité hypertensive, employé de bureau et sédentaire
- Découverte d'une HTA validée à **165/105 mmHg**
- IMC 28 kg/m², chol LDL 140 mg/dl, pas d'HVG, bilan glycémique et rénal normal

Que lui proposer?

- Règles Hygiéno-diététiques?
- Médicaments anti-hypertenseurs d'emblée?
- Les 2 ensemble?

HTA = FRCV n°1

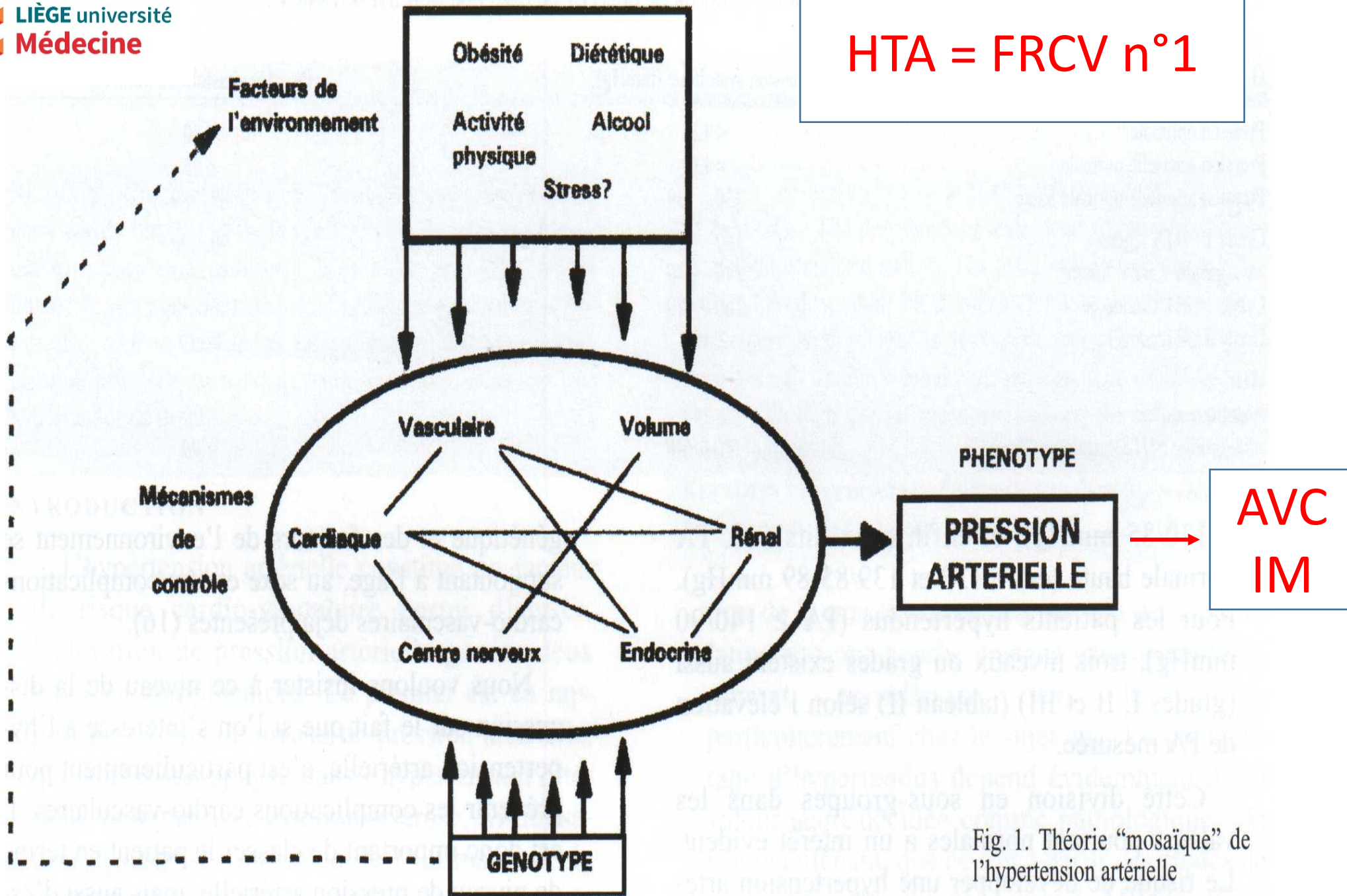


Fig. 1. Théorie "mosaïque" de l'hypertension artérielle

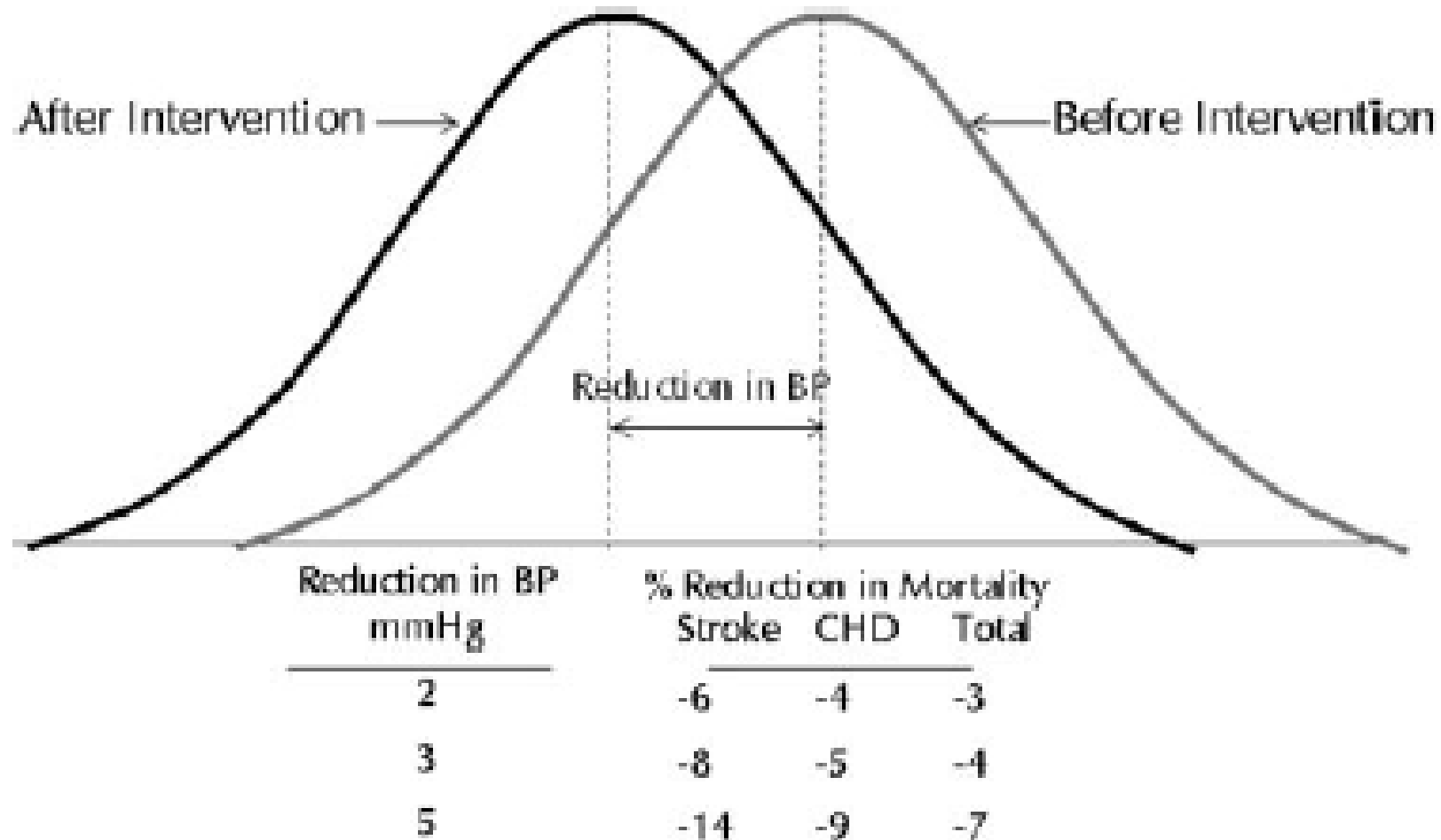


Figure 1. Estimated effects of population-wide shifts in systolic BP distributions on mortality. Adapted with permission from Stamler. 1993

Approche NON pharmacologique de l'HTA: Plan

- L'HTA est le tueur silencieux par excellence. Sa correction abaisse le risque de morbi-mortalité
- **Les recommandations internationales sont unanimes pour proposer une intervention hygiéno-diététique en première ligne du traitement de l'HTA (mais aussi lors d'un traitement médicamenteux).**

ESH-ESC 2013: recommandations (IA)

2013 ESH/ESC Guidelines for the management of arterial hypertension



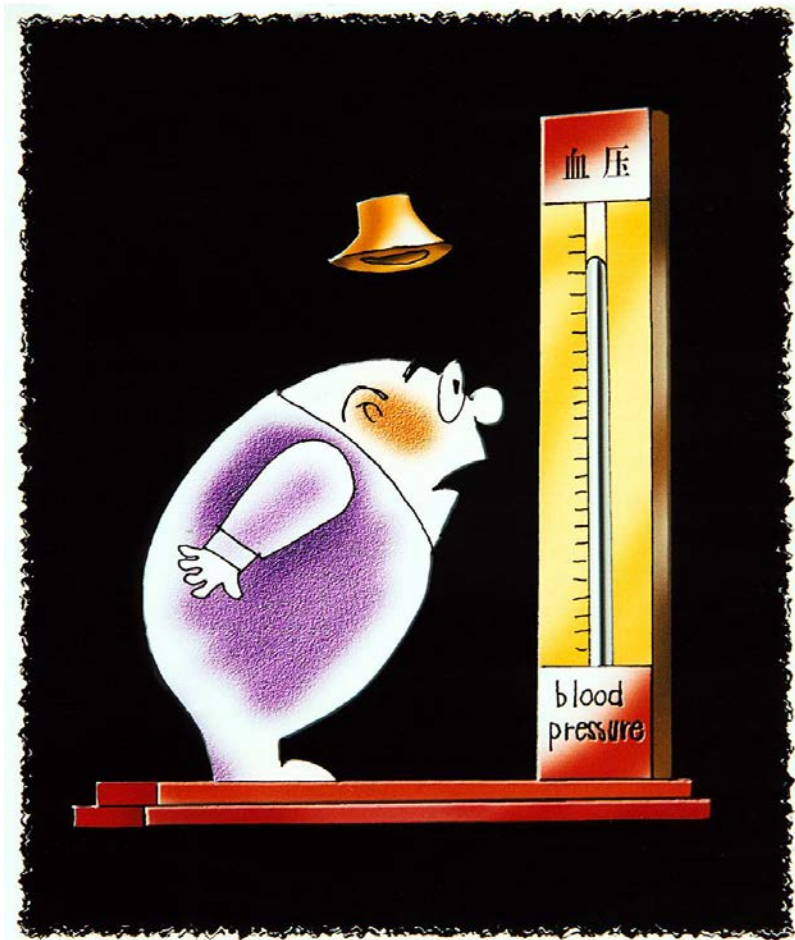
- Perte de poids si IMC > 25 Kg/m²
- Pratiquer de l'exercice (5-7 j/sem)
- Manger moins salé
- Manger plus de fruits et de légumes
- Réduire la consommation d'alcool
- (Gérer le Stress)

US new guidelines Nov 2017: même approche proposée!

A. Single non pharmacological approach in the treatment of HTA

- Weight loss
- Exercise
- Lowering dietary sodium
- Increasing dietary potassium
- Decreasing alcohol intake

Obésité = calories ingérées > dépenses !



