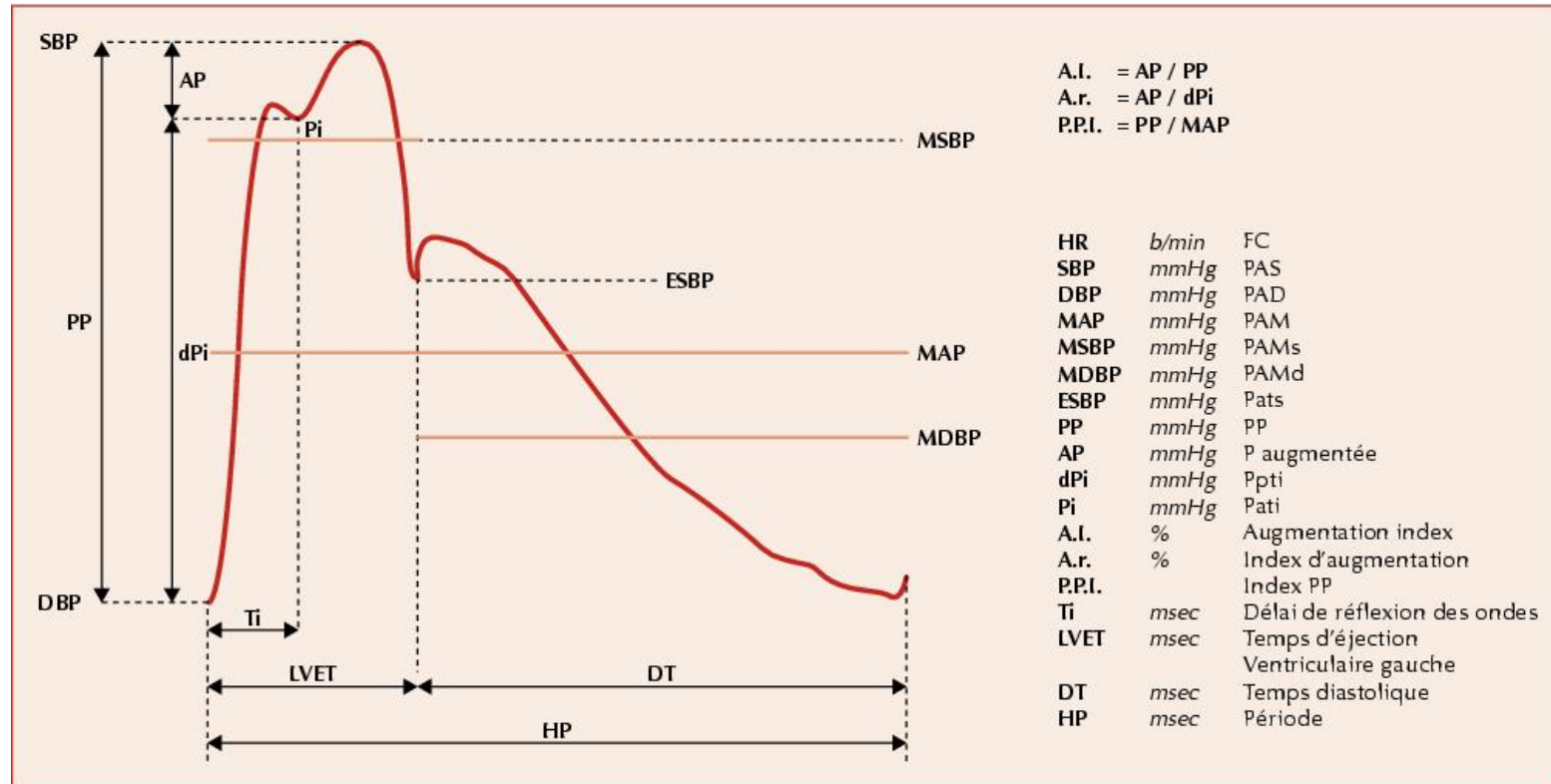


Mesure de la Pression Arterielle

Stephen HALES (1677-1761) imagine d'utiliser un **manomètre à eau pour mesurer directement la pression du sang dans les artères des chiens et "d'une vieille jument attachée sur le dos"**. A cette instrumentation encombrante, Jean Poiseuille substituera en 1828 un "hémomanomètre" à mercure



Onde de pouls

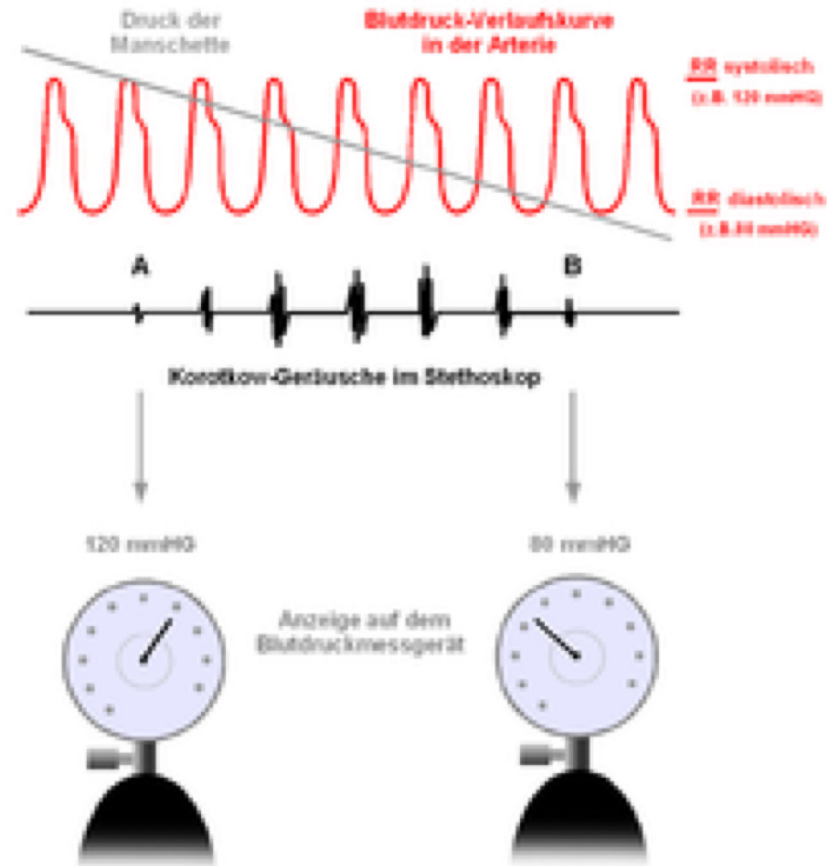


Méthode auscultatoire

La méthode auscultatoire décrite par Korotkoff, en 1905, est celle utilisée en clinique. On mesure la pression artérielle (PA) au bras, sur le trajet de l'artère humérale.

Une fois le brassard gonflé, l'artère du bras est comprimée ce qui empêche le passage du sang. Puis, le brassard est progressivement dégonflé, à une vitesse en moyenne de 2 à 3 millimètres de mercure par seconde

Korotkoff sounds are the sounds that medical personnel listen for when they are taking [blood pressure](#) using a [non-invasive](#) procedure. They are named after Dr. [Nikolai Korotkoff](#), a Russian physician who discovered them in 1905, when he was working at the Imperial Medical Academy in St. Petersburg.



Korotkoff



Tensiomètre de mon père



Tensiomètre électronique poignet



Vues en 1931

The 1930s

In the 1930s misconceptions based on lack of knowledge were common. In 1931 Dr. Paul Dudley White, an eminent Boston cardiologist, wrote that “Hypertension may be an important compensatory mechanism which should not be tampered with, even were it certain that we could control it,” and Hay (*Brit Med J.* 1931; 2:43–47) stated that:

The greatest danger to a man with high blood pressure lies in its discovery, because then some fool is certain to try and reduce it.

