Primary Prevention of Cardiovascular Disease: ACC/AHA Guidelines in a Global Context

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Our Mission

To Transform Cardiovascular Care
&
Improve Heart Health

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The ACC Vision

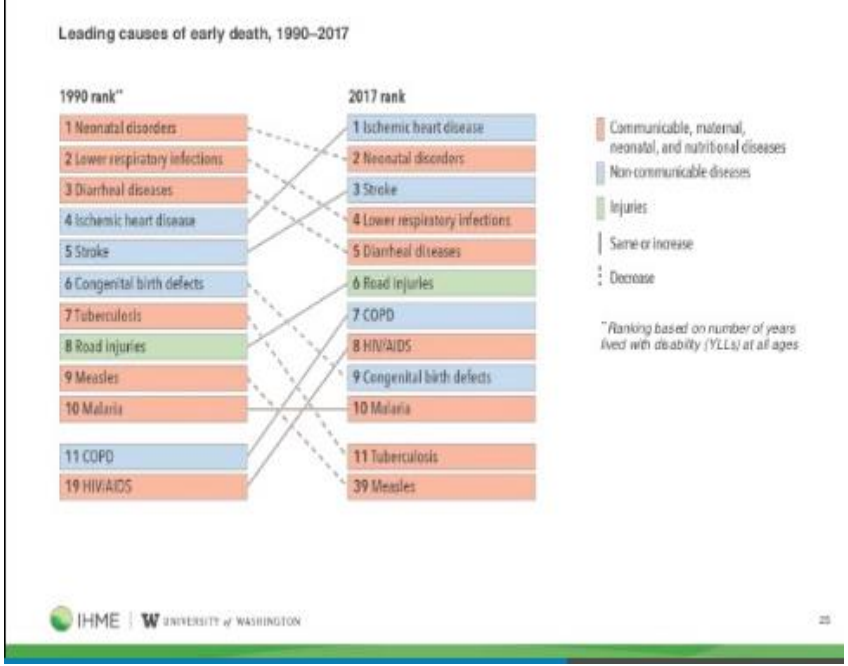
A world where **innovation** and **knowledge** optimize cardiovascular care and outcomes.

Objectives

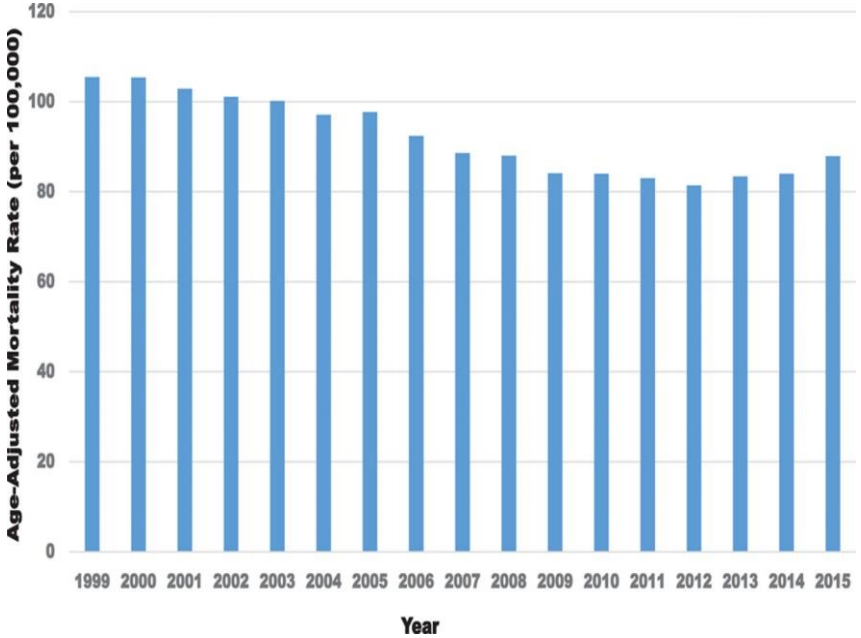
- Emphasize points of consensus on the impact of prevention on the populations we serve.
- Promote bidirectional communication on the issues – we can learn from each other
- Recognize our differences – but concentrate on the bigger issues

We Face a Common Foe, but Different Manifestations of the Problem

Global Burden of Disease Shift

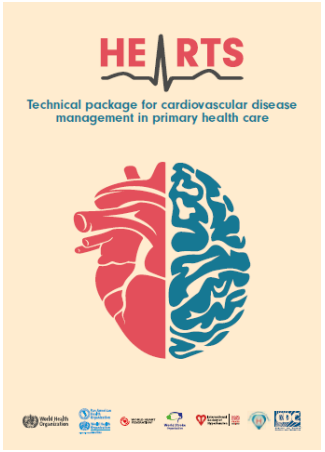


U.S. Decline in CV Mortality Slowing



Decline in Cardiovascular Mortality, Volume: 120, Issue: 2, Pages: 366-380, DOI: (10.1161/CIRCRESAHA.116.309115)

My First Exposure to the HEARTS Program



H HEALTHY LIFESTYLE
Counselling on tobacco cessation, diet, physical activity, alcohol use and self-care

E EVIDENCE-BASED TREATMENT PROTOCOLS
Simple, standardized algorithms for clinical care

A ACCESS TO ESSENTIAL MEDICINES AND TECHNOLOGY
Access to core set of affordable medicines and basic technology

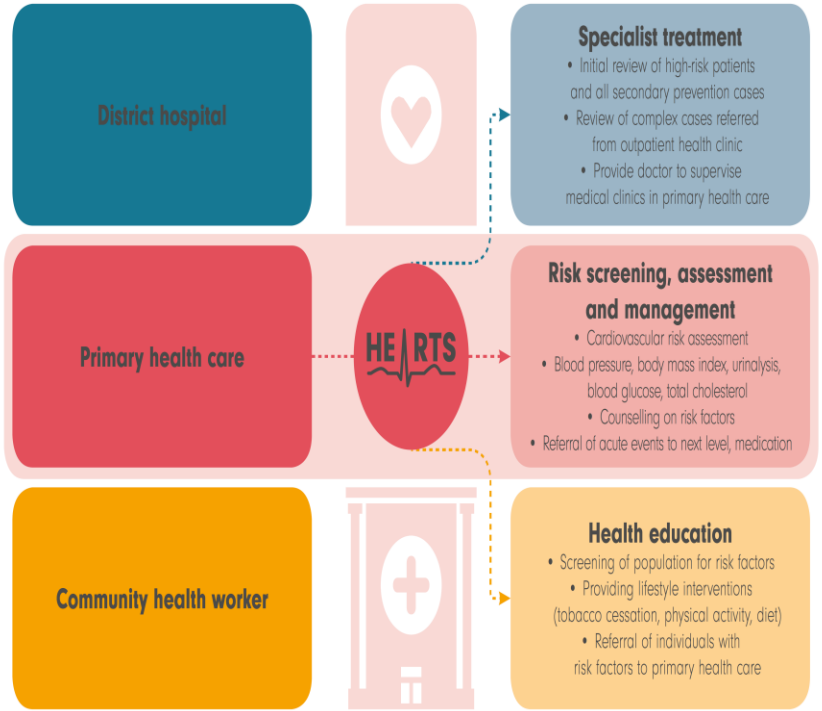
R RISK-BASED MANAGEMENT
Total cardiovascular risk assessment, treatment and referral