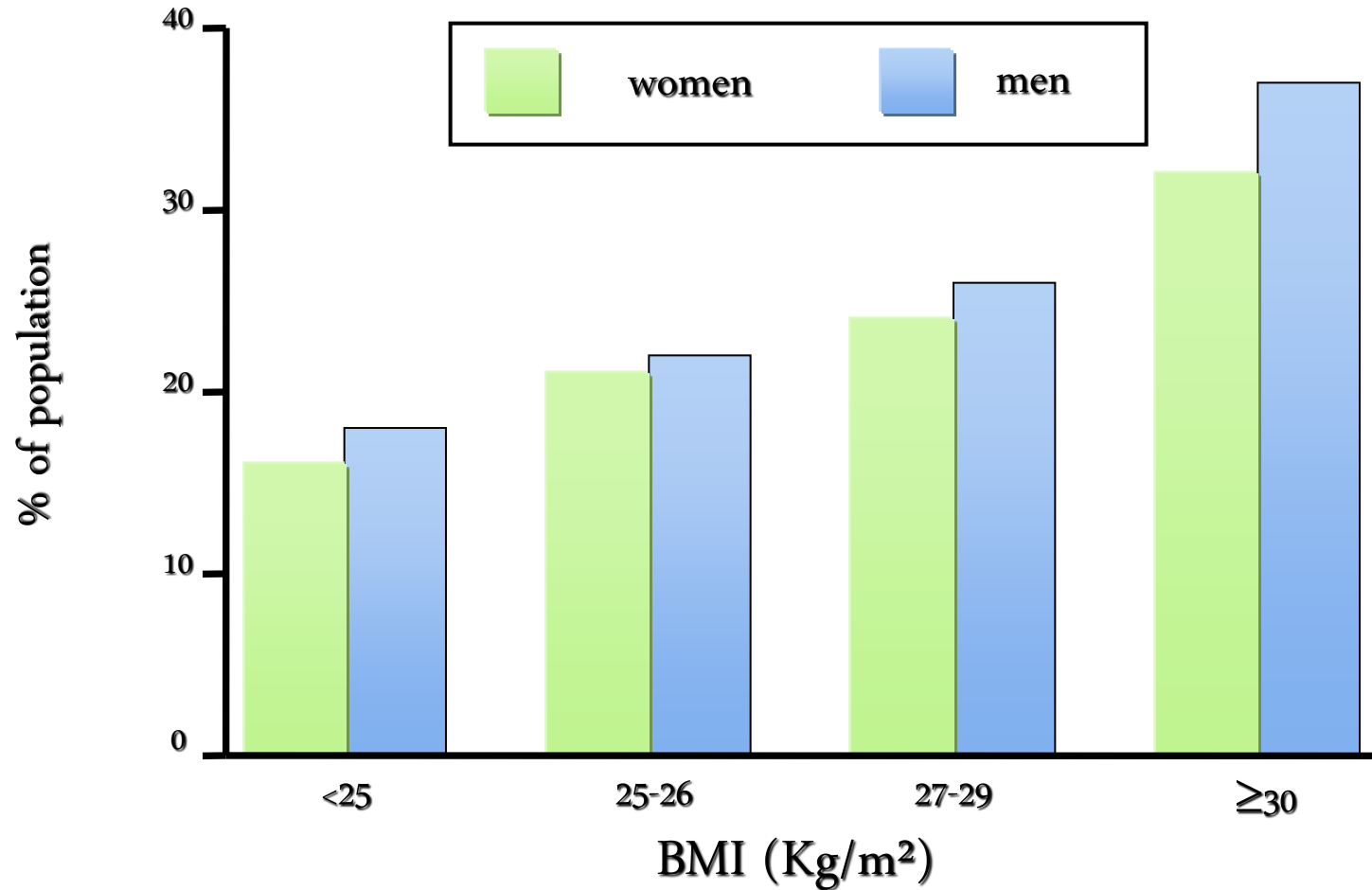
你重它就高

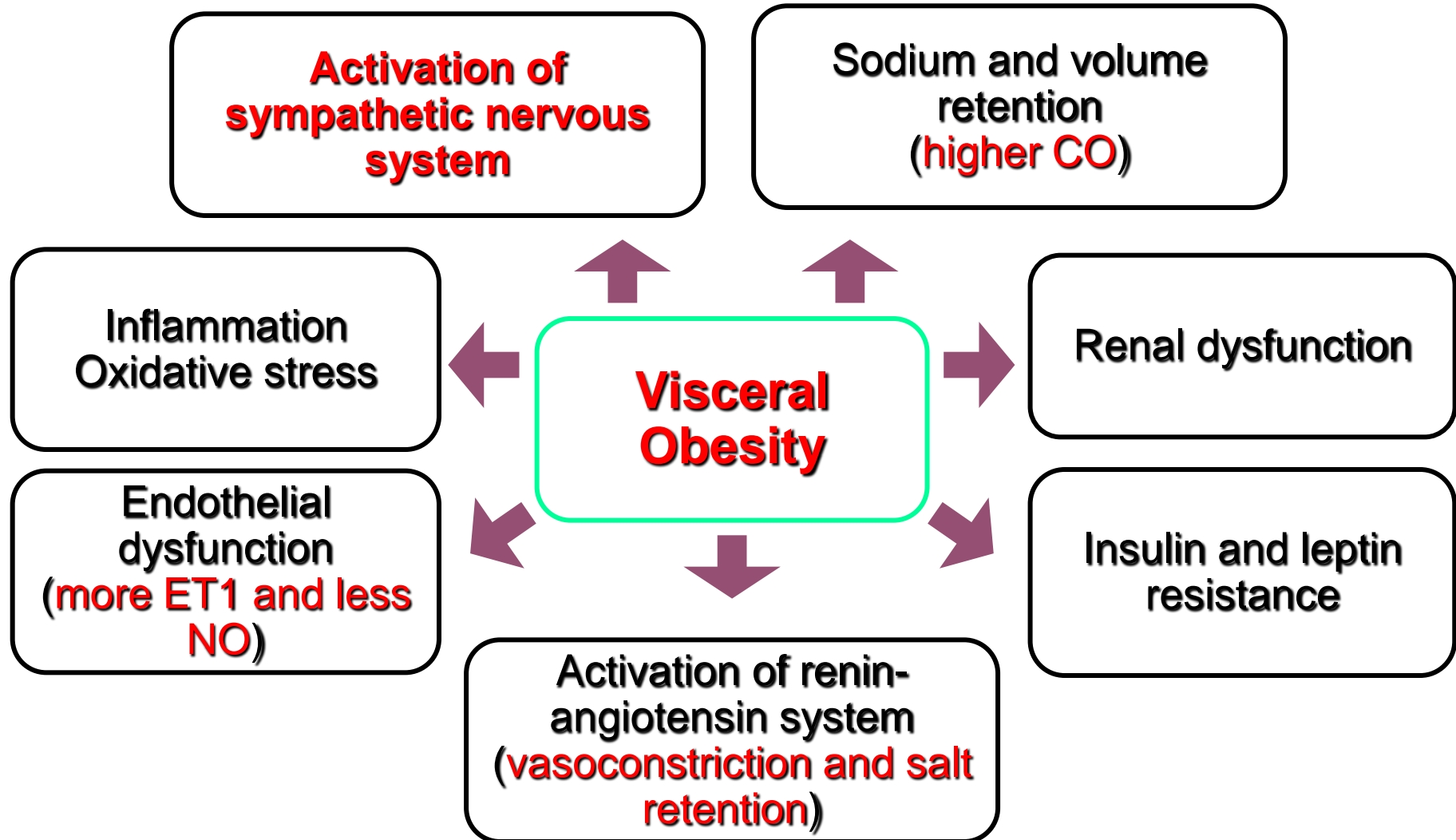
作者 / 繆印堂 繆萌

Scallions	1	<p>Calories 297</p>	<p><i>Chicken W...</i> Calorie</p> <p>Calories 170</p>
Peanuts	99		
Seaweed	20		
Tofu	59		
Fish sauce	2		
Noodles	137		
Soy sauce	8		
Brown sugar	13		
Sesame oil	30		
		Cheese	66
		Sauce	13
		Crust	178
<p><i>Cheeseburger With Fries</i></p> <p>Calories 765</p>		<p><i>Salad</i></p> <p>Calories 306</p>	
		Bun	170
		Ketchup	20
		Pickles	0
		Lettuce	0
		Mustard	5
		Cheese	100
		Beef	240
		Fries	220
		Bacon	24
		Dressing	110
		Croutons	56
		Cheese	58

Obésité et HTA

Risque X 2





Influence of Weight Reduction on Blood Pressure

A Meta-Analysis of Randomized Controlled Trials

Judith E. Neter, Bianca E. Stam, Frans J. Kok, Diederick E. Grobbee, Johanna M. Geleijnse

Hypertension. 2003;42:878-884.

- 25 RCT from 1966 to 2002
- 4878 participants, ½ HT, ¼ under antiHTA drugs
- FU 8 to 260 weeks (mean 66.6 w)
- Mean duration to maximal effect: 35 weeks
- **Per 1 Kg weight loss, reduction of S and DBP of 1 mmHg**
(1.1 and 0.9 mmHg, respectively)
- Larger decrease in BP when weight loss increases and when under antiHTA treatment.
- Drop out < 5%

Trial of HTA prevention II (Arch Intern Med 1997)

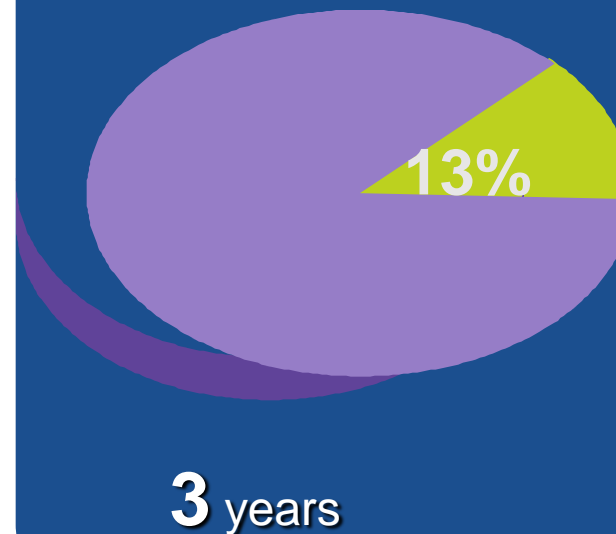
Weight loss <5%

Weight loss >5%

2382 overweight or obese
patients with high N BP

Weight reduction by diet:
4.4 Kg at 6 mois
2.0 Kg at 3 ans

TOHP II
Study
(WL goal - 4.5 kg)



Success in Maintaining Weight Loss is Low

Long-Term Weight Loss From Lifestyle Intervention Benefits Blood Pressure?

A Systematic Review

Lorna Aucott, Helen Rothnie, Linda McIntyre, Mohan Thapa, Charles Waweru, Denise Gray

Hypertension. 2009;54:756-762.

Obese adults 18-65y old (mean BMI <35 Kg/m²)

- Systematic review of studies with a **FU = or > 2y** between 1990 and 2008
- Results are very variable:
 - Difference in weight: -11 to + 4 Kg
 - Difference in SBP: -13 to +6 mmHg
 - Difference in DBP: -7 to +2 mmHg

Des encouragements réguliers sont nécessaires!!

Sport and hypertension



2300 M, FU 7.8y

HTA 2012

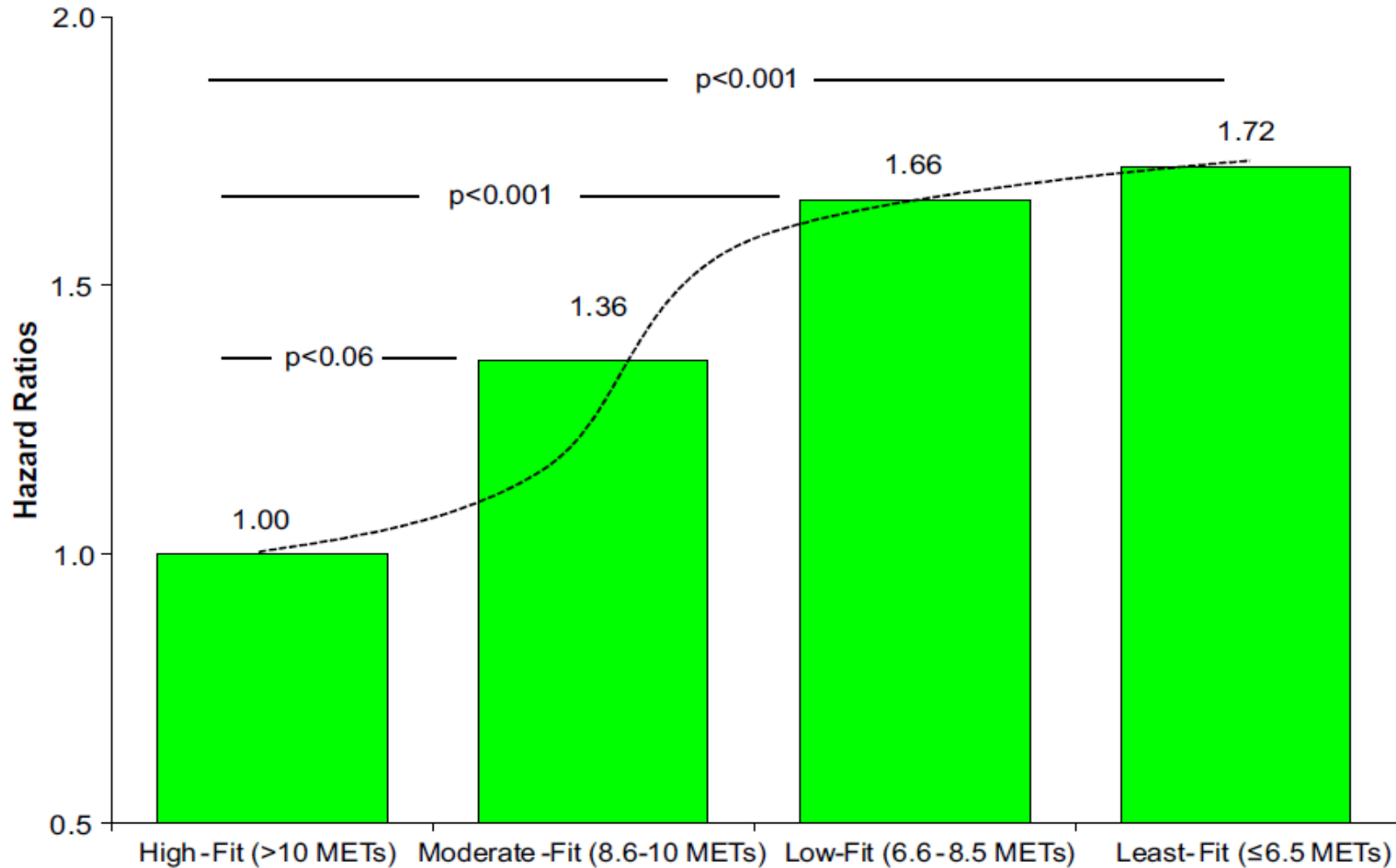


Figure 1. Risk of progression from prehypertension to hypertension, according to fitness categories. Hazard ratios were adjusted for age, body mass index, resting systolic blood pressure, diabetes mellitus, and smoking.