Yalta

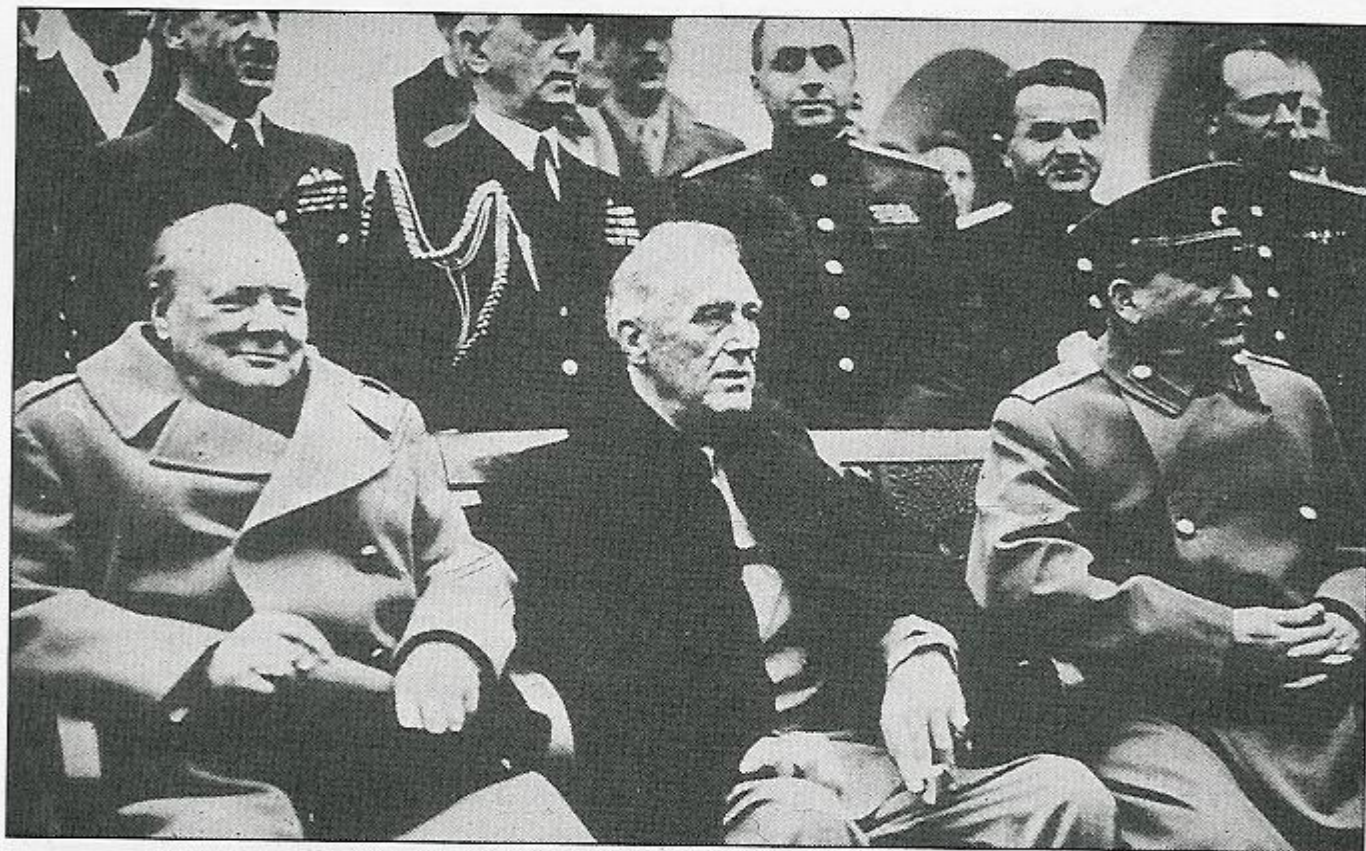


Figure 1. Roosevelt (center) at Yalta in 1945. He had lost weight, was short of breath, and did indeed look "deathly ill." Whether his physical condition affected his decision-making abilities is a matter that historians have been pondering for more than 50 years.



Highlights

FROM THE 2017 GUIDELINE FOR THE PREVENTION, DETECTION,
EVALUATION AND MANAGEMENT OF HIGH BLOOD PRESSURE IN ADULTS

A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines

New blood pressure targets and treatment recommendations: For years, hypertension was classified as a blood pressure (BP) reading of 140/90 mm Hg or higher, but the updated guideline classifies hypertension as a BP reading of 130/80 mm Hg or higher. The updated guideline also provides new treatment recommendations, which include lifestyle changes as well as BP-lowering medications, as shown in Table 1.

Guidelines AHA 2017

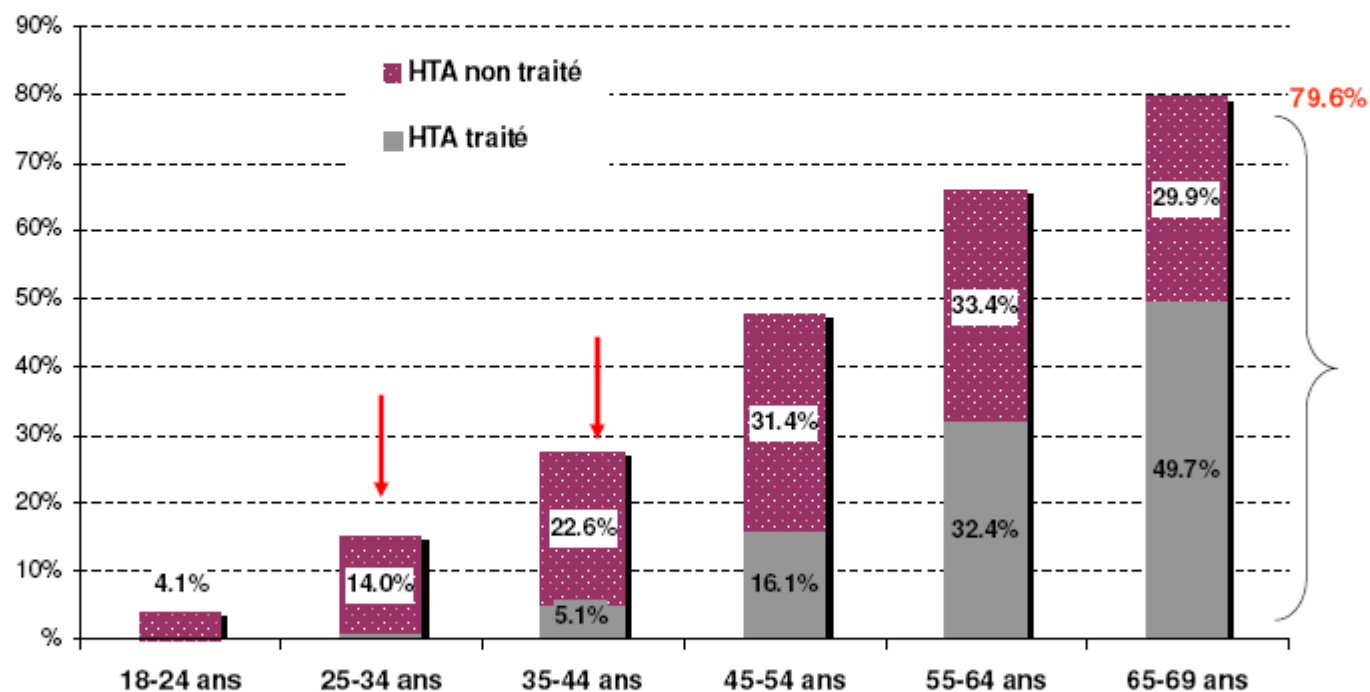
TABLE 1. Classification of BP

BP Category	Systolic BP		Diastolic BP	Treatment or Follow-up
Normal	<120 mm Hg	and	<80 mm Hg	Evaluate yearly; encourage healthy lifestyle changes to maintain normal BP
Elevated	120-129 mm Hg	and	<80 mm Hg	Recommend healthy lifestyle changes and reassess in 3-6 months
Hypertension: stage 1	130-139 mm Hg	or	80-89 mm Hg	<p>Assess the 10-year risk for heart disease and stroke using the atherosclerotic cardiovascular disease (ASCVD) risk calculator</p> <ul style="list-style-type: none"> • If risk is less than 10%, start with healthy lifestyle recommendations and reassess in 3-6 months • If risk is greater than 10% or the patient has known clinical cardiovascular disease (CVD), diabetes mellitus, or chronic kidney disease, recommend lifestyle changes and BP-lowering medication (1 medication); reassess in 1 month for effectiveness of medication therapy <ul style="list-style-type: none"> – If goal is met after 1 month, reassess in 3-6 months – If goal is not met after 1 month, consider different medication or titration – Continue monthly follow-up until control is achieved
Hypertension: stage 2	≥140 mm Hg	or	≥90 mm Hg	<p>Recommend healthy lifestyle changes and BP-lowering medication (2 medications of different classes); reassess in 1 month for effectiveness</p> <ul style="list-style-type: none"> • If goal is met after 1 month, reassess in 3-6 months • If goal is not met after 1 month, consider different medications or titration • Continue monthly follow-up until control is achieved