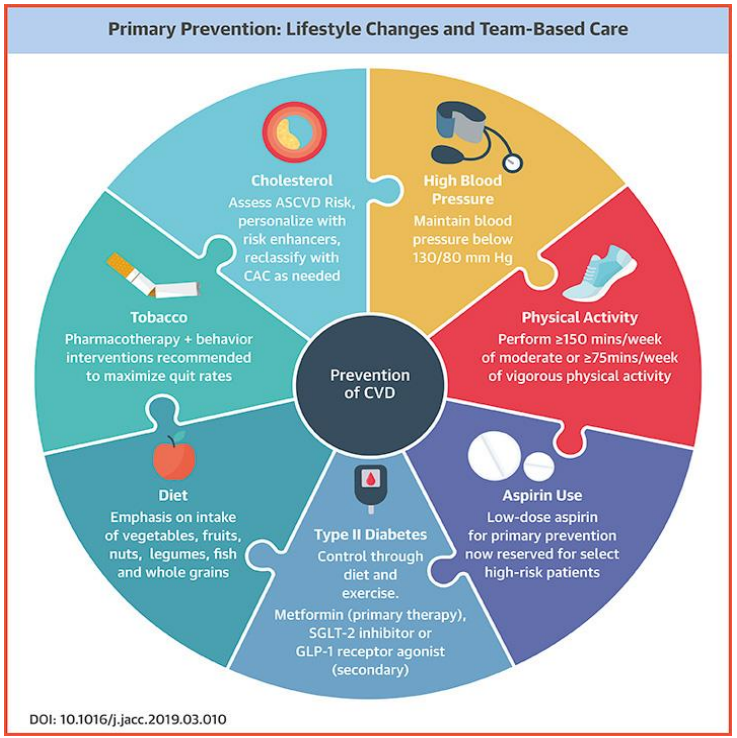
T TEAM CARE AND TASK-SHARING
Decentralized, community-based and patient-centred care

S SYSTEMS FOR MONITORING
Patient data collection and programme evaluation

ts: technical package for cardiovascular disease management in primary health care. 2016 (http://www.who.int)

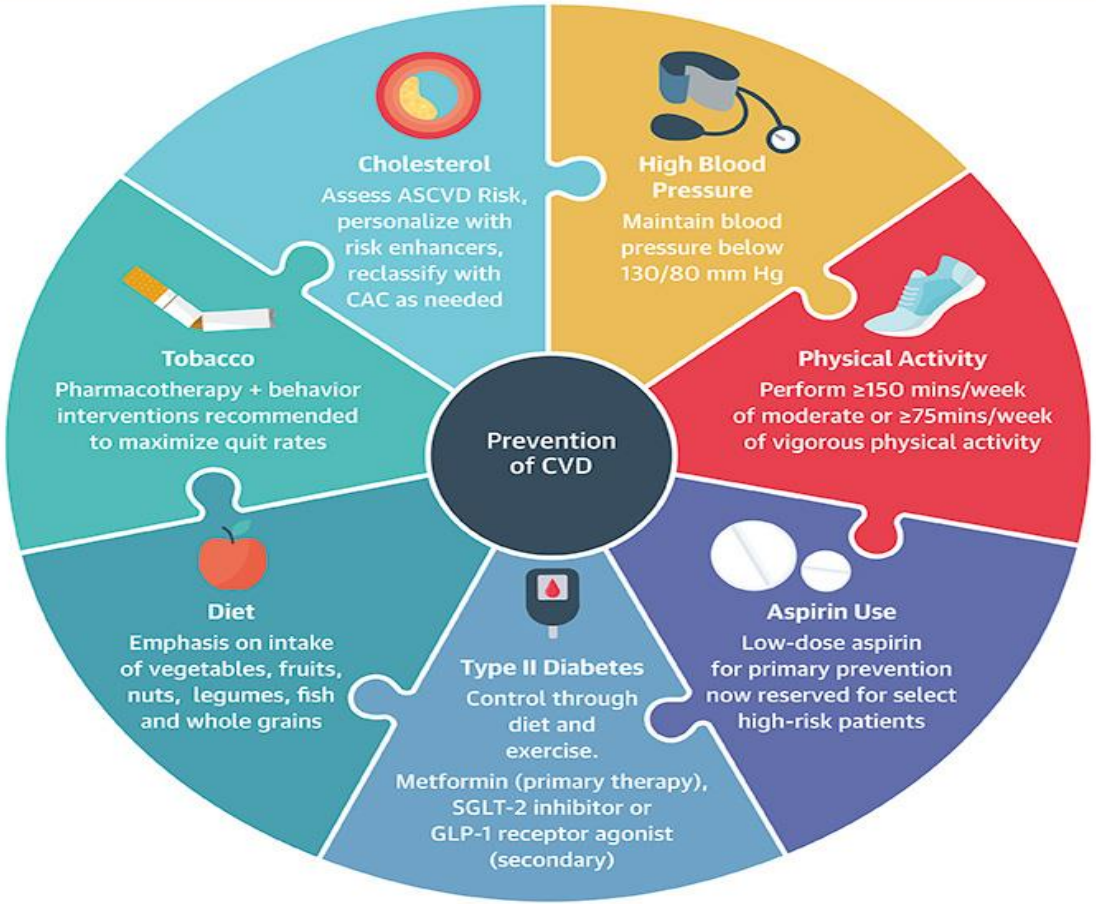
We have very similar approaches!