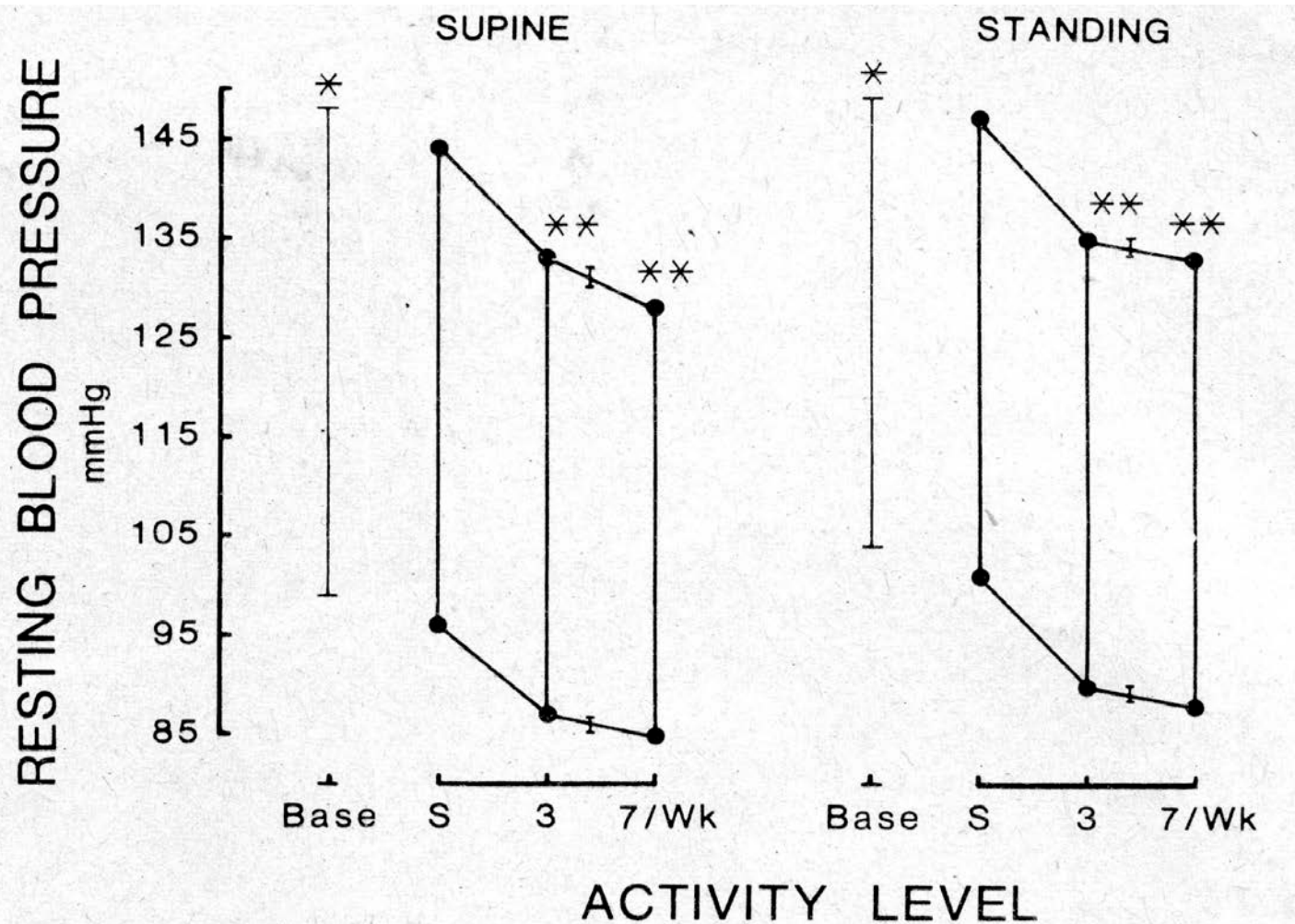


Fig 1—Resting supine and standing blood-pressure at 3 levels of physical activity.

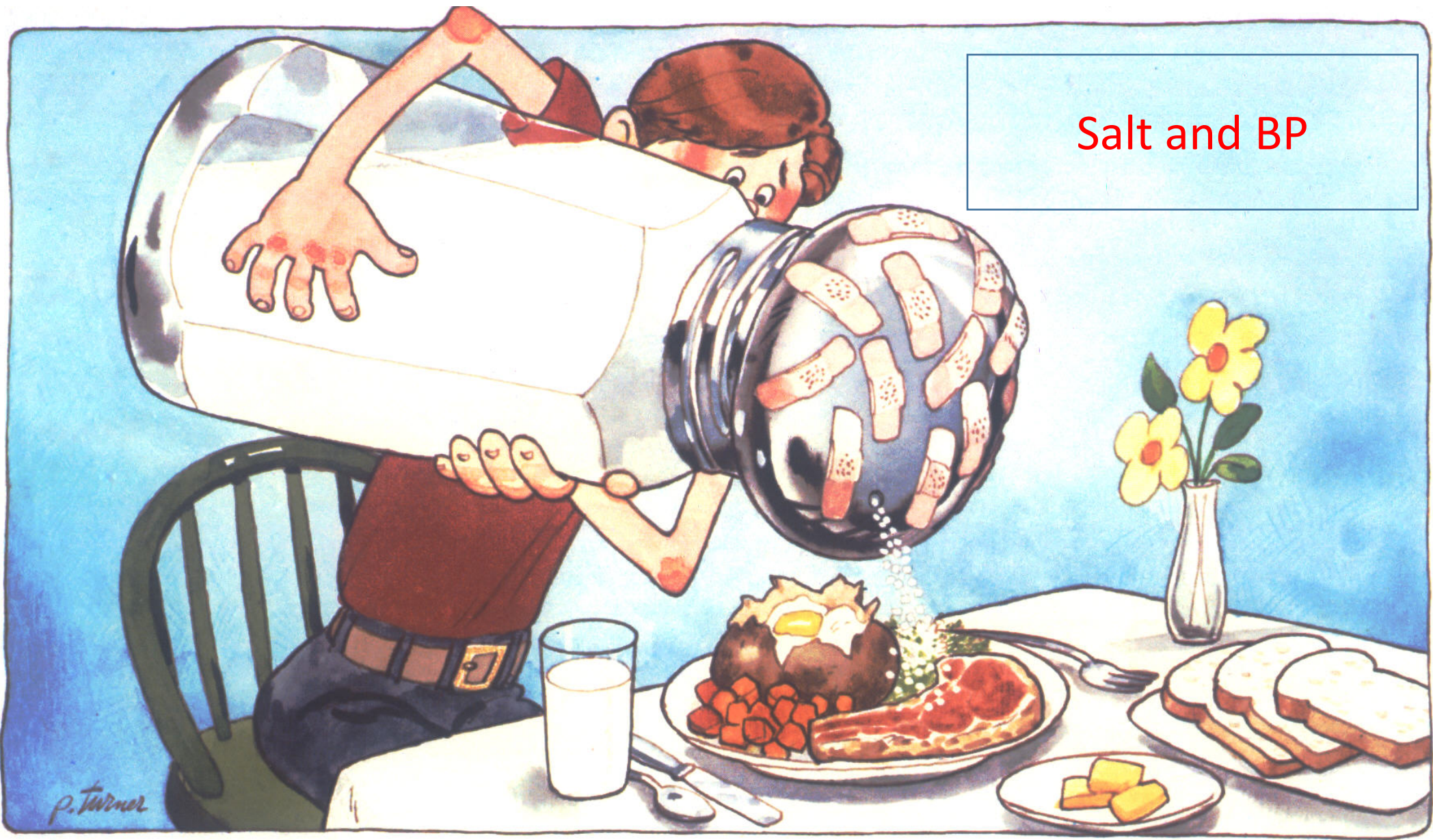
Baseline measurement (Base), sedentary activity (S), 3 times/week exercise (3), and 7 times/week exercise (7). * $p < 0.05$, difference from sedentary value for both systolic and diastolic blood-pressure.

Hypertendu et sport

Patient hypertendu, sportif de loisirs (sans compétition)

- Activité physique min 5X/sem, min 30 min, intensité modérée, privilégier l'endurance, éviter les exercices trop intenses ou en apnées >>.
- Suivi cardiologique 1 fois/an si > 35 ans et 2 FR associés ou si sport intense ou à forte composante de résistance.
- Stimuler l'auto-mesure de la PA.
- Toutes les classes de médicaments sont possibles si nécessaire, à choisir selon activité
- Les bienfaits de l'activité physique dépassent les effets isolés sur la PA!

Salt and BP



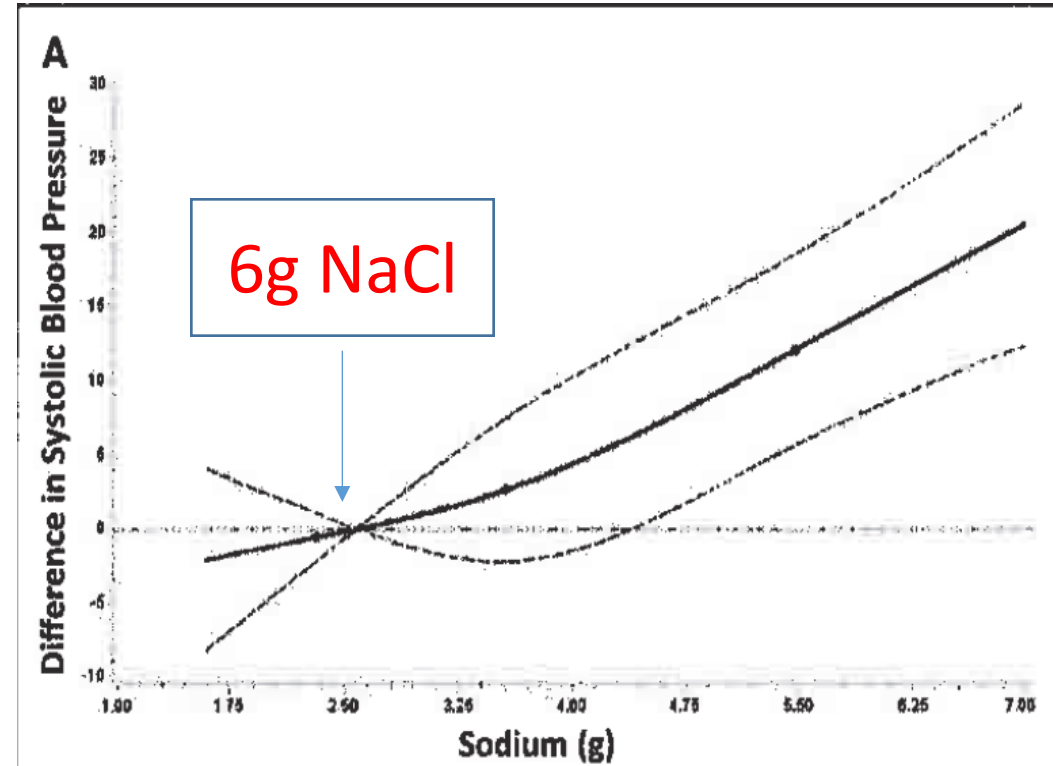
Reduce your sodium intake, and you'll soon find you crave less salt.

Association Between Urinary Sodium and Potassium Excretion and Blood Pressure Among Adults in the United States

Circulation. 2018;137:237–246.

National Health and Nutrition Examination Survey, 2014

METHODS: Cross-sectional data were obtained from 766 participants age 20 to 69 years with complete blood pressure and 24-hour urine collections in the 2014 National Health and Nutrition Examination Survey, a nationally representative survey of the US noninstitutionalized population. Usual 24-hour urinary electrolyte excretion (sodium, potassium, and their ratio) was estimated from ≤ 2 collections on nonconsecutive days, adjusting for day-to-day variability in excretion. Outcomes included systolic and diastolic blood pressure from the average of 3 measures and hypertension status, based on average blood pressure $\geq 140/90$ and antihypertensive medication use.