Epidemiological aspects

- Based on 21 reports from the last decade the prevalence of hypertension appears to be around 30-45% of the general population, with a steep increase with ageing.
- There also appear to be noticeable differences in the average BP levels across countries with no systematic trends towards BP changes in the last decade.
- However, it is difficult to obtain comparable results on BP among countries and over time, and therefore the use of a surrogate of hypertension status, such as stroke mortality, has been suggested.
- Based on WHO statistics, western European countries exhibit a downward trend in stroke mortality, whereas eastern European countries show a clear-cut increase.

Prevalence of treated and non-treated arterial hypertension according to age group



N=1431

HTA=Facteur de risque

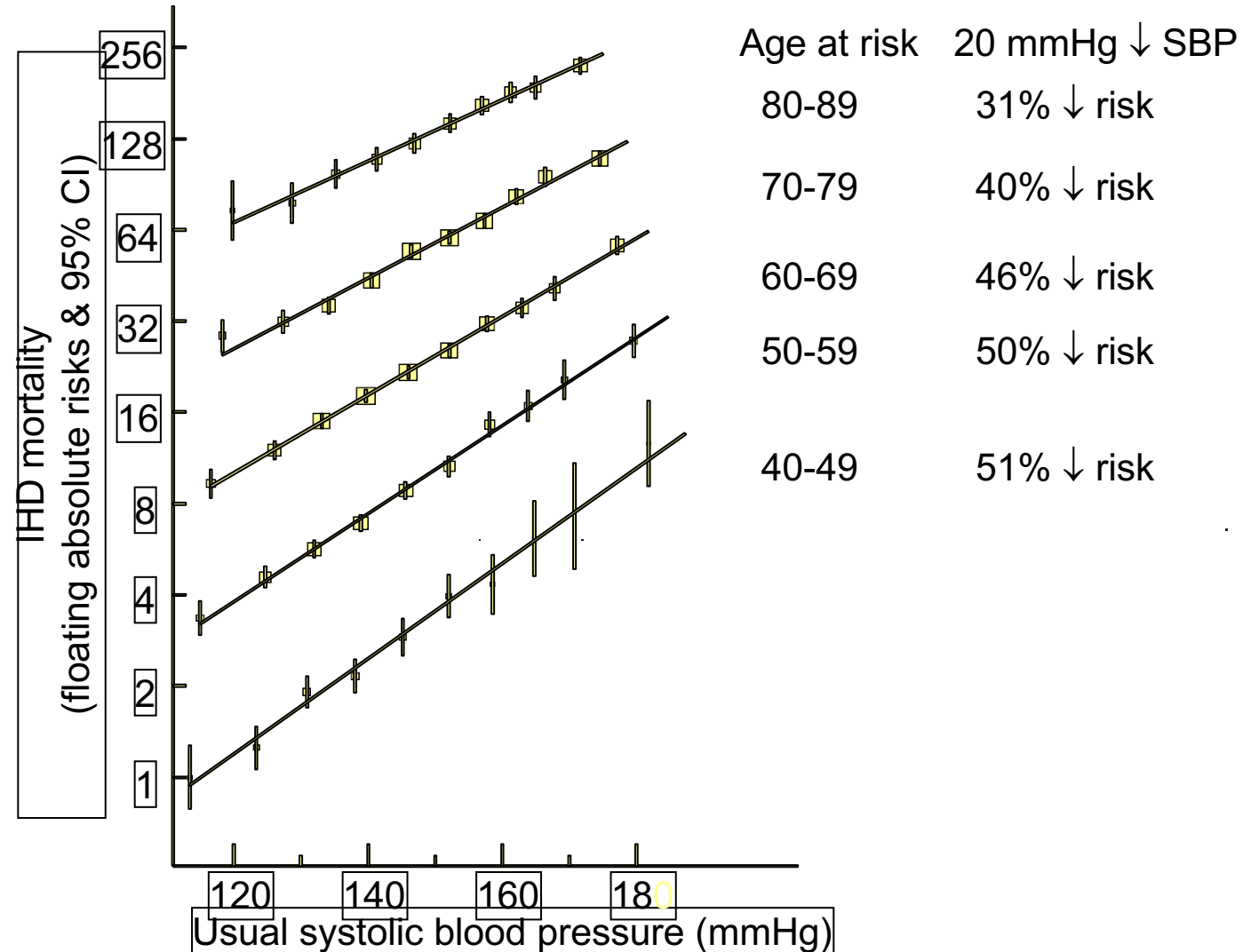
Global Burden of Disease 1990-2015 Risk Factors Collaborators

Le facteur de risque le plus important à l'échelle mondiale est la **pression artérielle systolique** élevée.

“The large potential gain in global health that we estimate if an optimal blood pressure was to be achieved suggests that further studies of blood pressure in people younger than 60 years of age remains an important area for investigation.”

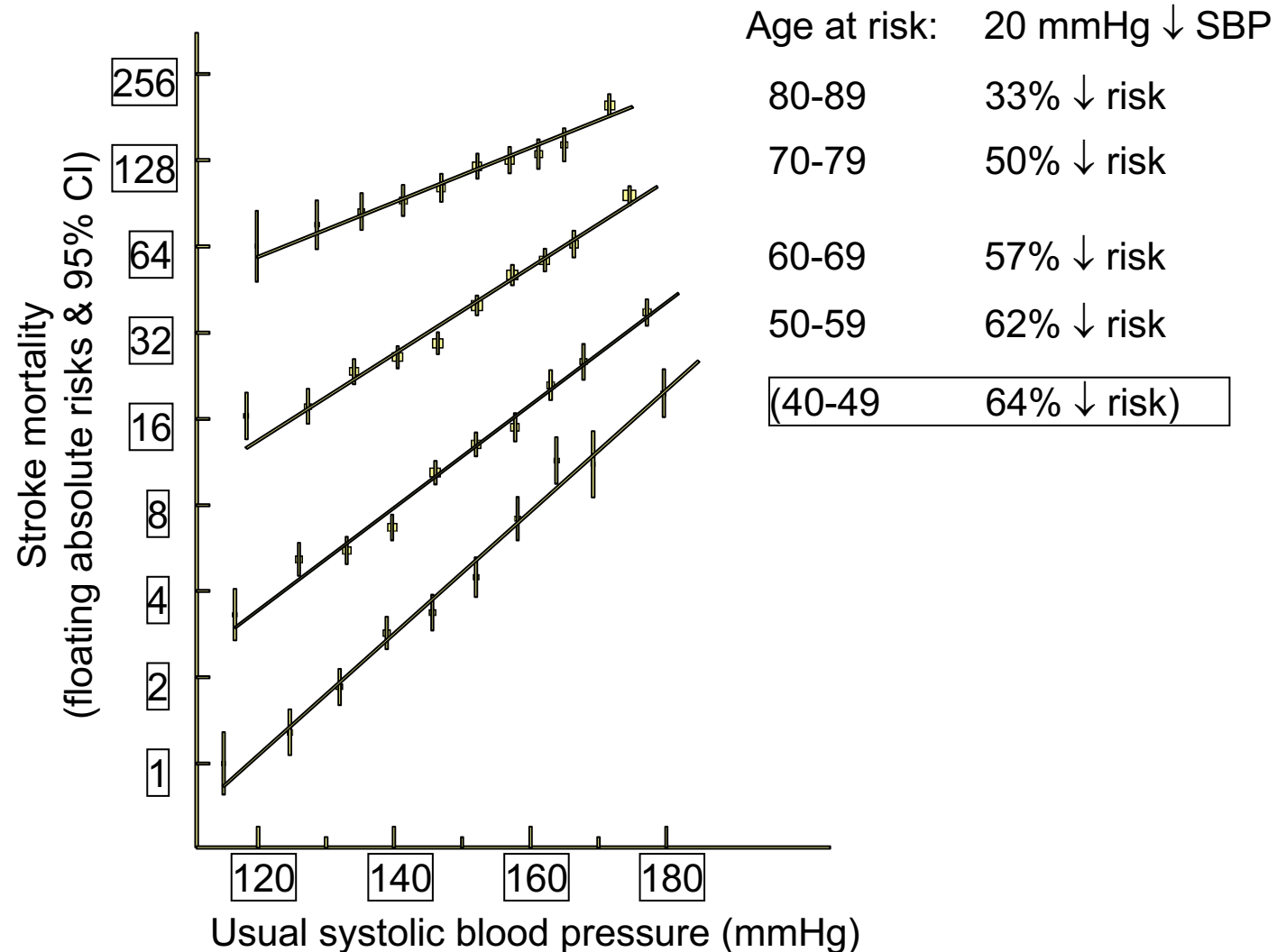
IHD mortality rate in each decade of age versus usual SBP at the start of that decade