WHO. Hearts: technical package for cardiovascular disease management in primary health care. 2016 (http://www.who.int)

Primary Prevention: Lifestyle Changes and Team-Based Care



DOI: 10.1016/j.jacc.2019.03.010

2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: Executive Summary

Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, the American Geriatric Society, the American Society of Preventive Cardiology, and the Preventive Cardiovascular Nurses Association

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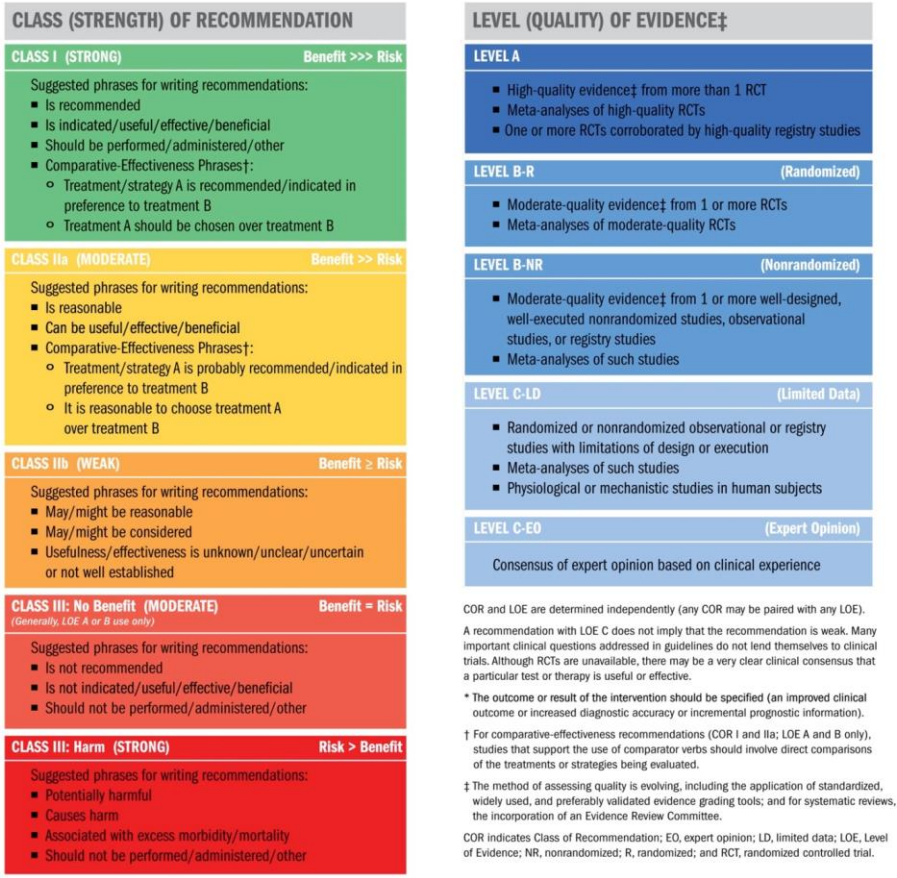
Table 1. Applying Class of Recommendation and Level of Evidence to Clinical Strategies, Interventions, Treatments, or Diagnostic Testing in Patient Care*

(Updated August 2015)



CLASS (STRENGTH) OF RECOMMENDATION

CLASS I (STRONG) — Benefit >>> Risk

Suggested phrases for writing recommendations:
- Is recommended
- Is indicated/useful/effective/beneficial
- Should be performed/administered/other
- Comparative-Effectiveness Phrases†:
  - Treatment/strategy A is recommended/indicated in preference to treatment B
  - Treatment A should be chosen over treatment B

CLASS IIa (MODERATE) — Benefit >> Risk

Suggested phrases for writing recommendations:
- Is reasonable
- Can be useful/effective/beneficial
- Comparative-Effectiveness Phrases†:
  - Treatment/strategy A is probably recommended/indicated in preference to treatment B
  - It is reasonable to choose treatment A over treatment B

CLASS IIb (WEAK) — Benefit ≥ Risk

Suggested phrases for writing recommendations:
- May/might be reasonable
- May/might be considered
- Usefulness/effectiveness is unknown/unclear/uncertain or not well established

CLASS III: No Benefit (MODERATE) — Benefit = Risk

(Generally, LOE A or B use only)

Suggested phrases for writing recommendations:
- Is not recommended
- Is not indicated/useful/effective/beneficial
- Should not be performed/administered/other

CLASS III: Harm (STRONG) — Risk > Benefit

Suggested phrases for writing recommendations:
- Potentially harmful
- Causes harm
- Associated with excess morbidity/mortality
- Should not be performed/administered/other

LEVEL (QUALITY) OF EVIDENCE‡

LEVEL A
- High-quality evidence‡ from more than 1 RCT
- Meta-analyses of high-quality RCTs
- One or more RCTs corroborated by high-quality registry studies

LEVEL B-R (Randomized)
- Moderate-quality evidence‡ from 1 or more RCTs
- Meta-analyses of moderate-quality RCTs

LEVEL B-NR (Nonrandomized)
- Moderate-quality evidence‡ from 1 or more well-designed, well-executed nonrandomized studies, observational studies, or registry studies
- Meta-analyses of such studies

LEVEL C-LD (Limited Data)
- Randomized or nonrandomized observational or registry studies with limitations of design or execution
- Meta-analyses of such studies
- Physiological or mechanistic studies in human subjects

LEVEL C-EO (Expert Opinion)

Consensus of expert opinion based on clinical experience

COR and LOE are determined independently (any COR may be paired with any LOE).

A recommendation with LOE C does not imply that the recommendation is weak. Many important clinical questions addressed in guidelines do not lend themselves to clinical trials. Although RCTs are unavailable, there may be a very clear clinical consensus that a particular test or therapy is useful or effective.

* The outcome or result of the intervention should be specified (an improved clinical outcome or increased diagnostic accuracy or incremental prognostic information).

† For comparative-effectiveness recommendations (COR I and IIa; LOE A and B only), studies that support the use of comparator verbs should involve direct comparisons of the treatments or strategies being evaluated.

‡ The method of assessing quality is evolving, including the application of standardized, widely used, and preferably validated evidence grading tools; and for systematic reviews, the incorporation of an Evidence Review Committee.

COR indicates Class of Recommendation; EO, expert opinion; LD, limited data; LOE, Level of Evidence; NR, nonrandomized; R, randomized; and RCT, randomized controlled trial.