A, The y axis shows the difference in systolic blood pressure across sodium excretion values in comparison with a reference value of 2.58 g (the midpoint of the lowest quartile). The overall association was significant ($P < 0.001$)

Association entre excrétion urinaire de sodium et PA

102000 adultes de 18 pays

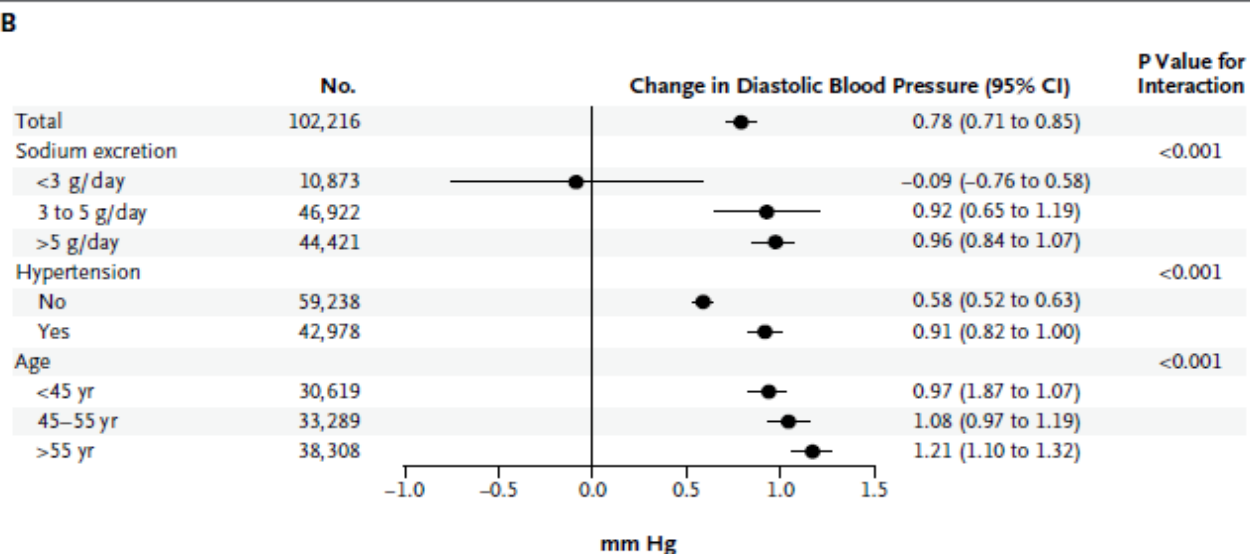
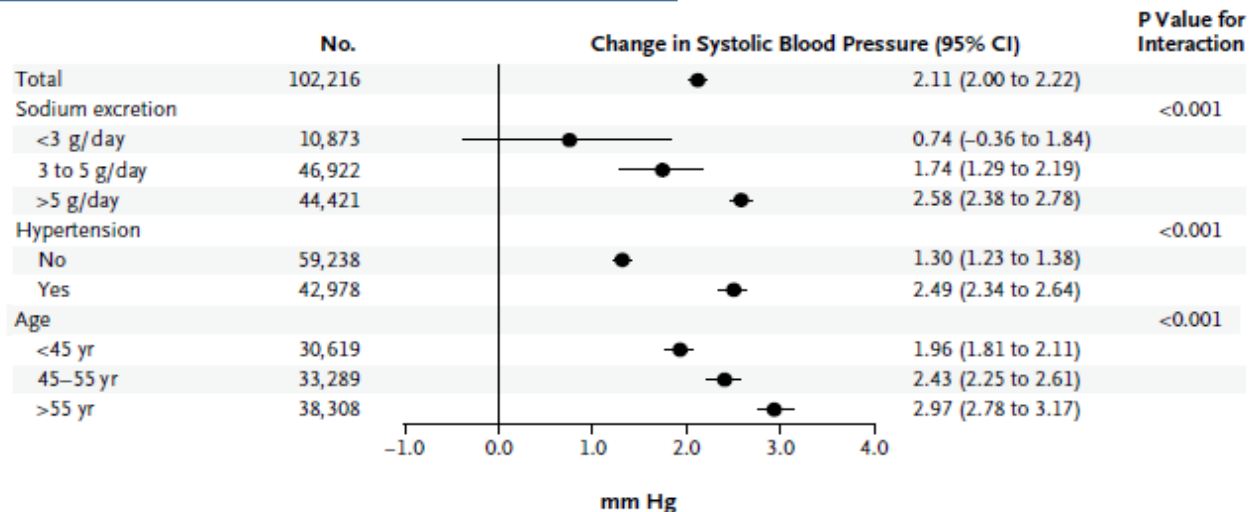


Figure 3. Forest Plots of Changes in Systolic and Diastolic Blood Pressure for Every 1-g Increase in Sodium Excretion. Data are based on multivariable linear regression models with adjustment for covariates and regression dilution bias.

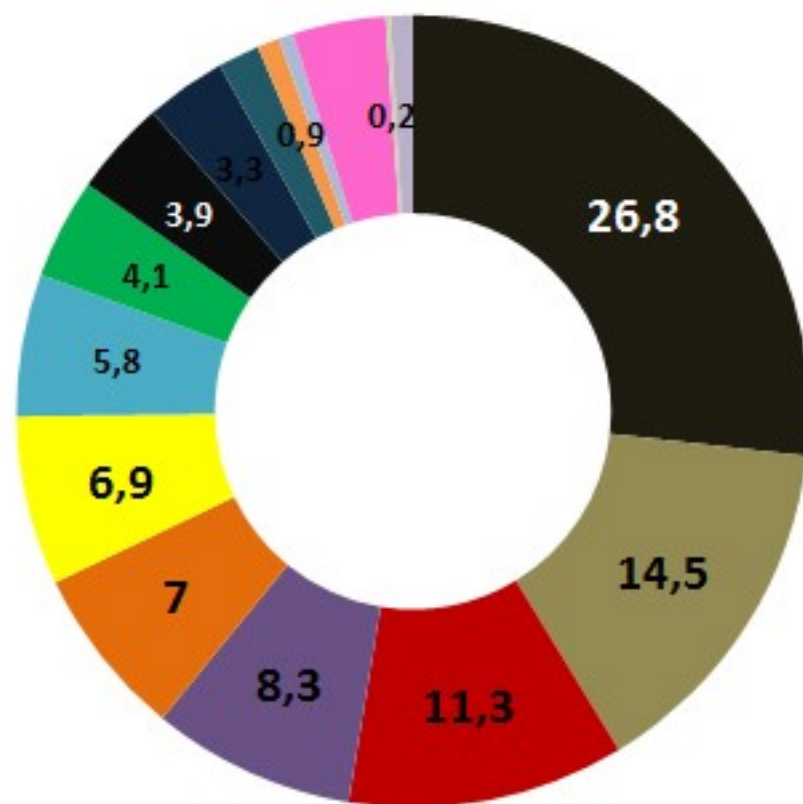
Prospective Urban Rural Epidemiology (PURE) study is provided in the Supplementary Appendix, available at NEJM.org.

N Engl J Med 2014;371:601-11.

Sensibilité
au sel:
Age,
Sévérité HTA

Contributions moyennes des groupes d'aliments (en %) aux apports en sodium chez les adultes

Quoidansmonassiette.fr
Etude INCA2



- Pain, céréales
- Condiments sauces, soupes, bouillons
- Charcuteries
- Plats composés
- Pizza, quiches, sandwichs
- Fromages

- Viennoiseries, biscuits, pâtisseries
- Légumes et légumes secs

- Viande, volaille, abat, œufs
- Lait, produits laitiers, crèmes desserts
- Boissons, eau

- Chocolat, sucre, café, glace
- Matières grasses
- Poissons, crustacés

Main results of the meta-analysis of studies about the effect of low NaCl diet on BP

Copyright © 2013 The Cochrane Collaboration

- 34 trials (3230 participants), > 4 weeks duration
- Mean change in uNa : -75 mmol/24h (- 4.4 g Salt)
- Mean change in BP: - 4.2 mmHg SBP (CI -5.1 to -3.2)
- 2.1 mmHg DBP (CI -2.7 to -1.4)
- In HT, - 5.4 mmHg for SBP/ -2.8 mmHg for DBP
- In NT, -2.4/-1 mmHg

En moyenne 1g NaCl en moins = - 1mmHg de PAS
mais Salt Sensitivity: race, âge, sévérité HTA, IRC

Effects of Dietary Sodium Reduction on Blood Pressure in Subjects With Resistant Hypertension

These results indicate that excessive dietary sodium ingestion contributes importantly to resistance to antihypertensive treatment. Strategies to substantially reduce dietary salt intake should be part of the overall treatment of resistant hypertension. (*Hypertension*. 2009;54:475-481.)

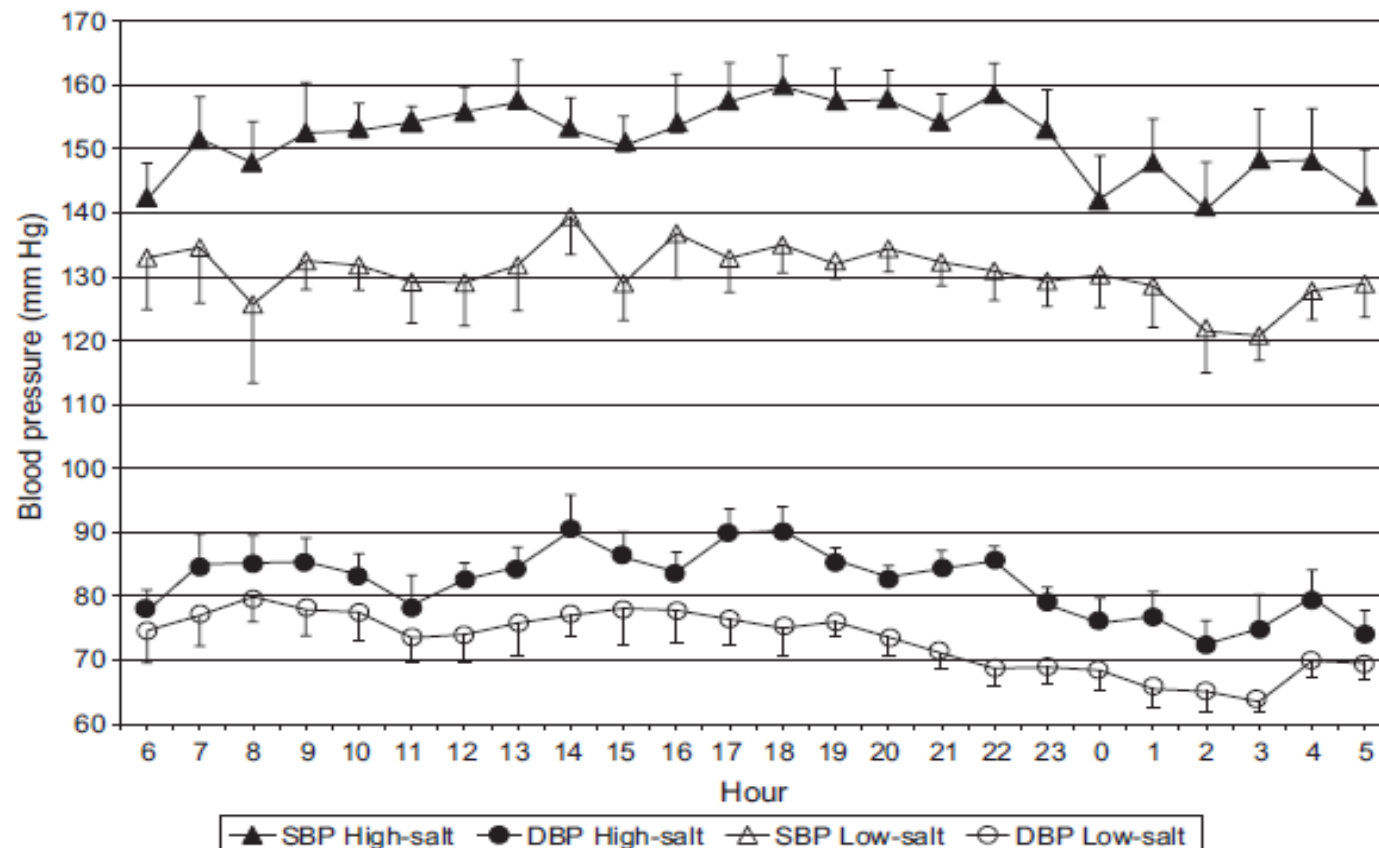


Figure. Comparison of 24-hour ambulatory blood pressure values during low- and high-salt diet. Data presented as mean \pm SE.