33 867 deaths at ages 40 - 89



Stroke mortality rate in each decade of age versus usual SBP at the start of that decade

11 274 deaths at ages 50 - 89



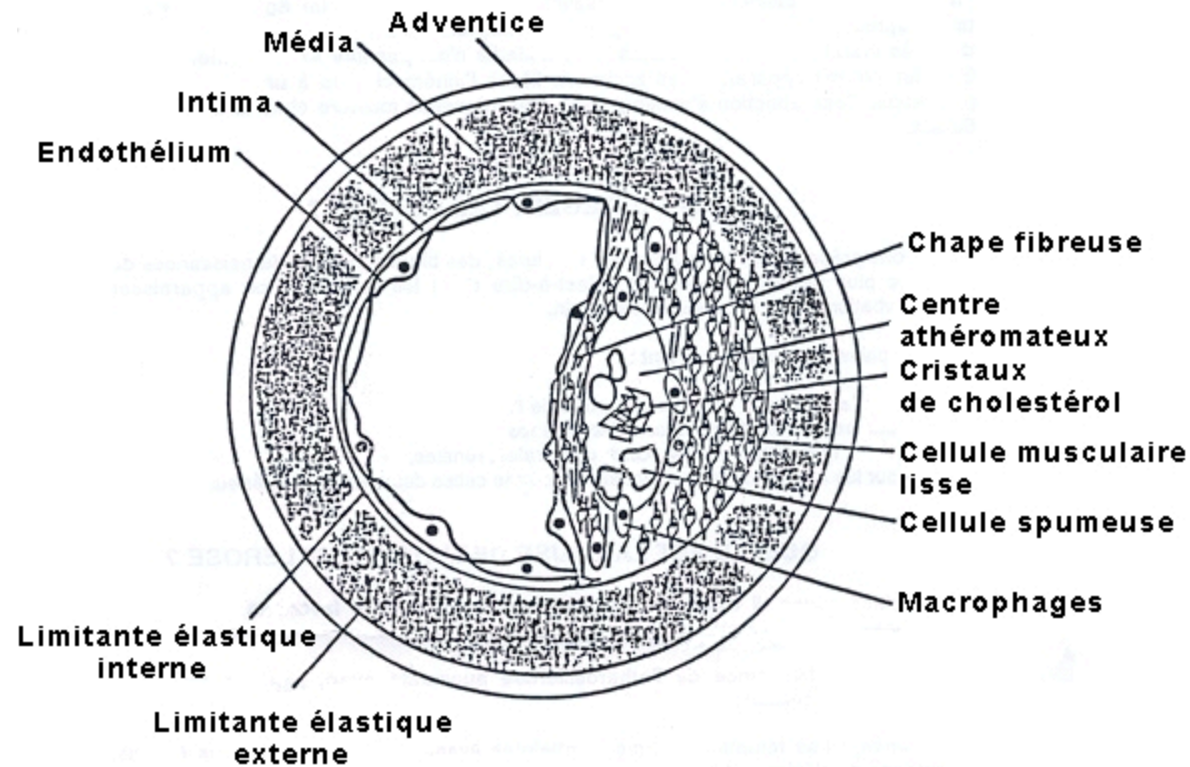
HTA essentielle et secondaire

HTA essentielle 95% des cas

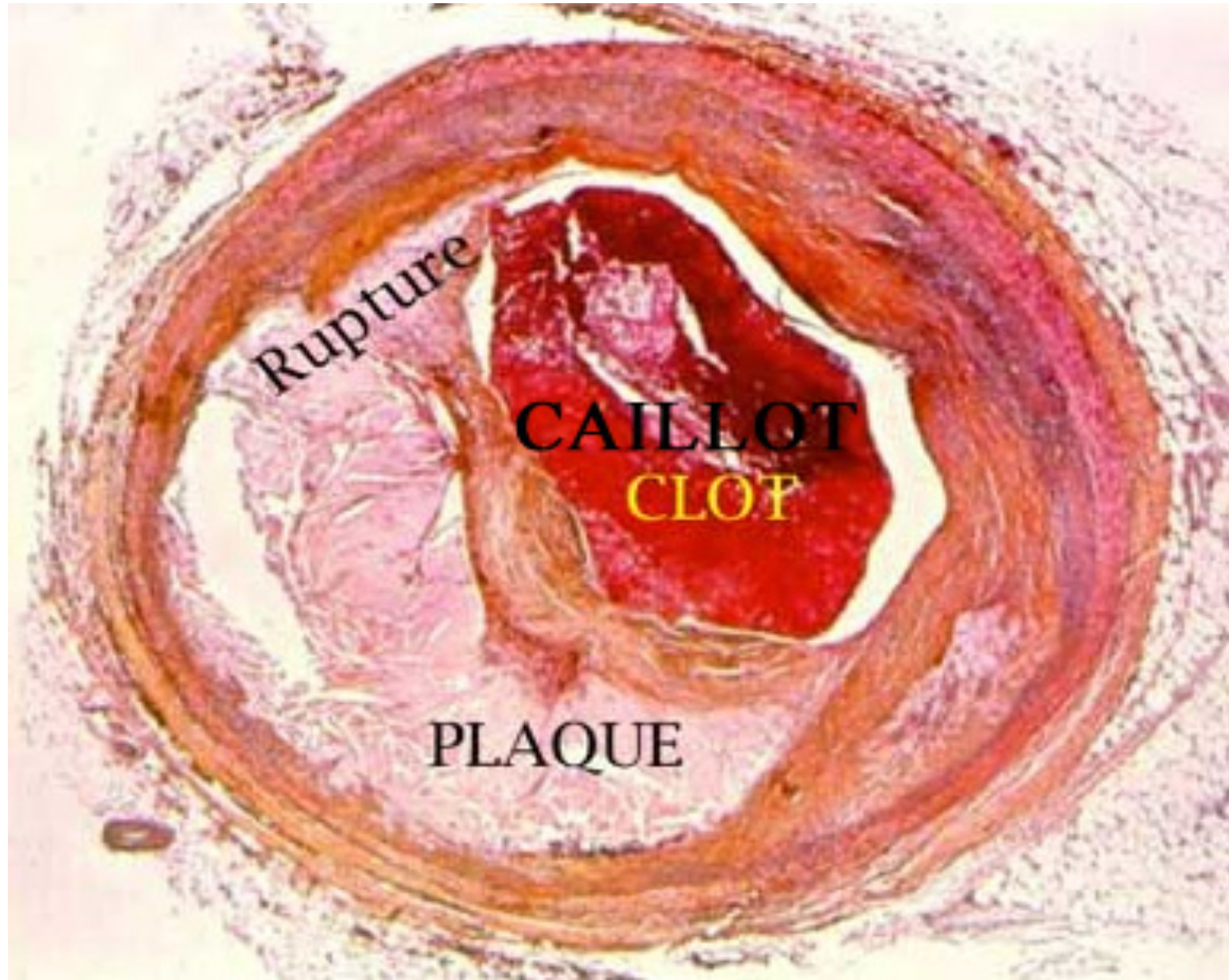
HTA secondaire 5% des cas

- Maladie des reins
- Maladie des surrenales
- Anomalie de l'Aorte
- Apnée de sommeil
- Grossesse pathologique
- Médicaments

Plaque d'Atherome



Plaque rompue



Types of cerebrovascular accident

There are two main types of cerebrovascular accident, or stroke: an **ischemic stroke** is caused by a blockage; a **hemorrhagic stroke** is caused by the rupture of a blood vessel. Both types of stroke deprive part of the brain of blood and oxygen, causing brain cells to die.