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Top 10 Take-Home Messages

2019 Primary Prevention Guidelines

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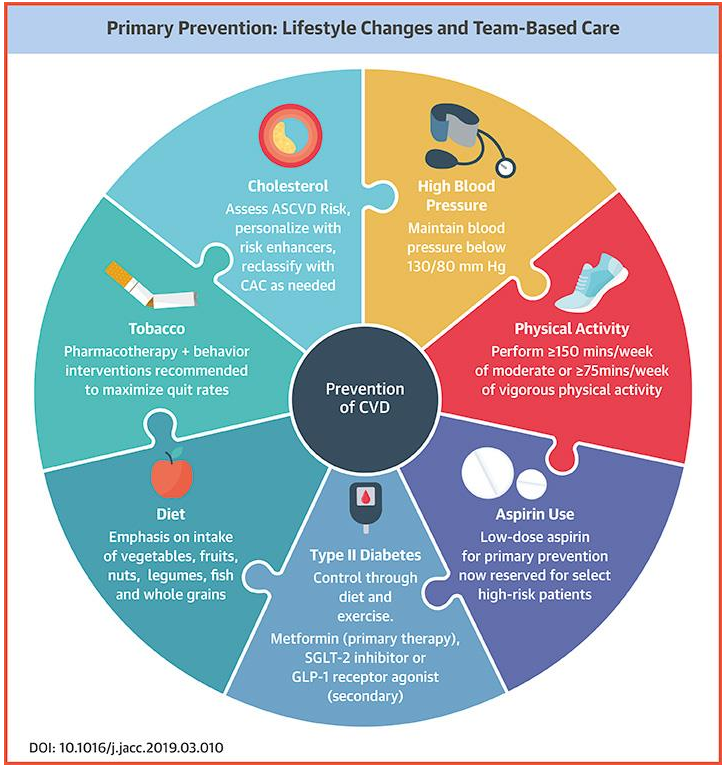
Take Home Message #1 - Healthy Lifestyle

- The most important way to prevent atherosclerotic vascular disease, heart failure, and atrial fibrillation is to promote a ***healthy lifestyle*** **throughout life.**



Take Home Message #2 - Shared Decision

Team Based

Patient Centered

- Psychosocial
- Economic
- Cultural
- Health literacy
- Food access
- Environmental
- Sleep quality
- Family and social support

Top 10 Take Home Messages: #3

- Adults 40--75 years of age being evaluated for CVD prevention should undergo 10-year atherosclerotic cardiovascular disease risk estimation.
- Clinician–patient risk discussion before starting pharmacological therapy, such as antihypertensive therapy, statin, or aspirin
- Risk-enhancing factors and calcium scoring may help guide decisions about preventive interventions in select individuals

Top 10 Take Home Messages: #3

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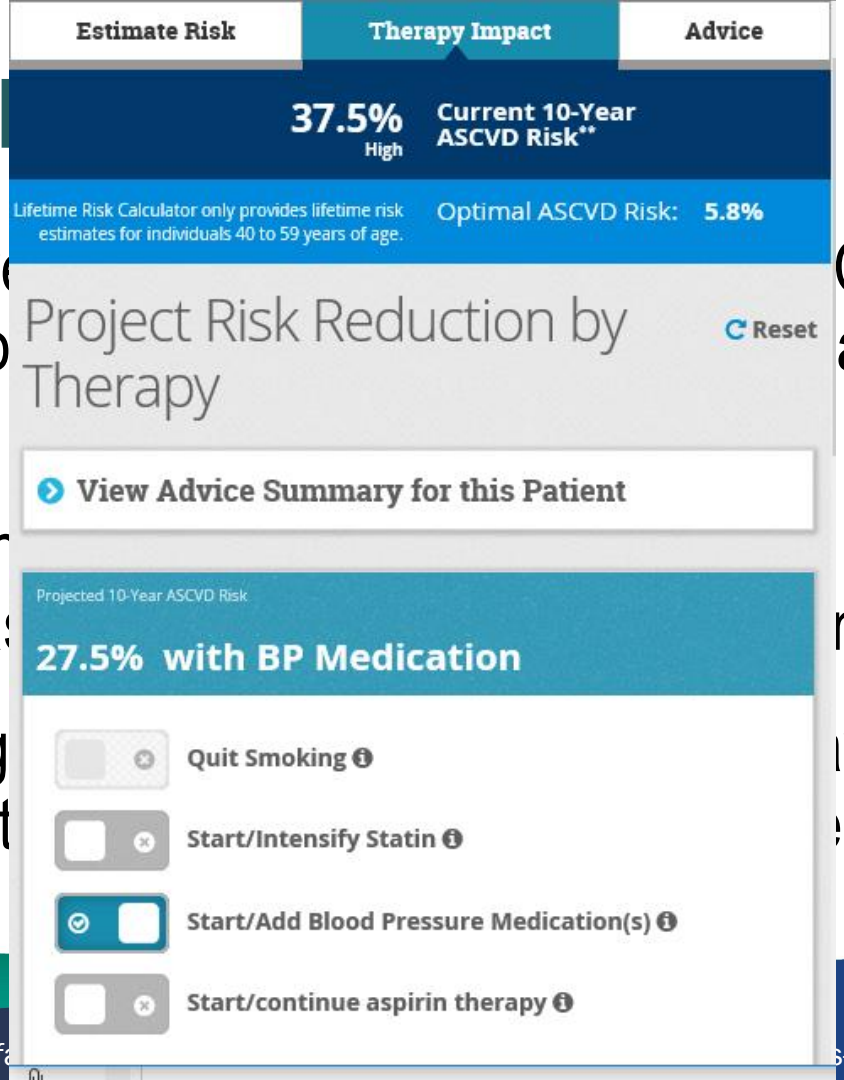

Take Home Message #4 - Food

- Consume a healthy diet
- Emphasize vegetables, fruits, nuts, whole grains, lean vegetable or animal protein, and fish
- Minimize *trans* fats, red meat and processed red meats, refined carbohydrates, and sweetened beverages.
- Counseling and caloric restriction recommended for achieving/maintaining weight loss for overweight and obese adults

Take Home Message #5 - Exercise

- At least 150 minutes per week of moderate-intensity physical activity

OR

- 75 minutes per week of vigorous-intensity physical activity

Intensity	METs	Examples
Sedentary behavior*	1–1.5	Sitting, reclining, or lying; watching television
Light	1.6–2.9	Walking slowly, cooking, light housework
Moderate	3.0 –5.9	Brisk walking (2.4–4 mph), biking (5–9 mph), ballroom dancing, active yoga, recreational swimming
Vigorous	≥6	Jogging/running, biking (≥10 mph), singles tennis, swimming laps

Take Home Message #6 - Type 2 Diabetes

- Lifestyle changes crucial
- Medical therapy (when indicated)
  - First-line therapy - Metformin
  - Followed by sodium-glucose cotransporter 2 inhibitor(SGLT-2i) or glucagon-like peptide-1 receptor agonist (GLP1-RA)