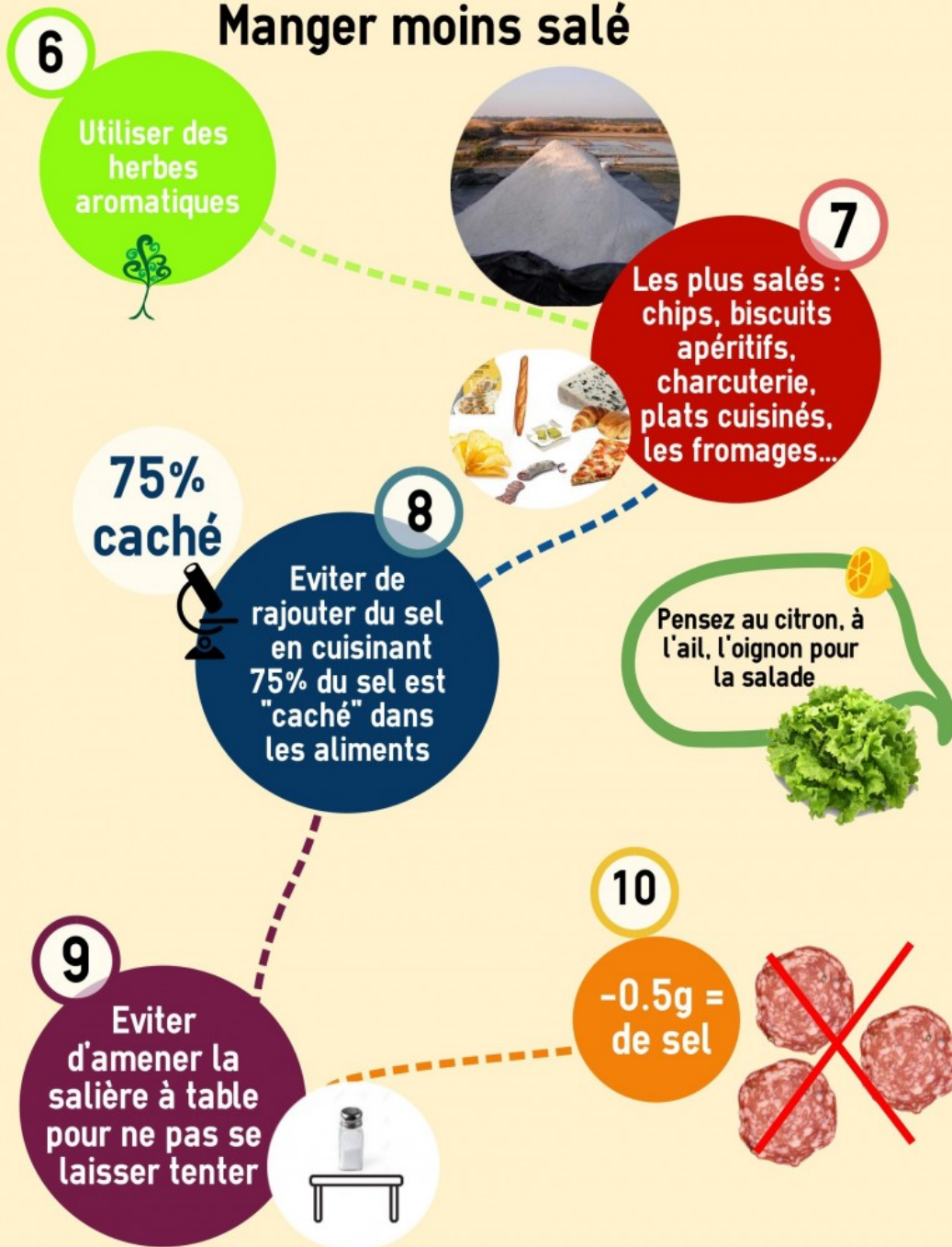
10 Conseils : Manger moins salé

Made by Quoidansmonassiette.fr



10 Conseils : Manger moins salé

Made by Quoidansmonassiette.fr



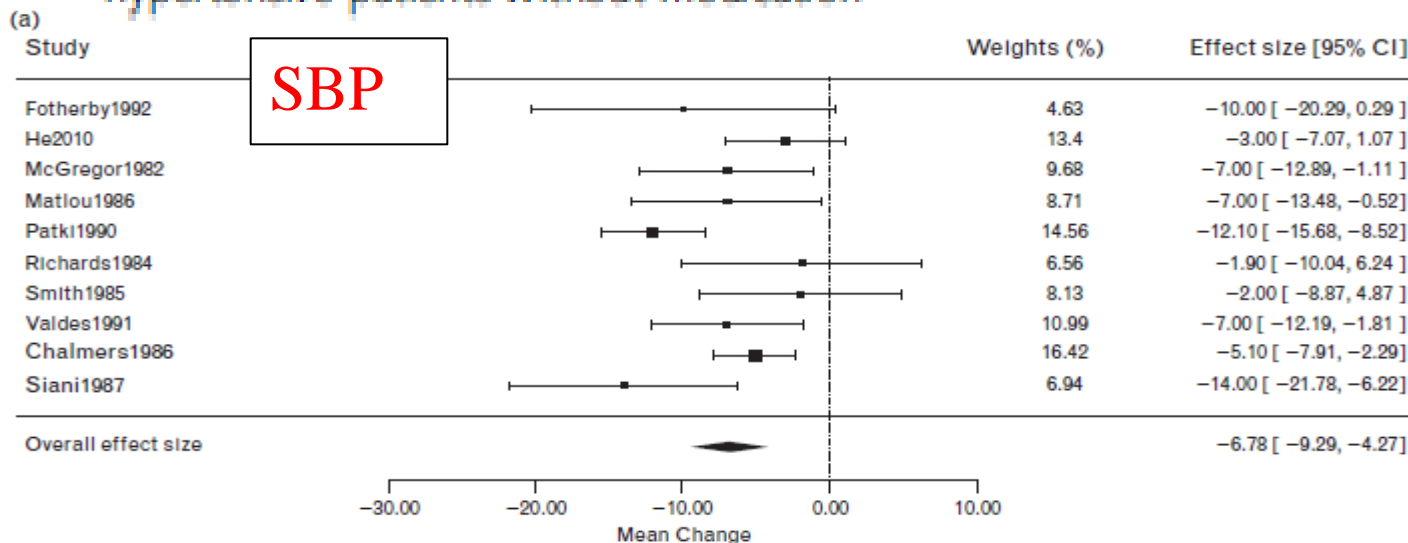
Potassium et PA



HIGH POTASSIUM FOODS

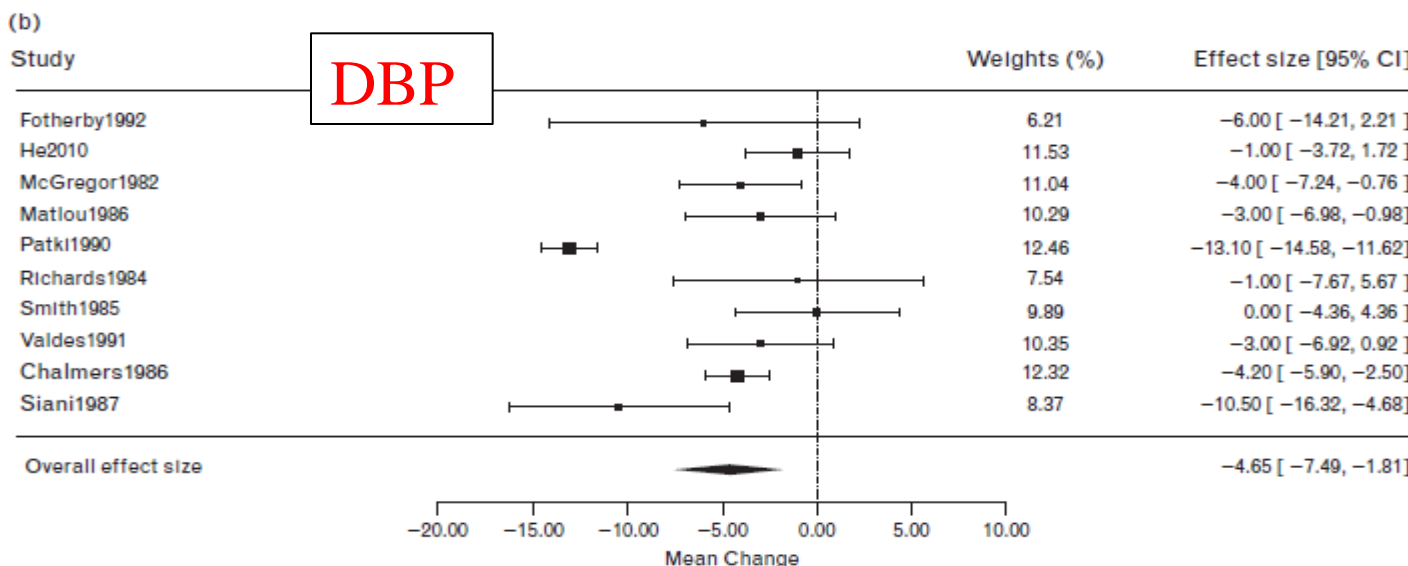
Avocado, banana, orange, beets, broccoli, brussel sprouts, carrots (raw), lentils, spinach, tomatoes, nuts/seeds, peanut butter, yogurt

hypertensive patients without medication



Effect size	Std error	95% CI lower bound	95% CI upper bound	P value	I ²
-6.779	1.283	-9.293	-4.265	<0.001	54.08%

Journal of Hypertension 2015, 33:



Effect size	Std error	95% CI lower bound	95% CI upper bound	P value	I ²
-4.652	1.450	-7.495	-1.810	0.001	87.38%

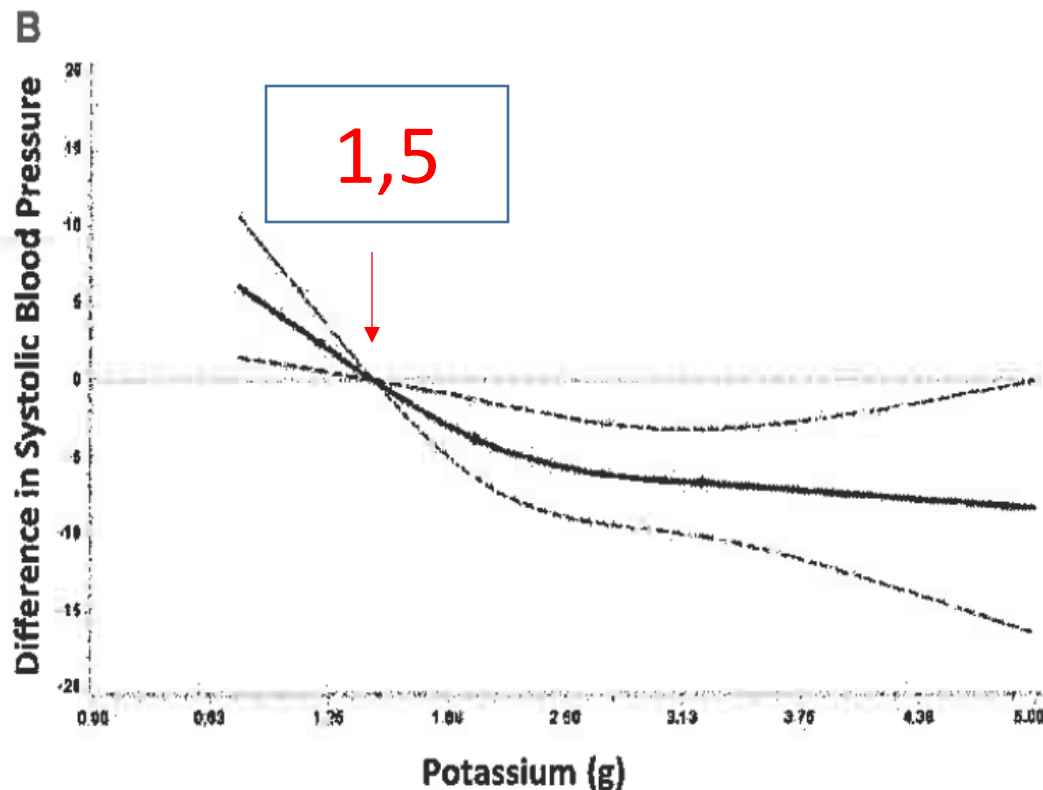
Ajouter 60-100 mmol de K /j diminue la PAS de 6.8 mmHg la PAD de 4.6 mmHg

Association Between Urinary Sodium and Potassium Excretion and Blood Pressure Among Adults in the United States

National Health and Nutrition Examination Survey, 2014

Circulation. 2018;137:237–246.

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B shows the difference in systolic blood pressure across potassium excretion values in comparison with a reference value of 1.48 g. The overall association was significant ($P=0.007$),

Daily potassium intake and sodium-to-potassium ratio in the reduction of blood pressure: a meta-analysis of randomized controlled trials

Journal of Hypertension 2015, 33:1509–1520

Aristea Binia^a, Jonathan Jaeger^b, Youyou Hu^b, Anurag Singh^b, and Diane Zimmermann^c

Alimentation à l'ère paléolithique:
K 150-290 mmol/j Na 20-40 mmol/j

Alimentation à l'ère moderne:
K 30-70 mmol/j Na 80-250 mmol/j

Le rapport entre Na/K urinaires est $>$ ou $=$ 3

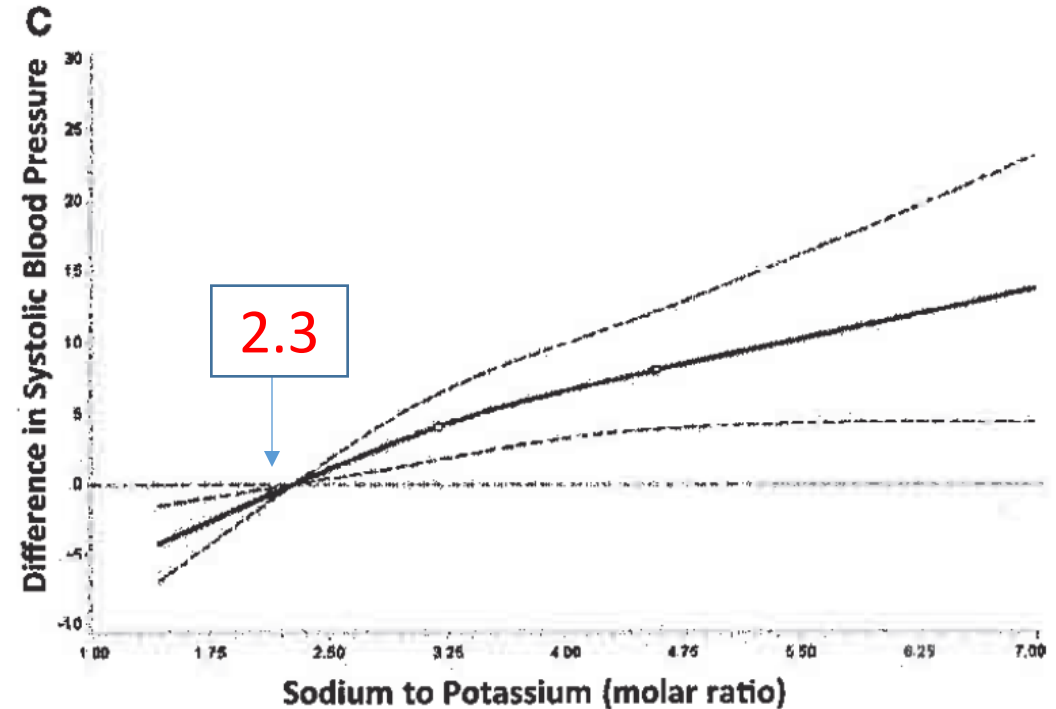
Différence X ou :
d'un facteur 4 à 5

Association Between Urinary Sodium and Potassium Excretion and Blood Pressure Among Adults in the United States

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i. C shows difference in systolic blood pressure across sodium-to-potassium ratio values in comparison with a reference value of 2.27. The overall association was significant ($P=0.006$)

Fruit and Vegetable Consumption and the Incidence of Hypertension in Three Prospective Cohort Studies

Hypertension. 2016;67:288-293.