Ischemic stroke

An ischemic stroke is the most common and occurs when a blood clot blocks a blood vessel and prevents blood and oxygen from getting to a part of the brain. There are two ways that this can happen. One way is an embolic stroke, which occurs when a clot forms somewhere else in your body and gets lodged in a blood vessel in the brain. The other way is a **thrombotic stroke**, which is when the clot forms in a blood vessel within the brain.

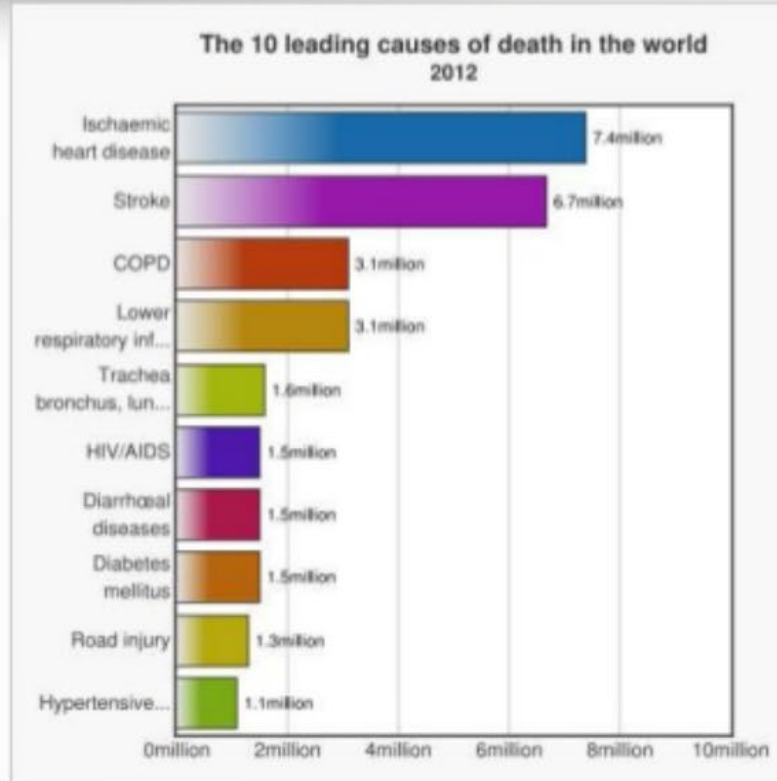
Hemorrhagic stroke

A hemorrhagic stroke occurs when a blood vessel ruptures, or hemorrhages, and then prevents blood from getting to part of the brain. The hemorrhage may occur in any blood vessel in the brain, or it may occur in the membrane surrounding the brain

Epidemiology

Clipper la c

- Globally, about **17 million** strokes occur every year and stroke is the **second leading cause of death** after coronary heart disease, and the **third most common cause of disability**.

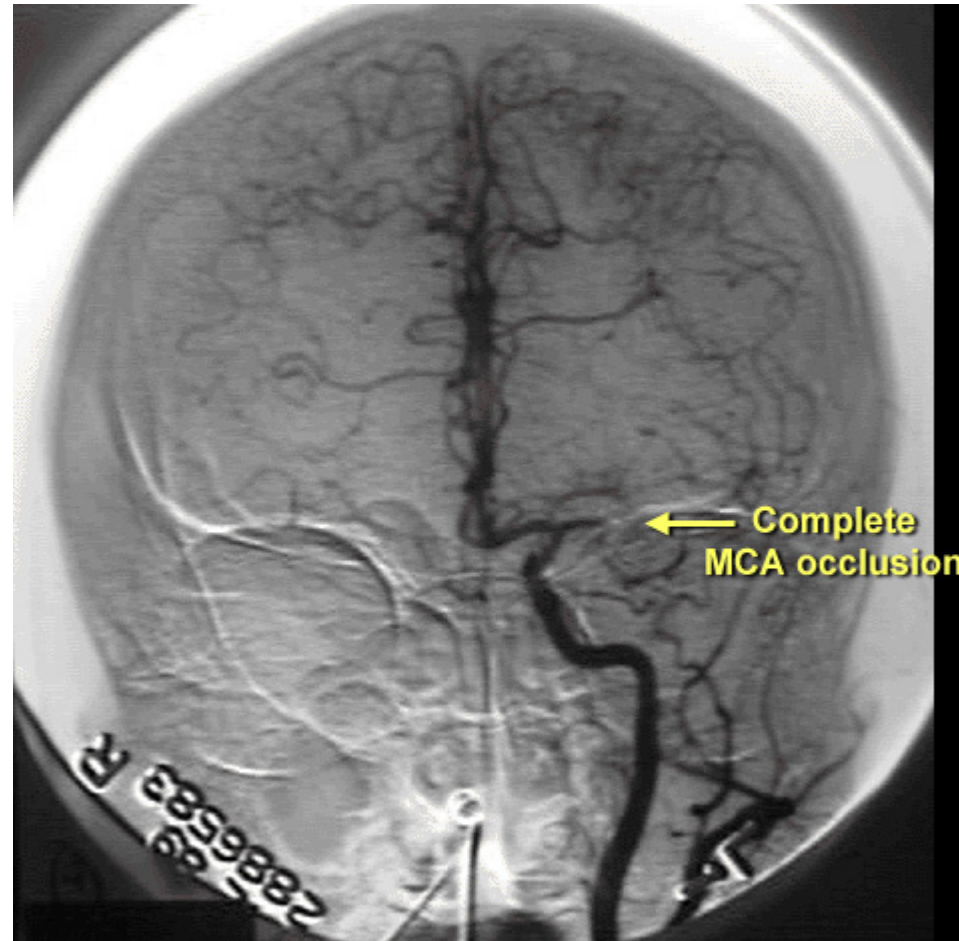


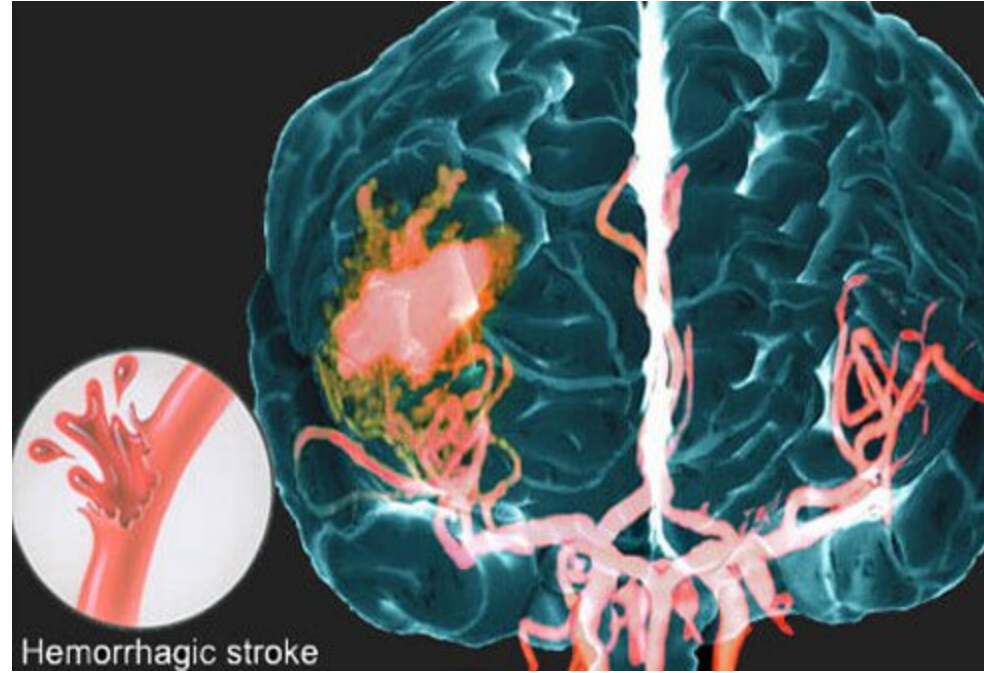
1- Krishnamurthi RV: Lancet Glob Health. 2013;1(5):e259.
Figure: <http://www.who.int/mediacentre/factsheets/fs310/en/>

AVC Ischemique



Occlusion de l'Artère Cérébrale moyenne





CAUSES DES ACCIDENTS ISCHEMIQUES CEREBRAUX

Elles sont nombreuses mais deux dominant par leur fréquence : athérosclérose, cardiopathies emboligènes.