Take Home Message #7 - Tobacco

- All adults should be assessed at every healthcare visit for tobacco use
- Those who use tobacco should be assisted and strongly advised to quit

Take Home Message

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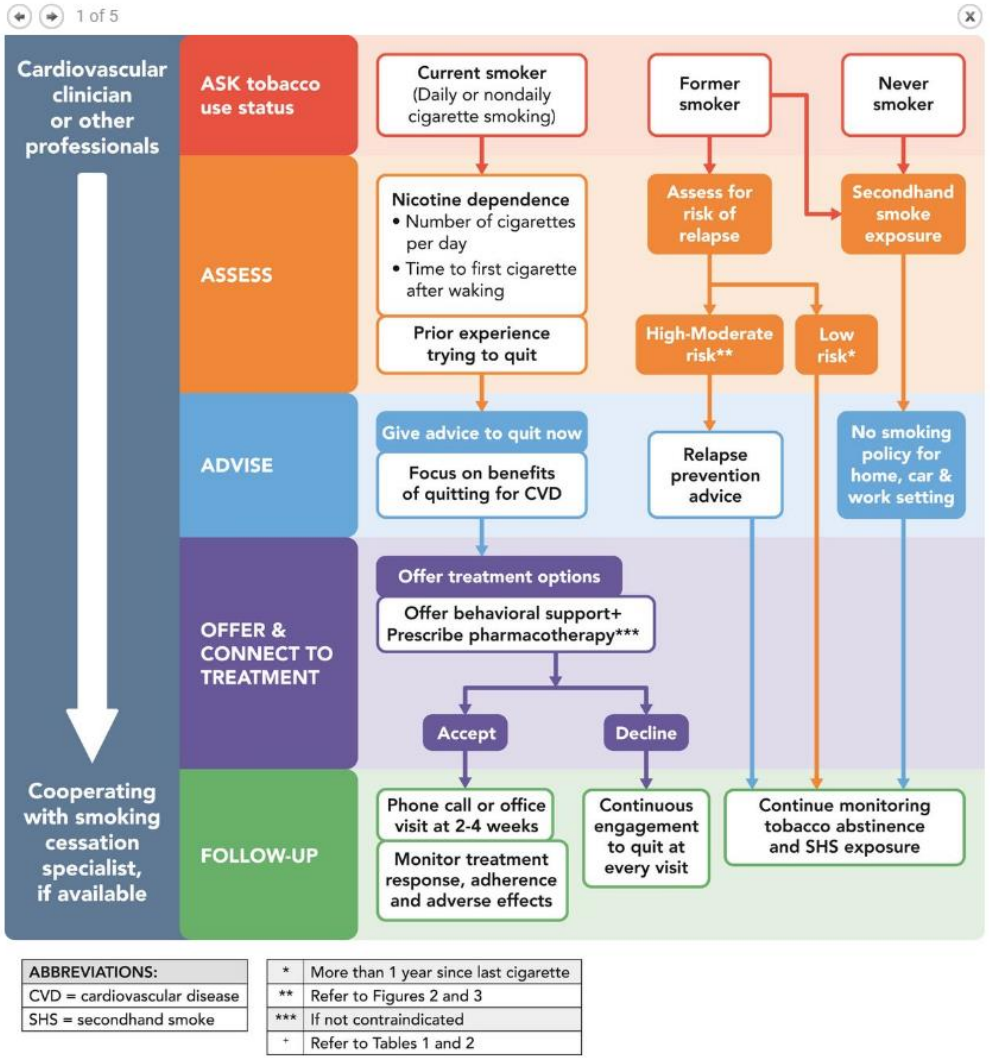
ACC Expert Consensus Decision Pathway JACC Dec. 2018



Take Home Message #8 - Aspirin

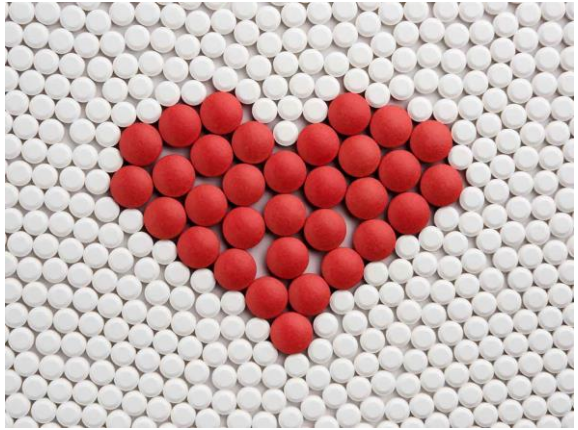
Aspirin should be used **infrequently** in the routine primary prevention of ASCVD because of lack of net benefit

COR	LOE	Recommendations
IIb	A	1. Low-dose aspirin (75-100 mg orally daily) might be considered for the primary prevention of ASCVD among select adults 40 to 70 years of age who are at higher ASCVD risk but not at increased bleeding risk.
III: Harm	B-R	2. Low-dose aspirin (75-100 mg orally daily) should not be administered on a routine basis for the primary prevention of ASCVD among adults >70 years of age.
III: Harm	C-LD	3. Low-dose aspirin (75-100 mg orally daily) should not be administered for the primary prevention of ASCVD among adults of any age who are at increased risk of bleeding.

http://www.onlinejacc.org/sites/default/files/additional_assets/guidelines/Prevention-Guidelines-Made-Simple.pdf

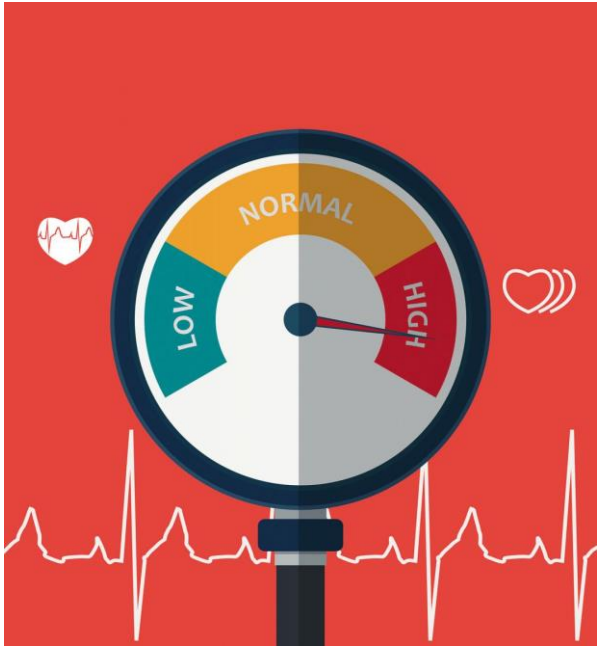
Take Home Message #9 - Statins

- First-line treatment for primary prevention of ASCVD in the following patients
  - Elevated low-density lipoprotein cholesterol levels (≥190 mg/dL)
  - Diabetes mellitus, who are 40 to 75 years of age
  - Elevated ASCVD risk after a clinician–patient risk discussion



