

Our Ancient Ancestors Had A Diet and Lifestyle Very Different than Modern Man

- ◆ Didn't Smoke
- ◆ Didn't Consume Alcohol
- ◆ Hunted Wild Game
- ◆ Gathered Fruits, Starchy foods, and vegetables
- ◆ No salt or refined and processed foods high in salt were consumed

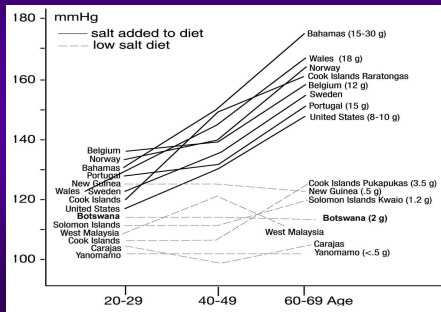


Hypertension prevalence by population

Population	Total (%)	Men (%)	Women (%)
African-origin populations			
◆ Nigeria	13.5	13.9	13.1
◆ Jamaica	28.6	23.4	31.8
◆ US black	44.0	43.1	44.8
Europe-origin populations			
◆ US white	26.8	29.7	23.9
◆ Canada	27.4	31.0	23.8
◆ Italy	41.5	48.0	35.1
◆ Sweden	38.4	44.8	32.0
◆ England	41.7	46.9	36.5
◆ Spain	46.8	49.0	44.6
◆ Finland	48.6	55.7	41.6
◆ Germany	55.3	60.2	50.4

Cooper RS et al. *BMC Med* 2005.

Effect of Age and Dietary Salt Intake on Systolic Blood Pressure



MacGregor. Hypertension. 1985;7:628

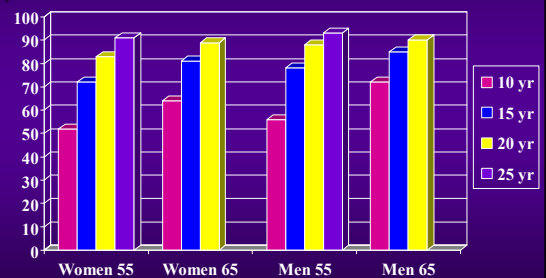
Hypertension

- ◆ Early hypertension has no symptoms and is therefore known as the "silent killer".
- ◆ Damage to the circulatory system occurs before it is diagnosed.
- ◆ HTN is deadly. It is....
 - ◆ The #1 risk factor for stroke
 - ◆ A major risk factor for CHD
 - ◆ It also greatly increases the risk of blindness, senility, and both kidney and heart failure

Current Blood Pressure Guidelines

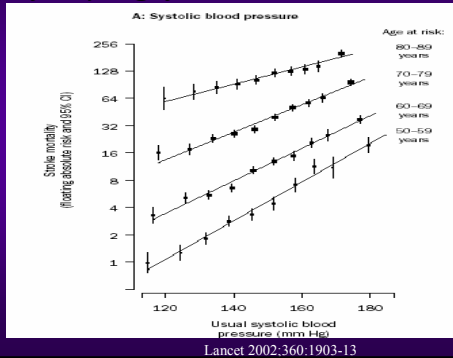
	Diastolic BP (mmHg)	Systolic BP (mmHg)
Normal	<80	<120
Prehypertension	≥80	≥120
Hypertension		
Stage 1	90-99	140-159
Stage 2	100-109	160-179
Stage 3	110+	180+

Residual Lifetime Risk Of Developing HTN

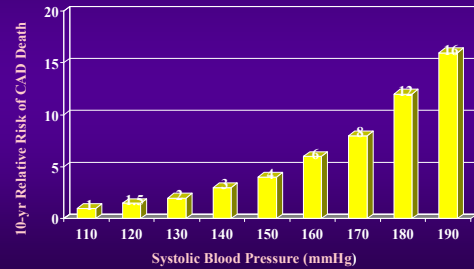


Adapted From Vasan R, et al. *JAMA* 2002;287:1003

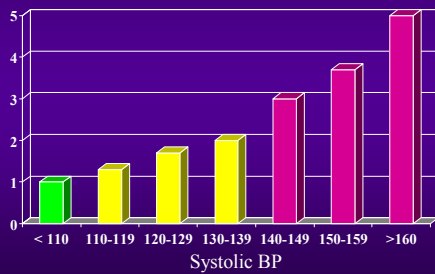
Impact of Systolic BP on the Risk of Dying from a Stroke.



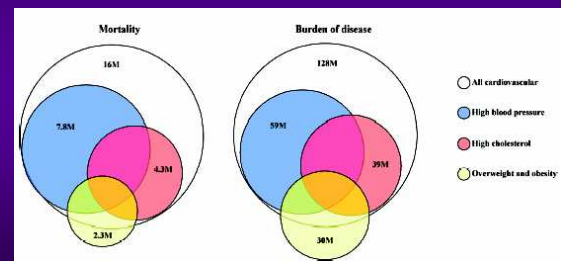
Impact of Systolic BP on the 10-Year Death Rate From CAD for People 40-90 Years.



The Relative Risk of CVD Mortality and Blood Pressure



Cardiovascular Disease Mortality & Burden of Disease in 100 Countries.



Is Salt Killing More Americans Than Tobacco?