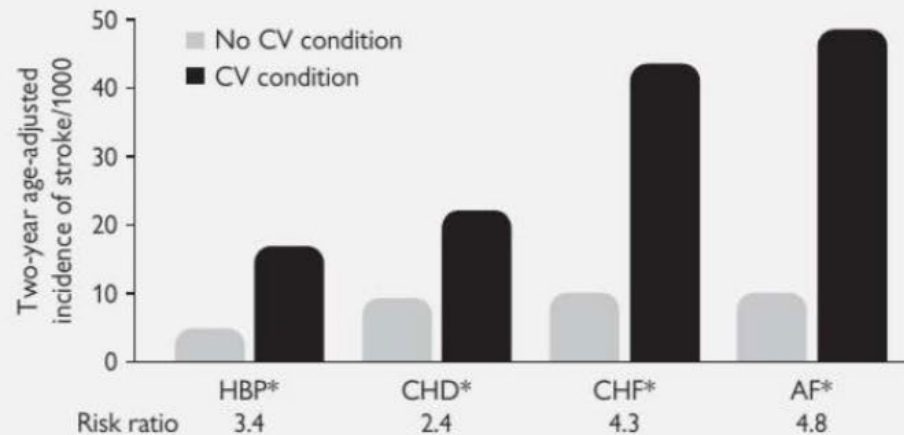
Athérosclérose

Cardiopathies emboligènes

Fibrillation auriculaire (FA) quelle qu'en soit la cause, paroxystique ou permanente

Risk factors for stroke (cont.)

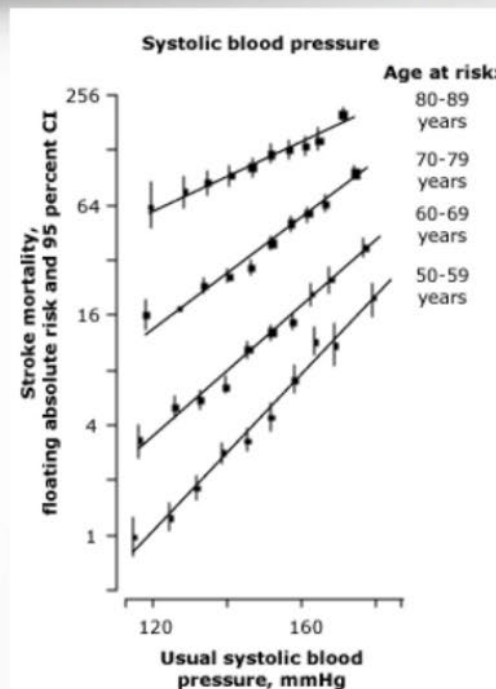
❑ **Heart disease** — Heart disease, including **atrial fibrillation**, valvular disease, recent myocardial infarction, and endocarditis, increases the probability of a stroke due to embolism. **Of these, atrial fibrillation is the most prominent, causing nearly half of all cardioembolic strokes.**



AF, atrial fibrillation; CHD, coronary heart disease; CHF, congestive heart failure; HBR, high blood pressure

Risk factors for stroke (cont.)

- **Hypertension** — Hypertension is an important stroke risk factor, including isolated systolic hypertension. Epidemiologic studies show that there is a gradually increasing incidence of both coronary disease and stroke as the blood pressure rises above 110/75 mmHg. Both prior blood pressure and current blood pressure are important risk factors (for both ischemic and hemorrhagic stroke).



Data from Prospective Studies Collaboration, Lancet 2002; 360:1903.

Risk factors for stroke

Fixed risk factors

- Age
- Gender (male > female except at extremes of age)
- Race (Afro-Caribbean > Asian > European)
- Previous vascular event
 - ✓ Myocardial infarction
 - ✓ Stroke
 - ✓ Peripheral vascular disease
- Heredity
- High fibrinogen

POTENTIALLY Modifiable risk factors

- Blood pressure
- Cigarette smoking
- Hyperlipidaemia
- Heart disease
 - ✓ Atrial fibrillation
 - ✓ Congestive cardiac failure
 - ✓ Infective endocarditis
- Diabetes mellitus
- Excessive alcohol intake
- Oestrogen-containing drugs
- Polycythaemia

Total cardiovascular risk stratification

Asymptomatic organ damage

- Pulse pressure ≥ 60 mmHg (in the elderly).
- Electrocardiographic LVH (Sokolow-Lyon index >3.5 mV; RaVL >1.1 mV; Cornell voltage duration product >244 mm*ms), or
- Echocardiographic LVH (LVM index >115 g/m² in men; >95 g/m² in women).
- Carotid wall thickening (IMT >0.9 mm) or plaque.
- Carotid-femoral pulse wave velocity >10 m/s.
- Ankle-brachial index <0.9 .
- Chronic kidney disease stage 3 (eGFR: 30-60 mL/min/1.73 m²).
- Microalbuminuria (30-300 mg/24 h), or albumin-creatinine ratio (30-300 mg/g or 3.4-34 mg/mmol) (preferentially on morning spot urine).

Total cardiovascular risk stratification

Risk factors

- Male sex.
- Age (≥ 55 yrs in men; ≥ 65 yrs in women).
- Smoking.
- Dyslipidaemia:
 - TC >4.9 mmol/L (190 mg/dL), and/or
 - LDL-C >3.0 mmol/L (115 mg/dL), and/or
 - HDL-C <1.0 mmol/L (40 mg/dL) in men; <1.2 mmol/L (46 mg/dL) in women, and/or
 - TG >1.7 mmol/L (150 mg/dL)
- Fasting plasma glucose 5.6-6.9 mmol/L (102-125 mg/dL).
- Abnormal glucose tolerance test.
- Obesity (BMI ≥ 30 kg/m²).
- Abdominal obesity: waist circumference ≥ 102 cm in men; ≥ 88 cm in women (in Caucasians).
- Family history of premature CV disease (<55 yrs in men; <65 yrs in women).