Take Home Message #10 - Hypertension

- Nonpharmacological interventions recommended
- Target blood pressure for those requiring pharmacological therapy: <130/80 mm Hg

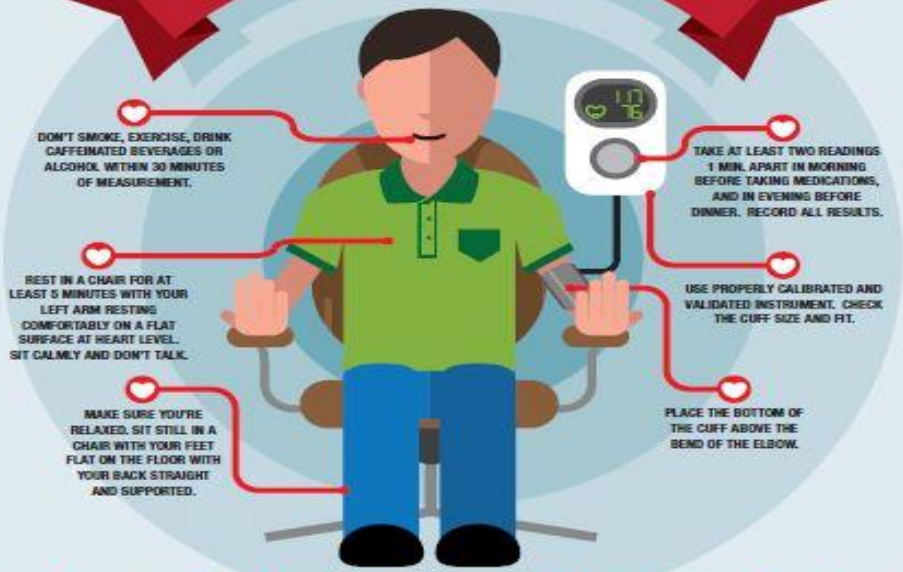


Take Home [illegible]ension

- Nonpharmac[illegible]
  recommende[illegible]
- Target blood [illegible]
  pharmacologi[illegible]

BLOOD PRESSURE MEASUREMENT INSTRUCTIONS

American Heart Association | American Stroke Association
Life is why



American Heart Association recommended blood pressure levels

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120–129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130–139	or	80–89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

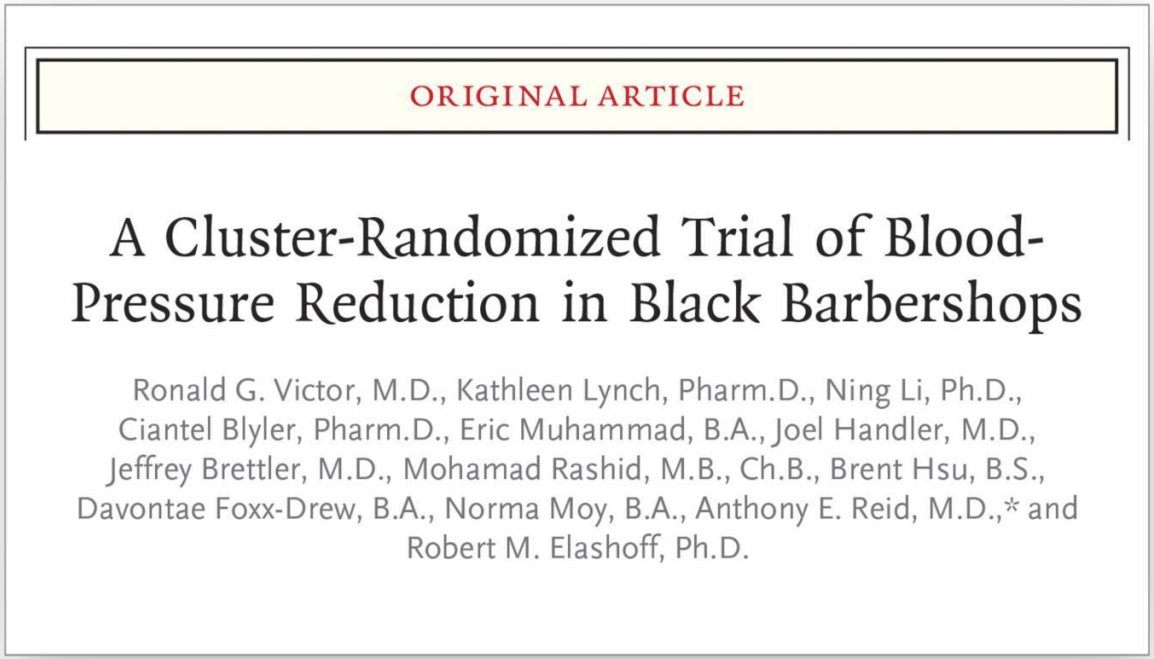
*Wait a few minutes and take blood pressure again. If it is still high, contact your doctor immediately.

LEARN MORE AT HEART.ORG/HBP

#1: Measure Accurately

Changes in recommendations	
2013	2018
Diagnosis	**Diagnosis**
Office BP is recommended for screening and diagnosis of hypertension.	It is recommended to base the diagnosis of hypertension on: • Repeated office BP measurements; or • Out-of-office BP measurement with ABPM and/or HBPM if logistically and economically feasible.

Deliver Patient-Centered Care



ORIGINAL ARTICLE

A Cluster-Randomized Trial of Blood-Pressure Reduction in Black Barbershops

Ronald G. Victor, M.D., Kathleen Lynch, Pharm.D., Ning Li, Ph.D., Ciantel Blyler, Pharm.D., Eric Muhammad, B.A., Joel Handler, M.D., Jeffrey Brettler, M.D., Mohamad Rashid, M.B., Ch.B., Brent Hsu, B.S., Davontae Foxx-Drew, B.A., Norma Moy, B.A., Anthony E. Reid, M.D.,* and Robert M. Elashoff, Ph.D.