Table 2. Pooled Hazard Ratios (95% Confidence Intervals) of Incident Hypertension for Combined Total Fruits and Total Vegetables Consumption in Nurses' Health Study, Nurses' Health Study II, and Health Professional Follow-up Study

	≤1 per Day	2–3 per Day	4–5 per Day	≥6 per Day	Linear <i>P</i> Trend
Total Fruits and Vegetables					
NHS*	1052/31 868	11 318/339 541	13 914/396 152	9091/266 861	
Adjusted hazard ratio†	1.00 (reference)	0.90 (0.84–0.95)	0.88 (0.83–0.94)	0.85 (0.80–0.91)	<0.001
NHS II‡	1427/79 840	10 019/528 610	8785/462 410	5015/273 616	
Adjusted hazard ratio†	1.00	0.97 (0.92–1.03)	0.95 (0.89–1.00)	0.94 (0.88–0.99)	0.02
HPFSS§	666/22 176	5711/190 017	6085/201 161	4290/146 874	
Adjusted hazard ratio†	1.00	0.93 (0.85–1.01)	0.91 (0.83–0.98)	0.89 (0.81–0.97)	0.02
Pooled results	1.00	0.94 (0.90–0.97)	0.91 (0.88–0.95)	0.89 (0.86–0.93)	<0.001

HPFSS indicates Health Professionals Follow-up Study; and NHS, Nurses' Health Study.

*Follow-up in Nurses' Health Study was from 1984 to 2010 (cases/persons-years).

†Adjusted for age, race/ethnicity (white, African American, Asian, Hispanic, other), body mass index, current smoking status, physical activity, weight change per food frequency questionnaire cycle, menopausal status (NHS and NHS II), alcohol intake, current oral contraceptive use (NHS II), analgesic use (nonsteroidal antiinflammatory drugs, acetaminophen, aspirin), family history of hypertension, total energy intake, animal flesh intake (combination of processed and unprocessed red meat, poultry and seafood), whole grains, sugar-sweetened beverage intake, artificially sweetened diet beverage intake.

‡Follow-up in Nurses' Health Study II was from 1991 to 2011.

§Follow-up in Health Professionals Follow-up study was from 1986 to 2010.

||Pooled hazard ratios of the 3 cohorts using a fixed effects model.

HTA
-10 à 15%



Alcool et HTA.



Alcool et effet sur la PA

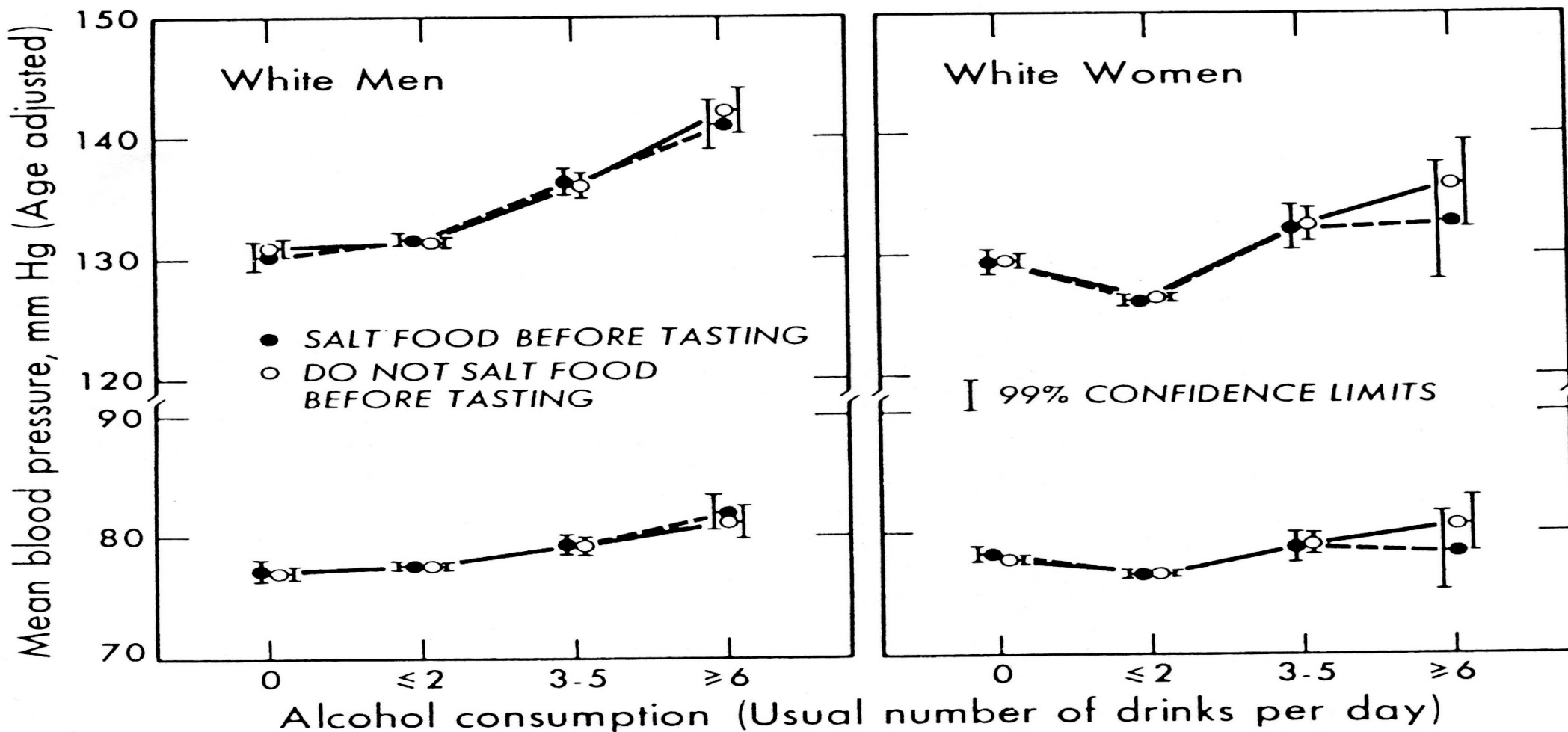


Figure 23-3. Mean systolic blood pressures (*upper graphs*) and diastolic blood pressures (*lower graphs*) for white men and women with known drinking habits according to usual salt use habit. (From Klatsky AL, Friedman GD, Siegelau AB. Alcohol and hypertension. *Compr Ther* 4:60, 1978.)

Effects of Alcohol Reduction on Blood Pressure A Meta-Analysis of Randomized Controlled Trials

(Hypertension. 2001;38:1112-1117.

- 15 RCT trials, 2234 participants, majority are males, FU 1 week to 2 years.
- Decreasing alcohol reduces BP in a dose-dependent manner
- Mean BP decrease for reducing alcohol by 2/3:
 - 3.3 mmHg SBP
 - 2.1 mmHg DBP

Donc, recommandations de ne pas boire plus de 2 verres d'alcool/j chez l'homme
Chez la femme, ne pas dépasser 1 verre/j

Approche NON pharmacologique de l'HTA: Plan

- L'HTA est le tueur silencieux par excellence. Sa correction abaisse le risque de morbi-mortalité
- Les recommandations internationales sont unanimes pour proposer une intervention hygiéno-diététique en première ligne du traitement de l'HTA mais aussi en association aux médicaments prescrits.
- Que peut-on attendre d'une approche unifactorielle?
- **Y a-t 'il un intérêt plus grand à proposer une approche multifactorielle?**

LAWRENCE J. APPEL, M.D., M.P.H., THOMAS J. MOORE, M.D., EVA OBARZANEK, PH.D., WILLIAM M. VOLLMER, PH.D.,
LAURA P. SVETKEY, M.D., M.H.S., FRANK M. SACKS, M.D., GEORGE A. BRAY, M.D., THOMAS M. VOGT, M.D., M.P.H.,
JEFFREY A. CUTLER, M.D., MARLENE M. WINDHAUSER, PH.D., R.D., PAO-HWA LIN, PH.D., AND NJERI KARANJA, PH.D.,
FOR THE DASH COLLABORATIVE RESEARCH GROUP*

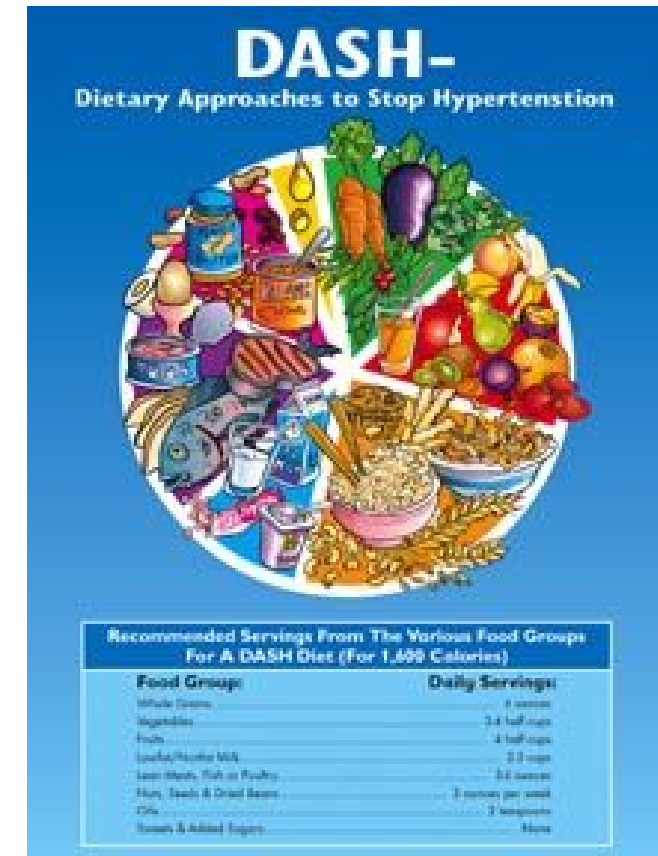
(N Engl J Med

VOLUME 336

APRIL 17, 1997

- DASH: Dietary approach to stop HTA

Methods We enrolled 459 adults with systolic blood pressures of less than 160 mm Hg and diastolic blood pressures of 80 to 95 mm Hg. For three weeks, the subjects were fed a control diet that was low in fruits, vegetables, and dairy products, with a fat content typical of the average diet in the United States. They were then randomly assigned to receive for eight weeks the control diet, a diet rich in fruits and vegetables, or a "combination" diet rich in fruits, vegetables, and low-fat dairy products and with reduced saturated and total fat. Sodium intake and body weight were maintained at constant levels.



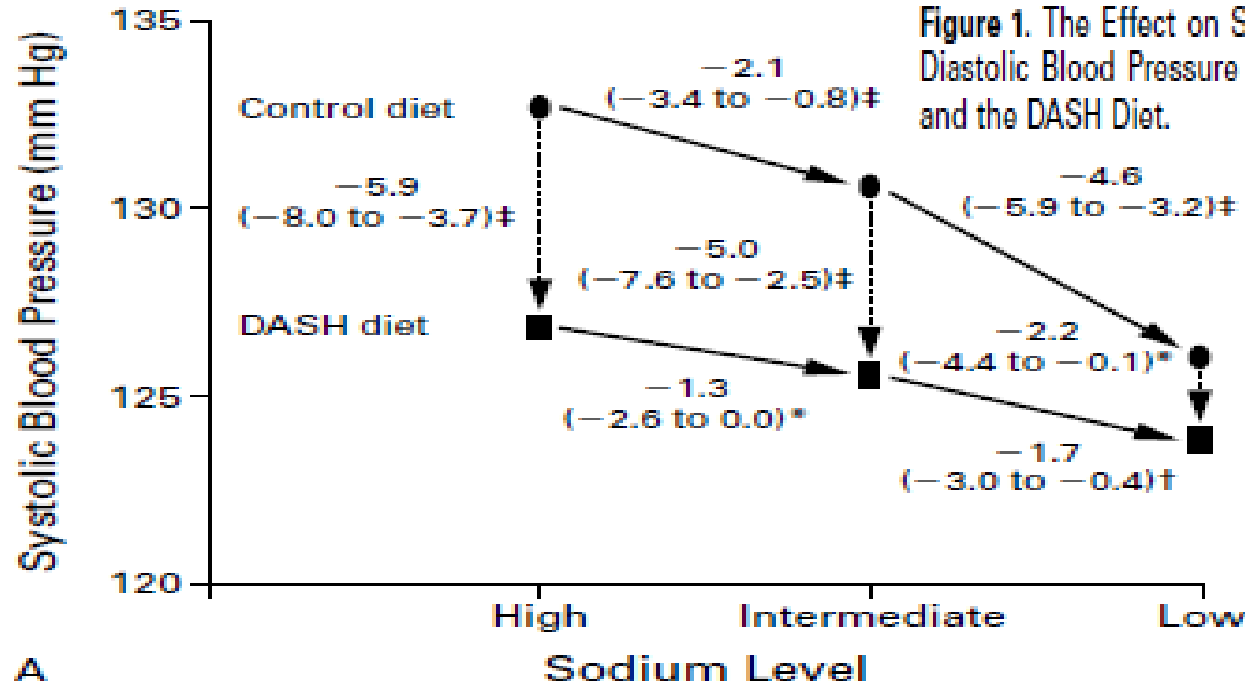


Figure 1. The Effect on Systolic Blood Pressure (Panel A) and Diastolic Blood Pressure (Panel B) of Reduced Sodium Intake and the DASH Diet.