- ◆ “A 3g daily reduction in salt would give the same benefits as eliminating smoking”. Dr. Bibbins-Domingo
- ◆ Average American consume about 10g of salt daily > 75% is “second hand”.
- ◆ Bibbins-Domingo, et al Population reductions in CAD associated with modest increases in salt intake: projections from the CHD policy model. AHA 49th Annual Conference on Cardiovascular Disease Epidemiology and Prevention, March 10-14, 2009; Palm Harbor, FL Abstract P51.

Risk Factors For Developing High Blood Pressure:

- ◆ A family history of high blood pressure.
- ◆ Increasing Age
- ◆ African American
- ◆ Excess Sodium (salt) intake
 - The most important controllable factor
- ◆ Excessive alcohol consumption.
- ◆ Low intake of foods rich in potassium, magnesium, and calcium.
- ◆ Overweight/Obese



What Food Processing Does To Corn

	Cal/lb	% Fat	Na+/lb	Fiber
Corn	492	11	77	8.6
Corn Tortilla	1,014	15	254	3.7
Corn Syrup	1,271	0	545	0.0
Corn Flakes	1,600	1	4,640	2.5
Corn Chips	2,448	56	2,864	1.9
Corn Oil	4,054	100	0	0.0



Taste is not a Reliable Indicator of Salt or Potassium Content:

Product	Quantity	Calories	Sodium (mg)	Potassium (mg)
Potato chips	1 ounce (about 20 chips)	152	168	361
Whole wheat bread	2 slices	152	325	155
Corn flakes	1.5 cups	152	304	33



Are Drugs the Best Treatment for Hypertension?

- ◆ 14y study of older people with HTN treated with BP medication.
- ◆ CVD deaths were cut by “nearly 15%”
- ◆ Risk of developing Diabetes Increased 40%
- ◆ Risk of death from CVD increases more than 300% compared to those with ideal BP

Kostis J, et al. Am J Cardiol. January 2005



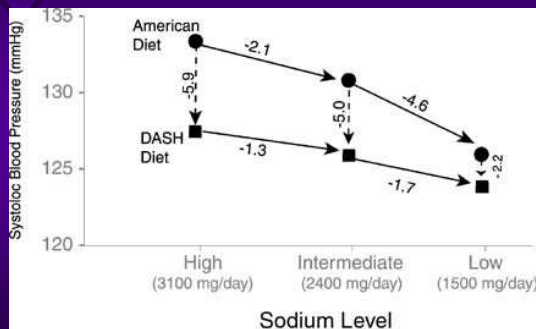
Pritikin Program Reverses High Blood Pressure

- ◆ 268 Subjects On Hypertension Medication
 - ◆ With High Blood Pressure
- ◆ 3 Weeks at Pritikin Center
- ◆ 83% left off all their High BP Medication(s) and with BP as low or even lower than when they came in on medication.
- ◆ Some Beta-Blockers and Diuretics can raise blood sugar levels and promote type 2 DM.

Barnard JB, et al. J Cardiac Rehab, 1983;3: 839-46

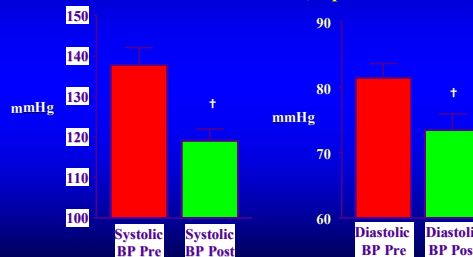


Effect of American and DASH Diets on SBP with different Sodium Intake levels.



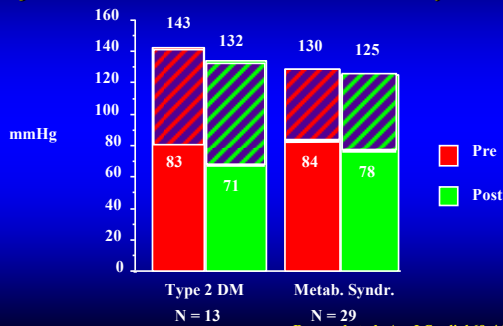
Effect of Pritikin Program on Blood Pressure (N = 11)

7 on HTN meds Pre, 0 post



Roberts et al. Circulation 106(20): 2530, 2002.

Effect of the Pritikin Program on BP in Subjects with Diabetes or Metabolic Syndrome



Pritikin Hypertension Rx

- ◆ Reduce Sodium Intake to < 1200 mg/day
 - ◆ < 750 for Severe Cases
- ◆ Limit Alcohol - ≤ 2 Drinks/Day
- ◆ Emphasis Foods High In
 - ◆ Potassium - Fruits, Vegetables
 - ◆ Calcium - Green Leafy's, Nonfat Dairy
 - ◆ Magnesium - Whole Grains & Beans
 - ◆ Omega-3s - Salmon, Sardines, Trout, Mackerel
 - ◆ Lose as much excess body weight as possible

Conclusions:

- ◆ HTN is all but inevitable in the USA.
- ◆ It is caused primarily by an abnormal electrolyte imbalance, especially excess salt
- ◆ A diet very low in salt and high in potassium has been proven to reverse HTN in most people.
- ◆ A diet high in vegetables, whole grains, fruits, nonfat dairy, and a little seafood is safer and more effective than drugs for most people with high blood pressure.

For More Information

Hypertension and Salt Toxicity
CPE Course Available at:
www.foodandhealth.com