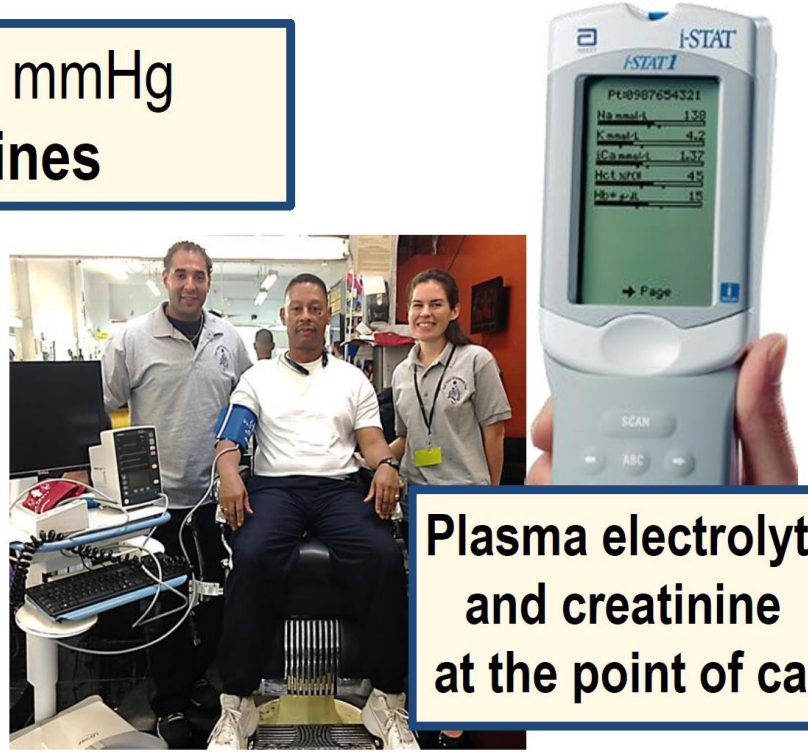
Intervention Group Medication Protocol

Goal: in-barbershop BP < 130/80 mmHg
= new 2017 ACC/AHA guidelines

Step 1. CCB *plus* ARB or ACEI
- amlodine *plus* irbesartan

Step 2. *add* thiazide-type diuretic
- indapamide

Step 3. *add* aldosterone antagonist
- eplerenone



Plasma electrolytes and creatinine at the point of care

Aim - to develop an effective intervention which links health promotion by barbers to drug therapy by pharmacists, and evaluate efficacy in a cluster RCT.

Randomized black male patrons with uncontrolled HTN by barbershop

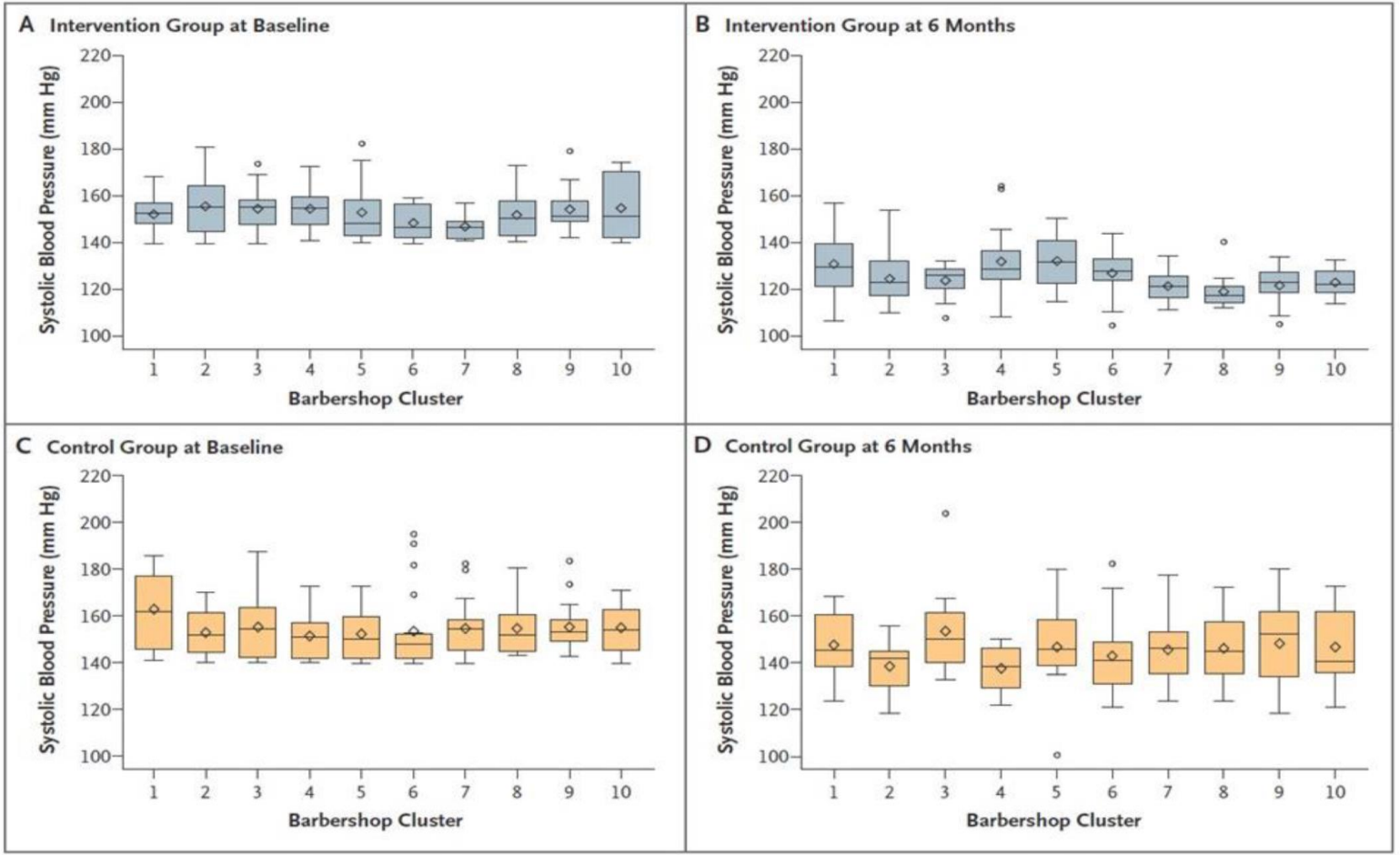
Intervention Group

- Barbers promoted follow up w/ specialty-trained pharmacists.
- Pharmacists met patrons monthly at the barbershops:
  - Checked BP
  - Prescribed medication (collaborative practice)
  - Monitored electrolytes
  - Sent progress notes to PCPs

Control Group

- Barbers promoted:
  - follow up w/ PCPs
  - lifestyle modification

Primary Outcome:
Δ systolic BP at 6 months


A Intervention Group at Baseline
B Intervention Group at 6 Months
C Control Group at Baseline
D Control Group at 6 Months
Systolic Blood Pressure (mm Hg)
Barbershop Cluster
100
120
140
160
180
200
220
1
2
3
4
5
6
7
8
9
10

What is the right BP level?