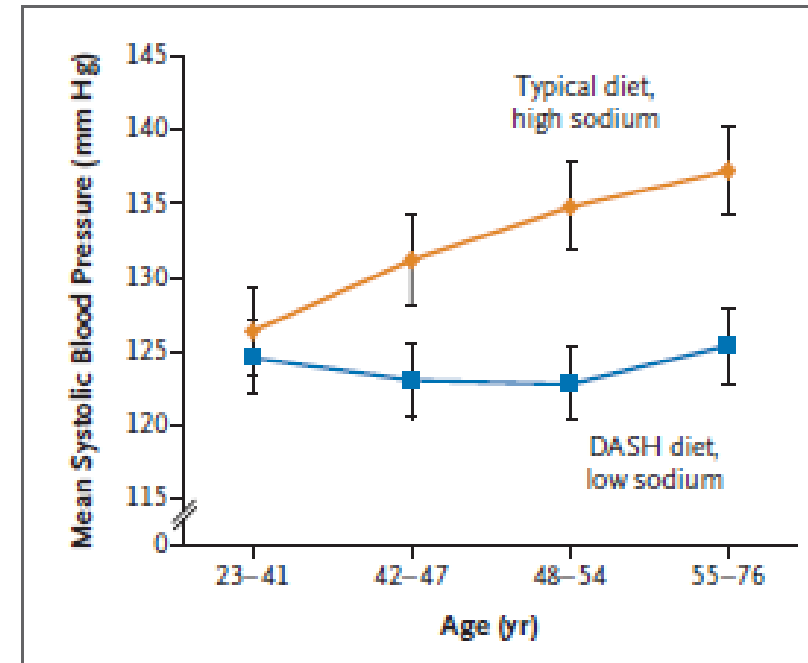
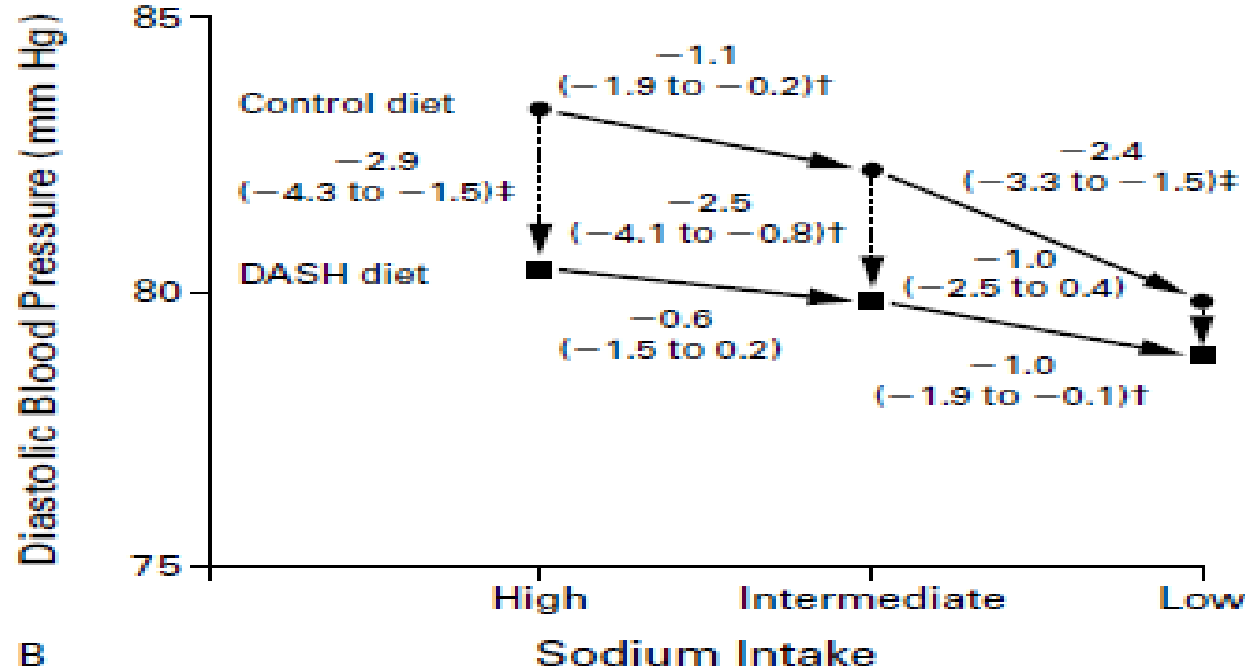


Figure 3. Effects of a Low-Sodium DASH Diet on Systolic Blood Pressure with Increasing Age.

Individual and Combined Effects of Dietary Factors on Risk of Incident Hypertension

Prospective Analysis From the NutriNet-Santé Cohort

Helene Lelong, Jacques Blacher, Julia Baudry, Solia Adriouch, Pilar Galan, Leopold Fezeu, Serge Hercberg, Emmanuelle Kesse-Guyot

We prospectively examined the incidence of hypertension among 80426 French adults During a mean follow-up of 3.4±2.1 years, 2413 cases of incident hypertension

Table 4. HRs of Hypertension According to Adherence to DASH Diet

Quartile of DASH Score	HRs (95% CI)*	P Trend†	HR (95% CI)‡	P Trend†
Q1	1 (ref)	<0.0001	1 (ref)	<0.0001
Q2	0.86 (0.76–0.97)		0.93 (0.82–1.05)	
Q3	0.72 (0.64–0.80)		0.81 (0.73–0.92)	
Q4	0.53 (0.47–0.60)		0.66 (0.58–0.75)	

CI indicates confidence interval; DASH, Dietary Approach to Stop Hypertension; HR, hazard ratio; and Q, quartile.

*Model 1: adjusted for age (as primary time dependent variable) and sex.

†Trends were tested using quartiles of intake as ordinal variable.

‡Model 2: model 1 additionally adjusted for smoking (never, former, and current), alcohol consumption (continuous), BMI (continuous), physical activity, educational level, total energy intake, and family history of hypertension.

Our results suggest that if an increased consumption of potassium, magnesium, whole grains, vegetable proteins, and nuts and a decreased consumption of sodium, animal proteins, and red and processed meat are major nutritional factors to prevent hypertension, adopting an overall healthy diet has strongest protective role on hypertension. Preventing hypertension through the improvement of dietary intake could have major public health benefits.

Results of the *Diet, Exercise, and Weight Loss Intervention Trial (DEW-IT)*

Edgar R. Miller 3rd, Thomas P. Erlinger, Deborah R. Young, Megan Jehn, Jeanne Charleston,
Donna Rhodes, Sharmeel K. Wasan, Lawrence J. Appel

Hypertension November 2002

The objective of this study is to examine the effects on blood pressure and other cardiovascular risk factors of a comprehensive lifestyle intervention in overweight persons with medication-treated hypertension.

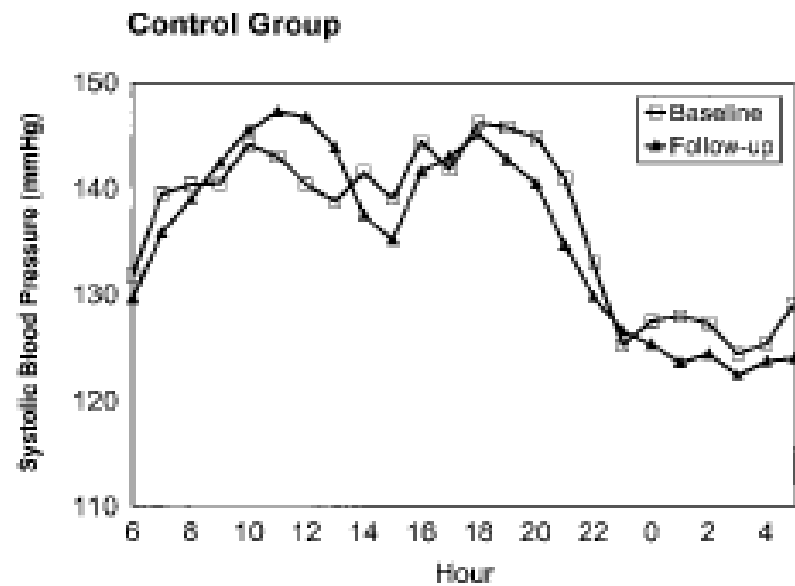
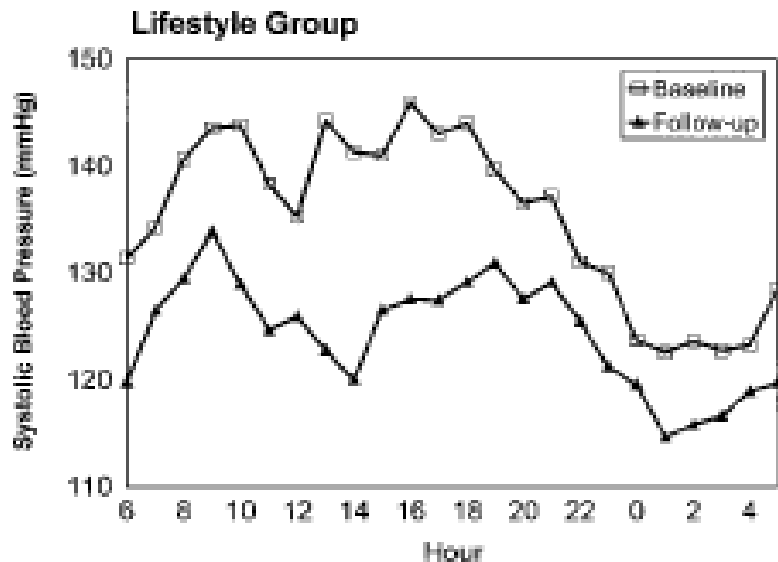
9 weeks
Treated by antiHTA drug

TABLE 1. Baseline Characteristics

Characteristic	Lifestyle (n=22)	Monitoring (n=23)	All (N=45)
Age, y	53 (11)	54 (8)	54 (9)
Women, %	57	68	62
Black, %	68	57	62
Weight, kg	92.0 (14.6)	97.0 (20.9)	94.6 (18.1)
Body mass index, kg/m ²	32.8 (5.4)	34.2 (6.2)	33.5 (5.8)
Using lipid medications, %	9	30	20
Drank alcohol, %	46	35	40
Current smokers, %	14	4	9
BP medication use, %*			
Diuretics	32	26	29
CCB	32	35	33
ARB/ACE	18	48	33
β -blockers	18	9	13
α -blockers	5	0	2
SBP-screening, mm Hg†	134.9 (8.9)	139.9 (9.9)	137.5 (9.7)
DBP-screening, mm Hg†	83.8 (5.5)	85.2 (4.8)	84.5 (5.1)
Ambulatory SBP, mm Hg‡			
24-hour	135.3 (11.1)	137.1 (12.1)	136.2 (11.6)
Awake	137.7 (10.6)	140.4 (12.3)	139.1 (11.5)
Asleep	122.5 (10.7)	127.1 (13.2)	124.9 (12.2)
Ambulatory DBP, mm Hg‡			
24-hour	83.6 (8.6)	83.6 (9.4)	83.6 (8.9)
Awake	86.1 (8.7)	86.1 (9.6)	86.1 (9.1)
Asleep	74.7 (10.8)	76.7 (10.8)	75.8 (10.7)

TABLE 2. Urinary Electrolyte Excretion, Physical Characteristics, Fitness, and Lipids by Randomized Group*

Characteristic	Lifestyle Group			Control Group			Between-Group‡	
	Baseline	Follow-Up	Change†	Baseline	Follow-Up	Change†	Difference	<i>P</i>
Urinary electrolyte excretion								
24-hour urine Na, mmol/L	165 (60)	106 (53)	−61 (76)	170 (75)	155 (66)	−16 (70)	−44 (−88, 4)	0.07
24-hour urine K, mmol/L	58 (30)	72 (23)	13 (25)	63 (27)	58 (26)	−4 (27)	20 (5, 35)	0.009
Physical characteristics								
BMI	32.8 (5.4)	31.0 (5.3)	−1.9 (0.6)	34.5 (5.9)	34.3 (6.2)	−0.2 (0.8)	−1.7 (−2.2, −1.2)	0.000
Weight, kg	92.0 (14.6)	87.2 (14.6)	−5.5 (1.8)	97.0 (20.9)	96.4 (21.6)	−0.6 (2.2)	−4.9 (−6.3, −3.4)	0.000
Fitness								
Heart rate, 5-min	118.2 (17.1)	103.1 (12.4)	−14.8 (9.4)	118.9 (13.7)	111.4 (14.6)	−6.0 (11.7)	−8.6 (−15.1, −2.0)	0.011
Ratio perceived exertion (RPE)	11 (8, 11)	9 (7, 9)	−2 (−3, 0)	9 (9, 11)	11 (11, 13)	0 (−1, 1)	−2 (−3, 0)	0.035
Lipids								
Total cholesterol, mg/dL	198 (41)	181 (40)	−19 (24)	203 (26)	211 (35)	8 (30)	−25 (−37, −13)	0.000
HDL-C, mg/dL	55 (22)	47 (15)	−9 (12)	50 (13)	48 (10)	−3 (5)	−5 (−8, −2)	0.000
LDL-C, mg/dL	119 (38)	111 (36)	−5 (25)	126 (20)	139 (29)	12 (30)	−18 (−30, −6)	0.005
Triglyceride, mg/dL	83 (65, 141)	85 (80, 110)	−7 (−42, 12)	100 (88, 155)	116 (75, 154)	−6 (−19, 11)	7 (−24, 10)	0.43



-9.5/5.3
mmHg

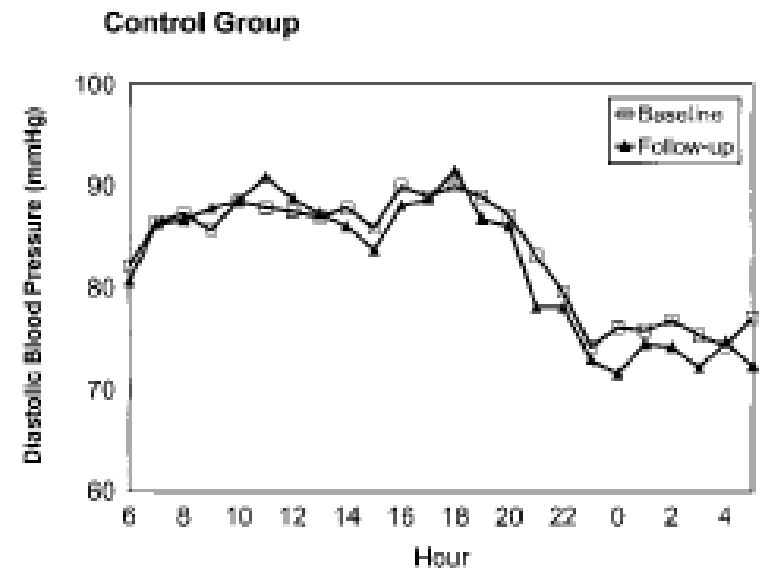


Figure 2. Mean 24-hour ambulatory systolic blood pressures at baseline and the end of study (follow-up) by hour in the lifestyle and control groups: □ baseline SBP; ▲ end of study SBP.