Recommendations on lifestyle changes

Are recommended	Class	LoE ^a	LoE ^b
Salt restriction to 5-6 g per day.	I	A	B
Moderation of alcohol consumption to no more than 20-30 g of ethanol per day in men and 10-20 g of ethanol per day in women.	I	A	B
Increased consumption of vegetables, fruits, and low-fat dairy products.	I	A	B
Reduction of weight to BMI of 25 kg/m ² and of waist circumference to <102 cm in men and <88 cm in women, unless contraindicated.	I	A	B
Regular exercise, i.e. at least 30 min of moderate dynamic exercise on 5 to 7 days per week.	I	A	B
Advice to quit smoking and to offer assistance to all smokers.	I	A	B

^a LoE: based on the effect on BP and/or CV risk profile

^b LoE: based on outcome studies

HTA Guidelines AHA 2017

Treatment recommendations:

- The updated guideline presents new treatment recommendations, which include lifestyle changes as well as BP-lowering medications. **These lifestyle changes can reduce systolic BP by approximately 4 to 11 mm Hg for patients with hypertension, with the biggest impacts being changes to diet and exercise.**
- In addition to **promoting the DASH diet**, which is rich in fruits, vegetables, whole grains, and low-fat dairy products, the updated guideline recommends **reducing sodium intake** and **increasing potassium intake** to reduce BP. However, some patients may be harmed by excess potassium, such as those with kidney disease or who take certain medicines. See Table 15 in the 2017 Hypertension Guideline for more information.
- Each patient's ideal body weight is the best goal, but as a rule, expect about **a 1 mm Hg BP reduction for every 1 kg reduction in body weight.**
- Recommendations for physical activity include **90 to 150 minutes of aerobic and/or dynamic resistance exercise per week** and/or 3 sessions per week of isometric resistance exercises.
- For patients who drink alcohol, aim for **reducing their intake to 2 or fewer drinks daily for men and no more than 1 drink daily for women.**

Primary prevention of stroke

Hypertension

- Annual screening for high BP and health-promoting lifestyle modification are recommended for patients with prehypertension (SBP of 120 to 139 mmHg or DBP of 80 to 89 mmHg) (Class I; Level of Evidence A).
- Patients who have hypertension should be treated with antihypertensive drugs to a target BP of <140/90 mm Hg (Class I; Level of Evidence A).

Stroke. 2014;45:3754–3832.

Physical inactivity

- Physical activity is recommended because it is associated with a reduction in the risk of stroke (Class I; Level of Evidence B).
- Healthy adults should perform at least moderate- to vigorous-intensity aerobic physical activity at least 40 min/d 3 to 4 d/wk (Class I; Level of Evidence B).

Diet

- Reduced intake of sodium and increased intake of potassium as indicated in the US Dietary Guidelines for Americans are recommended to lower BP (Class I; Level of Evidence A).
- A DASH-style diet, which emphasizes fruits, vegetables, and low-fat dairy products and reduced saturated fat, is recommended to lower BP (Class I; Level of Evidence A).
- A Mediterranean diet supplemented with nuts may be considered in lowering the risk of stroke (Class IIa; Level of Evidence B).

[Cœur](#)[AVC](#)[Vivez sainement](#)[Impliquez-vous](#)[Ce que nous faisons](#)[Groupes](#)[❤️ Donnez](#)[Recettes](#)[Saine alimentation](#)[Poids santé](#)[Réduire le stress](#)[Garder la forme](#)[Enfants en santé](#)[Outils Santé](#)

Personnes Intéressées Par La Santé

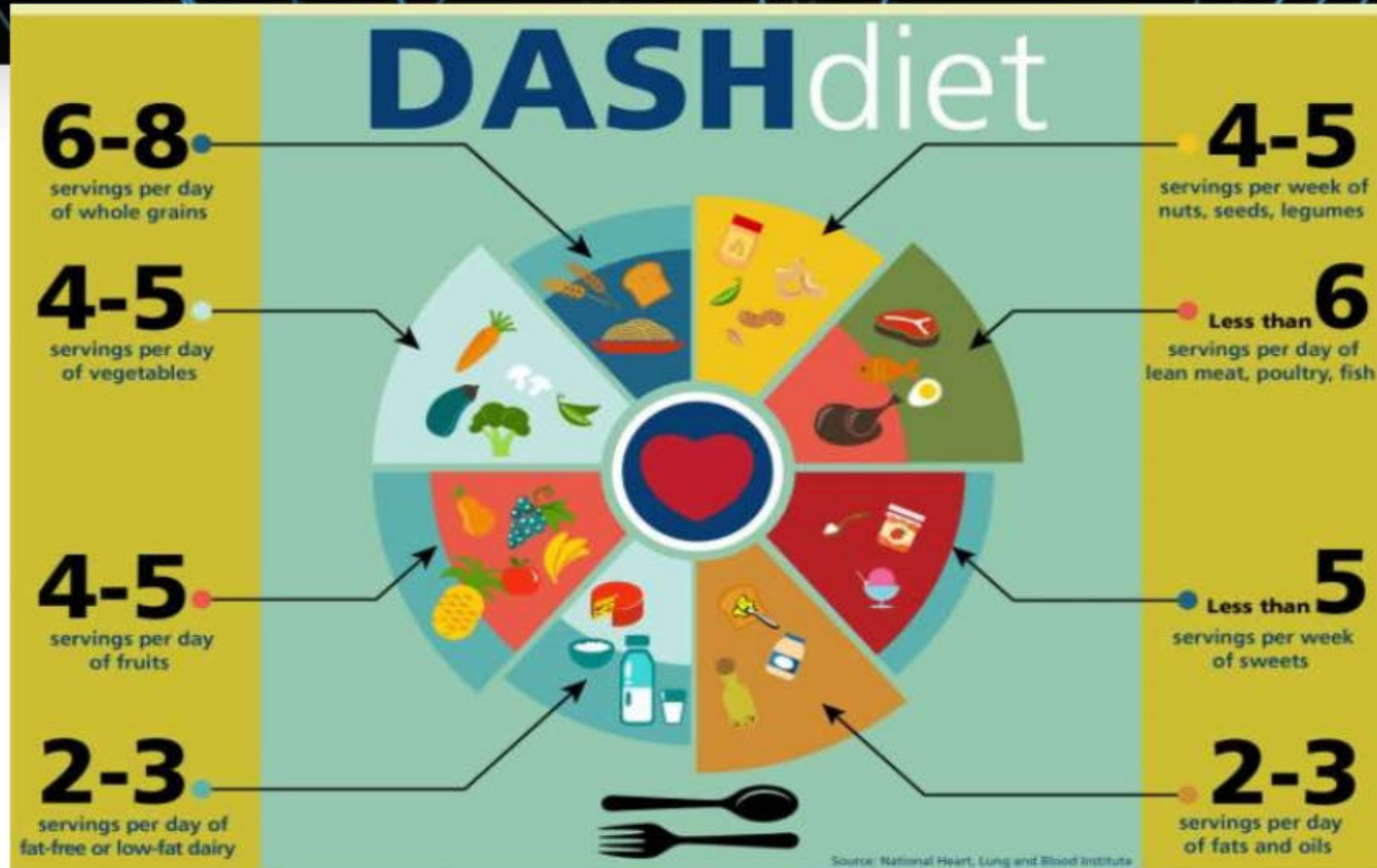
Le régime DASH pour une pression artérielle plus saine

La Fondation des maladies du cœur du Canada et Santé Canada le répètent depuis des années : une alimentation saine et réduite en sel peut abaisser votre pression artérielle. Les plus récents résultats des études DASH (Dietary Approach to Stopping Hypertension ou combattre l'hypertension par l'alimentation) viennent de confirmer ces recommandations, ce qui encouragera les personnes ayant choisi une alimentation saine.

[Partager](#)

Qu'est-ce que le régime DASH?