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CLINICAL PRACTICE GUIDELINE

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

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ESC/ESH Guidelines

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)

Journal of Hypertension 2018, 36:1953–2041
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CLINICAL GUIDELINE

ACP American College of Physicians®
Leading Internal Medicine, Improving Lives

Pharmacologic Treatment of Hypertension in Adults Aged 60 Years or Older to Higher Versus Lower Blood Pressure Targets: A Clinical Practice Guideline From the American College of Physicians and the American Academy of Family Physicians

Amir Qaseem, MD, PhD, MHA; Timothy J. Wilt, MD, MPH; Robert Rich, MD; Linda L. Humphrey, MD, MPH; Jennifer Frost, MD; and Mary Ann Forciea, MD; for the Clinical Guidelines Committee of the American College of Physicians and the Commission on Health of the Public and Science of the American Academy of Family Physicians*

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CLINICAL GUIDELINE

ACP American College of Physicians® Leading Internal Medicine, Improving Lives

Pharmacologic Treatment of Hypertension in Adults Aged 60 Years or Older to Higher Versus Lower Blood Pressure Targets: A Clinical Practice Guideline From the American College of Physicians and the American Academy of Family Physicians

Amir Qaseem, MD, PhD, MHA; Timothy J. Wilt, MD, MPH; Robert Rich, MD; Linda L. Humphrey, MD, MPH; Jennifer Frost, MD; and Mary Ann Forciea, MD; for the Clinical Guidelines Committee of the American College of Physicians and the Commission on Health of the Public and Science of the American Academy of Family Physicians*

ESC/ESH Guidelines

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

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CLINICAL PRACTICE GUIDELINE

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

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ELSEVIER

Check for updates

Canadian Journal of Cardiology 34 (2018) 526–531

Guidelines

Hypertension Canada's 2018 Guidelines for the Management of Hypertension in Pregnancy

Sonia Butalia, BSc, MD, MSc,[a,b,c] Francois Audibert, MD, MSc,[d] Anne-Marie Côté, MD, MHSc,[e] Tabassum Firoz, MD, MSc,[f] Alexander G. Logan, MD,[g] Laura A. Magee, MD, MSc,[h,i] William Mundle, MD,[j] Evelyne Rey, MD, MSc,[k] Doreen M. Rabi, MD, MSc,[a,b,c] Stella S. Daskalopoulou, MD, PhD,[l] and Kara A. Nerenberg, MD, MSc;[b,c,m] for Hypertension Canada

I wish I had said that…

Finally, amid all the attention to the new guideline, the most important message remains that we should continue to focus on ensuring that there is no person in any country with substantially raised blood pressure who does not have the opportunity for treatment and risk reduction. Any debate about ideal targets for individuals should not distract us from the important work of eliminating severe hypertension.

Blood pressure guidelines as starting point in clinical decisions

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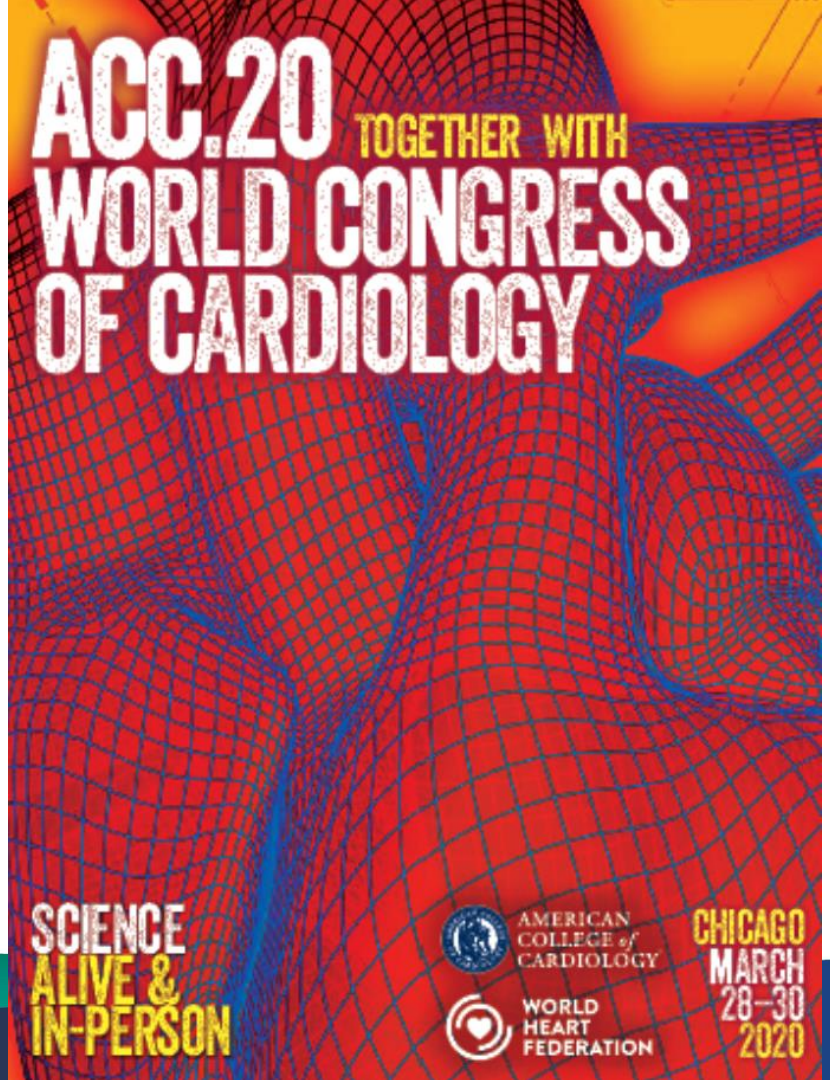
The New ACC/AHA Hypertension Guidelines: Making 130 the NEW 140 and its Impact in Singapore

Dr Low Lip Ping
Low Cardiology Clinic
Mt Elizabeth Medical Centre
8 April 2018

The New ACC/AHA Hypertension Guidelines: Making 130 the NEW 140 and its Impact in Singapore

It's 130/80!

We'll stick to 140/90!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Thank You