Figure 3. Mean 24-hour ambulatory diastolic blood pressures at baseline and the end of study (follow-up) by hour in the lifestyle and control groups: □ baseline DBP; ▲ end of study DBP.

Approche NON pharmacologique de l'HTA: Plan

- L'HTA est le tueur silencieux par excellence. Sa correction abaisse le risque de morbi-mortalité
- Les recommandations internationales sont unanimes pour proposer une intervention hygiéno-diététique en première ligne du traitement de l'HTA mais aussi en association aux médicaments prescrits.
- Que peut-on attendre d'une approche unifactorielle?
- Y a-t'il un intérêt plus grand à proposer une approche multifactorielle?
- **Maintien des effets à long terme?**

Lifestyle Intervention: Results of the Treatment of Mild Hypertension Study (TOMHS)¹

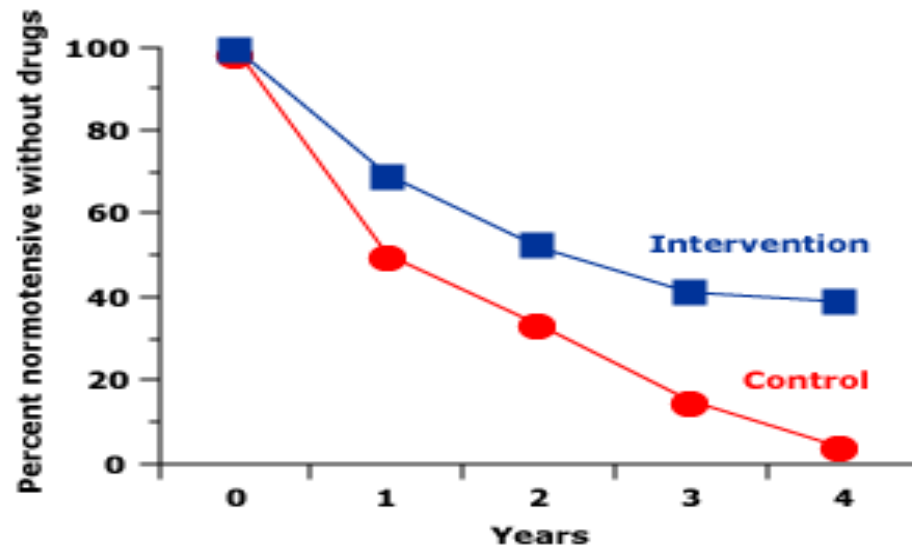
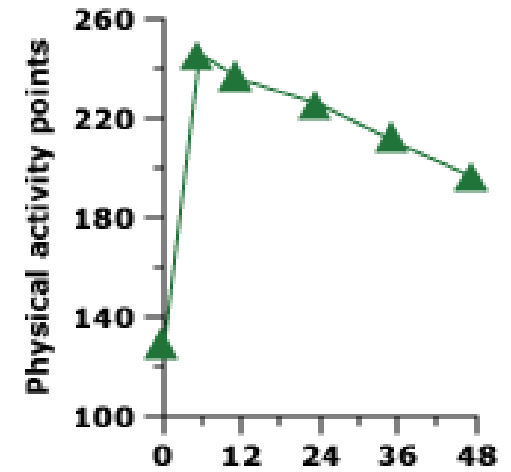
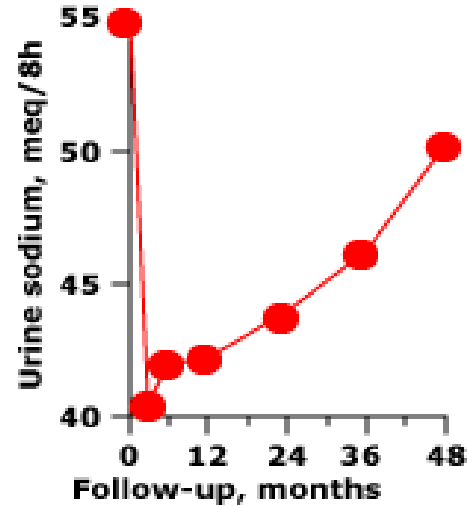
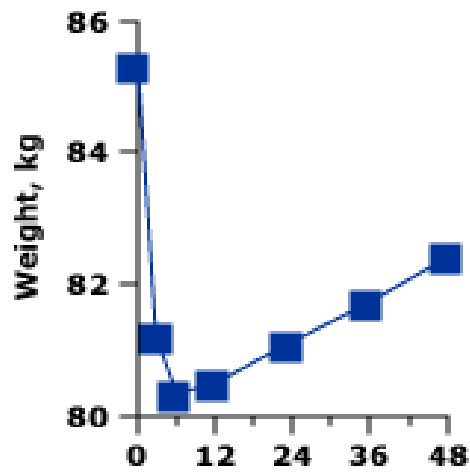
4-year, randomized clinical trial (N = 902).

Methods. Participants were randomly assigned to receive either placebo or one of five different antihypertensive medications. All took part in a lifestyle intervention program to reduce weight and sodium and alcohol intake and to increase physical activity.

TABLE 1
 Baseline Characteristics of TOMHS Participants

Variable	Men (mean or %)	Women (mean or %)	Total (mean or %)
Demographics			
Age	54.9	54.5	54.8
Male (%)	100.0	0.0	61.8
Black (%)	11.7	32.5	19.6
Married (%)	84.5	64.3	76.8
Education (years)	14.9	14.0	14.6
Annual income (×\$1000)	43.8	32.6	39.6
Employed (%)	72.3	60.8	67.9
Health habits			
Consume alcohol (%)	75.7	67.7	72.7
Mean drinks/week for those consuming alcohol	5.8	3.5	5.0
Smoke cigarettes (%)	9.9	12.5	10.9
Leisure physical activity (kcal/week)	555.4	456.9	517.7
Physiologic measures			
On BP medication at baseline visit 1 (%)	58.2	65.2	60.9
Weight (lb)	199.9	167.2	187.4
Body mass index	29.0	28.6	28.9
Urine sodium excretion (mmol/8 hr)	57.9	46.8	53.7
Urine Na/K ratio	3.7	3.9	3.8
SBP (mm Hg)	139.6	141.5	140.4
DBP (mm Hg)	90.8	90.2	90.5

Etude TOMHS: effet à 4 ans des mesures: >40% HT sans antiHTA



Vignette clinique

- Patient de 45 ans, hérédité hypertensive, employé de bureau et sédentaire
- Découverte d'une HTA validée à 145/95 mmHg,
- IMC 28 kg/m², chol LDL 140 mg/dl, bilan rénal normal, pas d'HVG

Que lui proposer?

- Règles Hygiéno-diététiques multiples à stimuler régulièrement!
- Médicaments anti-hypertenseurs d'emblée?
- Les 2 ensemble?

Vignette clinique

- Patient de 45 ans, hérédité hypertensive, employé de bureau et sédentaire
- Découverte d'une HTA validée à **165/105 mmHg**
- IMC 28 kg/m², chol LDL 140 mg/dl, pas d'HVG, bilan rénal normal

Que lui proposer?

- Règles Hygiéno-diététiques 3 mois?
- Médicaments anti-hypertenseurs d'emblée?
- **Les 2 ensemble en privilégiant une approche multifactorielle et des encouragements réguliers**

Conclusions: HTA et approche non médicamenteuse

- L'HTA est fréquente
- Une Réduction de PA diminue le risque CV
- Action favorable de la diététique et de l'hygiène de vie à tous les stades de la maladie hypertensive, avant comme après traitement, réduisant le nombre de médicaments
- **Approche individualisée à ENCOURAGER**
- Rôle de la diététique aussi en prévention générale (diabète, athérosclérose, cancer, arthrose,..) et réduction de la mortalité!



Approche NON pharmacologique de l'HTA: Plan

- L'HTA est le tueur silencieux par excellence. Sa correction abaisse le risque de morbi-mortalité
- Les recommandations internationales sont unanimes pour proposer une intervention hygiéno-diététique en première ligne du traitement de l'HTA mais aussi en association aux médicaments prescrits.
- Que peut-on attendre d'une approche unifactorielle?
- Y a-t'il un intérêt plus grand à proposer une approche multifactorielle?
- Les résultats à court et long termes sont-ils les mêmes?
- **Quels sont les autres avantages?**

Genetic Risk, Adherence to a Healthy Lifestyle, and Coronary Disease

Absence de tabac, lutte contre: obésité, sédentarité, alimentation riche en sel, graisses, viande rouge, boissons sucrées et trop pauvre en fruits et légumes

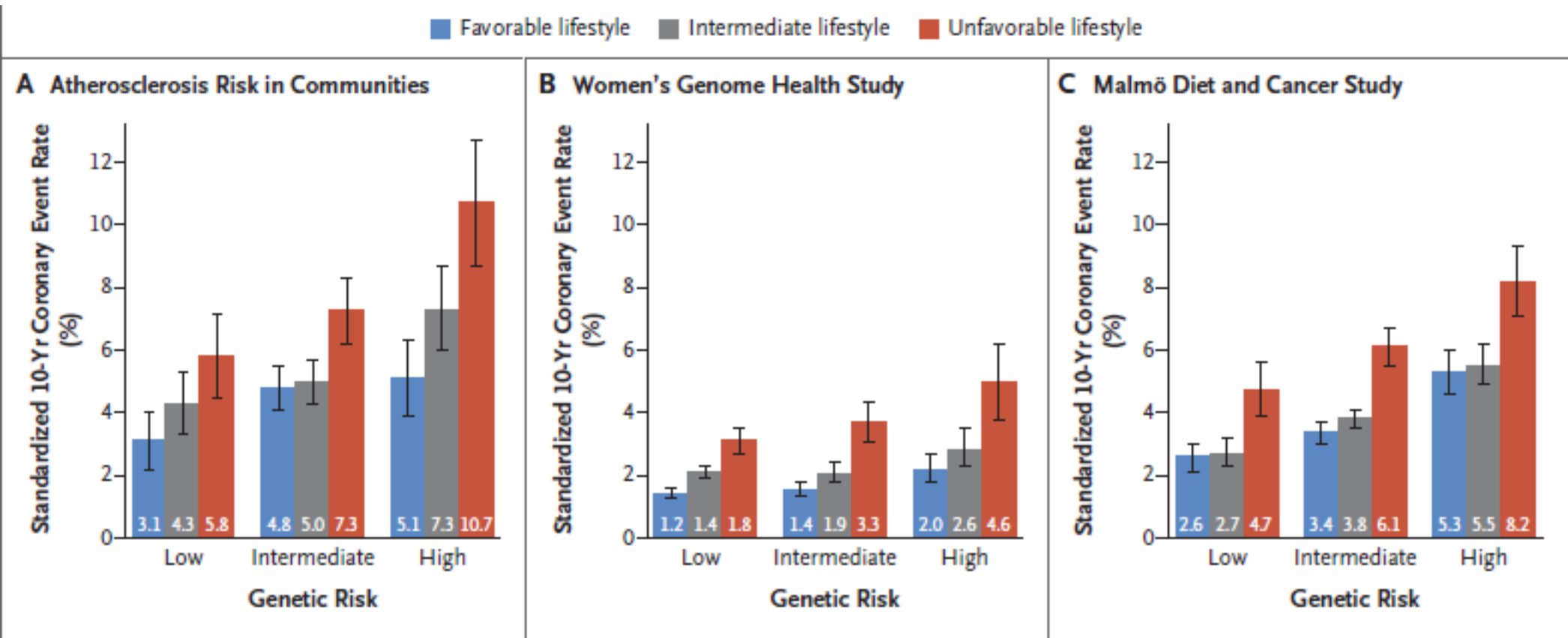


Figure 3. 10-Year Coronary Event Rates, According to Lifestyle and Genetic Risk in the Prospective Cohorts.