Diet

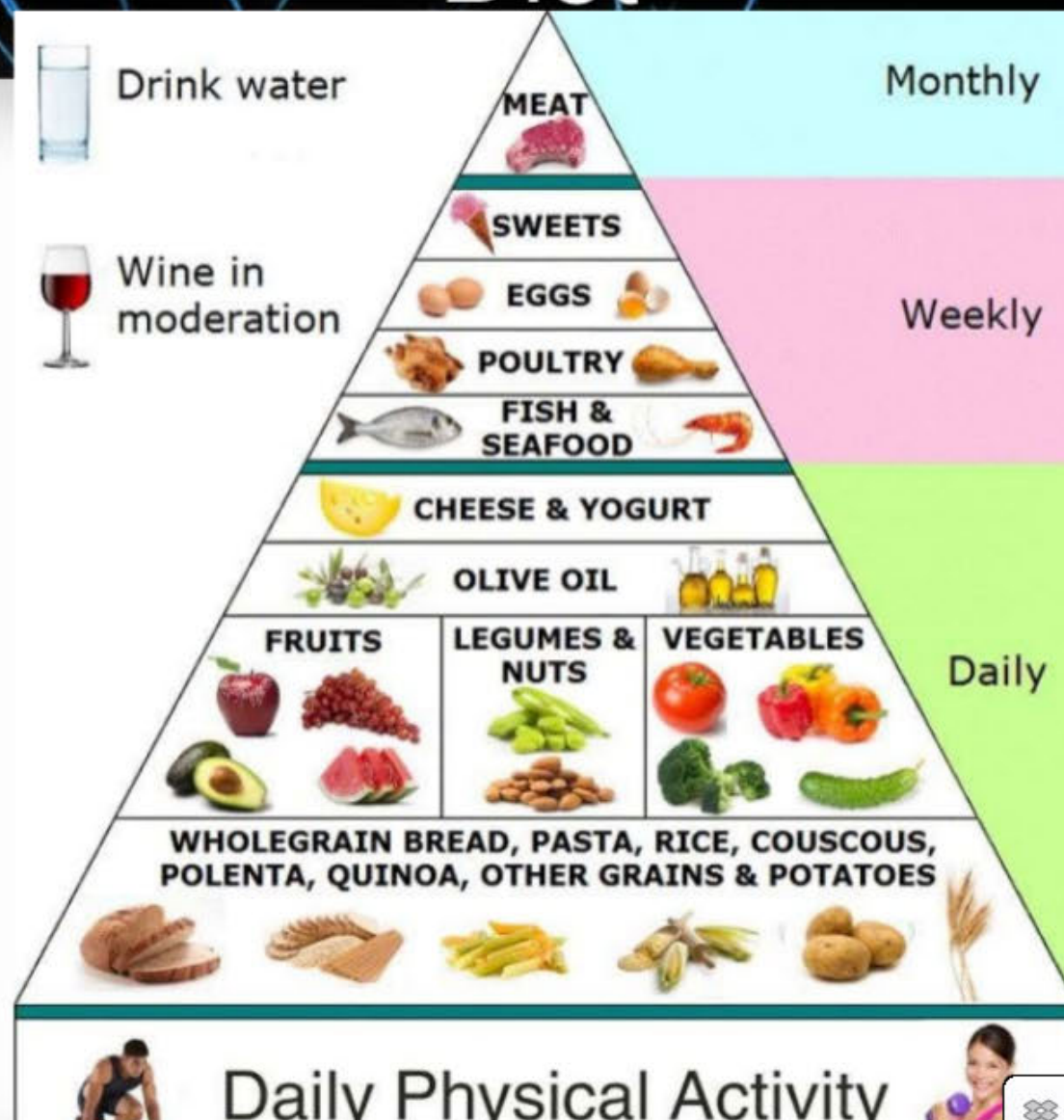


The DASH diet (Dietary Approaches to Stop Hypertension) has been shown to help lower blood pressure and prevent heart disease, stroke, diabetes and even some forms of cancer. It focuses on eating more fresh fruits and vegetables.

This is a guide to how much of each food group you should eat every day, based on eating 2,000 calories per day.

UKHealthCare.
CHL Heart Institute

Diet

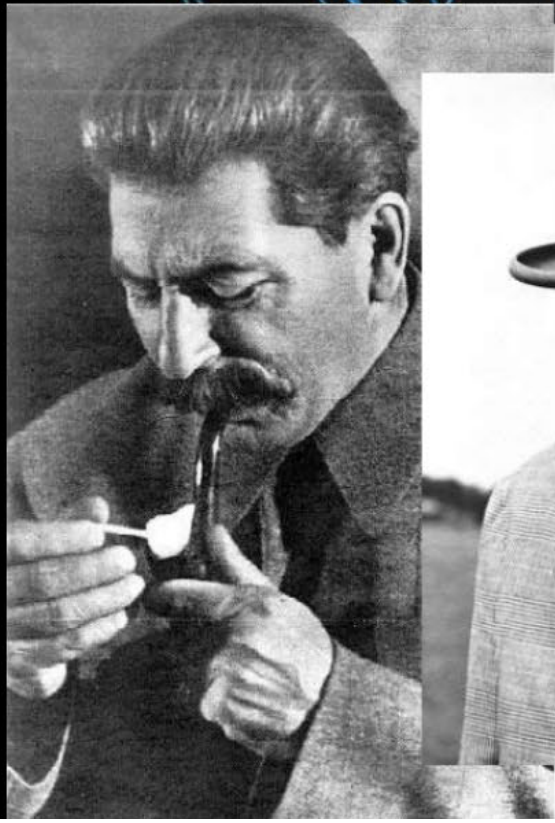


2009

« Yes we can »



Maîtriser l'HTA



Famous People Who Died of Stroke

Sir Winston Churchill

*Prime Minister of the United Kingdom from
1940 to 1945 and again from 1951 to 1955*

Died: 24 January 1965 (aged 90)

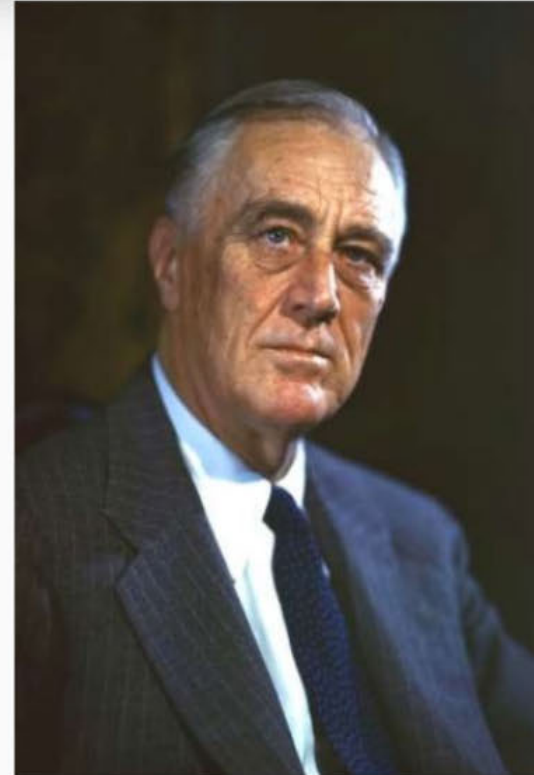


Famous People Who Died of Stroke

Franklin D. Roosevelt

*President of US from 1933 until his death
in 1945*

Died: April 12, 1945 (aged 63)



Famous People Who Died of Stroke

Joseph Stalin

The leader of the Soviet Union from the mid-1920s until his death in 1953

Died: 5 March 1953 (aged 74)



Smoking

- Abstention from cigarette smoking is recommended



Overall Bottom Line

Remember

- Prevention of risk is better than treating it.
- Exercise a lot.
- Stop smoking even before you start it.
- Lipid and BP leads to harmful consequences treat them first.

2016

« Make hypertension ...

great again! »

**Clinique
Enseignement
Recherche**



Rauchverbot in Österreich gekippt

Wien. In Österreichs Kaffeehäusern und Lokalen darf weiterhin gequalmt werden. Damit ist die Alpenrepublik eines der letzten Länder Westeuropas, in dem in Gastronomiebetrieben noch geraucht werden darf. Die Regierung aus konservativer ÖVP und rechter FPÖ kippte gestern das für Mai geplante Rauchverbot wieder. „Bis heute gibt es kein Land weltweit, das in Sachen Nichtraucherschutz einen Schritt zurück gemacht hat“, kritisierte die ehemalige Gesundheitsministerin Pamela Rendi-Wagner (SPÖ) in einer hitzigen Debatte. Vor drei Jahren hatten SPÖ und ÖVP gemeinsam das Rauchverbot beschlossen. 27 Abgeordnete der Konservativen votierten nun gegen ihre alten Überzeugungen. Damit ist es weiterhin den Gastronomen überlassen, ihren Gästen die Zigarette zu erlauben oder sie vor die Tür zu bitten. Seit Wochen gibt es einen Aufschrei von Opposition und Teilen der Zivilgesellschaft gegen den Plan. Rund 13 000 Österreicher sterben jedes Jahr an Folgen des Tabakkonsums. Etwa 1000 Todesfälle können auf das passive Rauchen zurückgeführt werden. Rendi-Wagner bezeichnete die Regelung als Schande. Österreich werde so zum „Aschenbecher Europas“, sagte sie. *dpa*