

MESA REDONDA
LO MEJOR DEL AÑO EN 10 MINUTOS

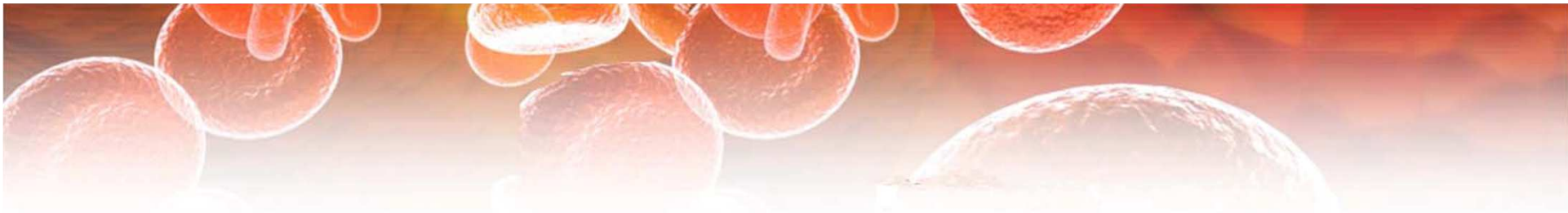
Guías de riesgo

José I. Cuende

Consulta de Riesgo Cardiovascular

Servicio de Medicina Interna

Complejo Asistencial Universitario de Palencia



Guías de riesgo

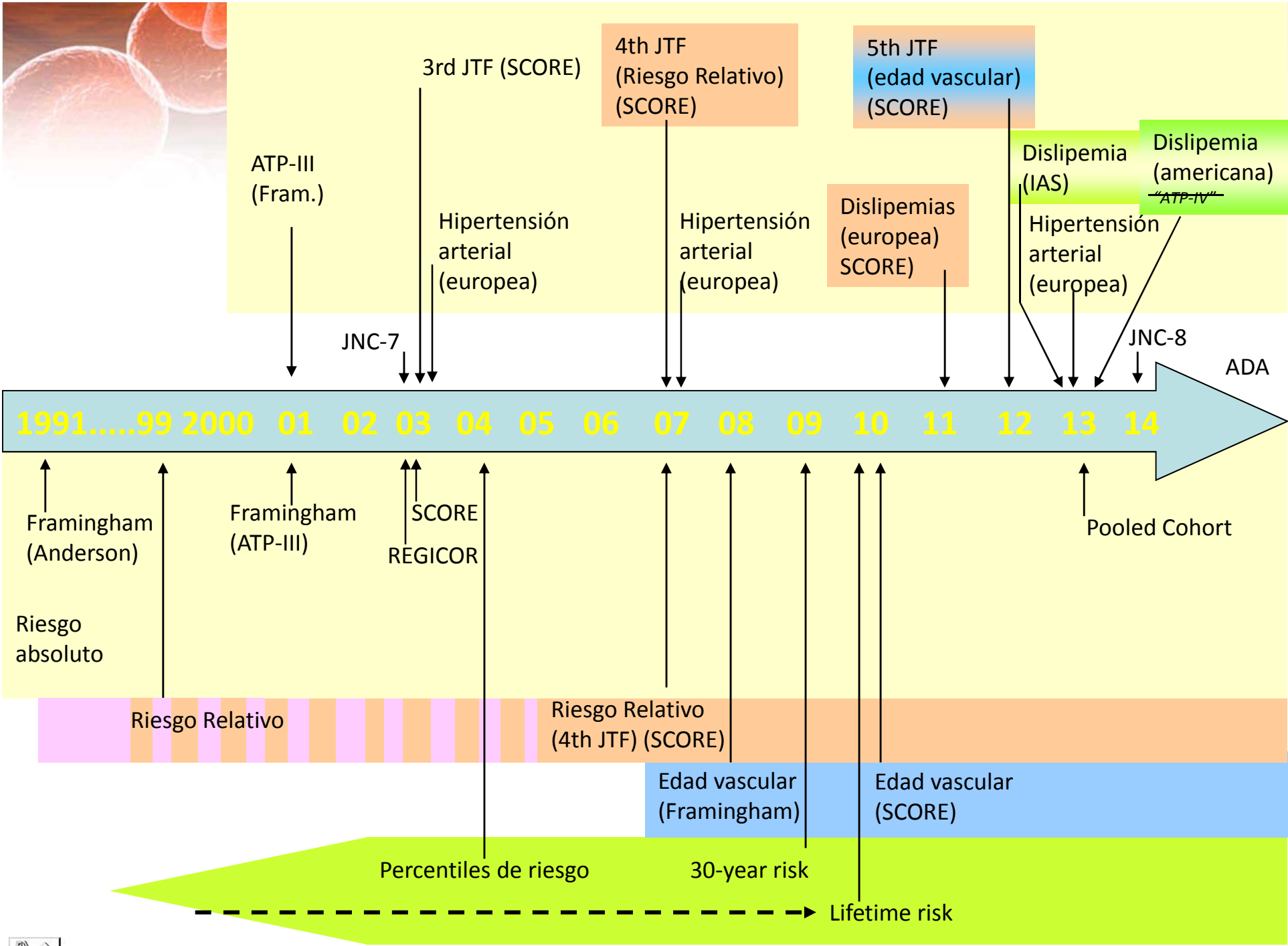
ADA
2011
Hipertensión
Edad vascular
NICE
Framingham

Europeas
Prevencción cardiovascular
2013
Riesgo de por vida
SCORE

Diabetes
Riesgo relativo
ESC
Riesgo absoluto
JNC
SCORE

Dislipemia
2014
ATP
EAS
REGICOR

2012
Españolas



Circulation. 2013 Nov 12. [Epub ahead of print]

2013 ACC/AHA Guideline on the Assessment of Cardiovascular Risk: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

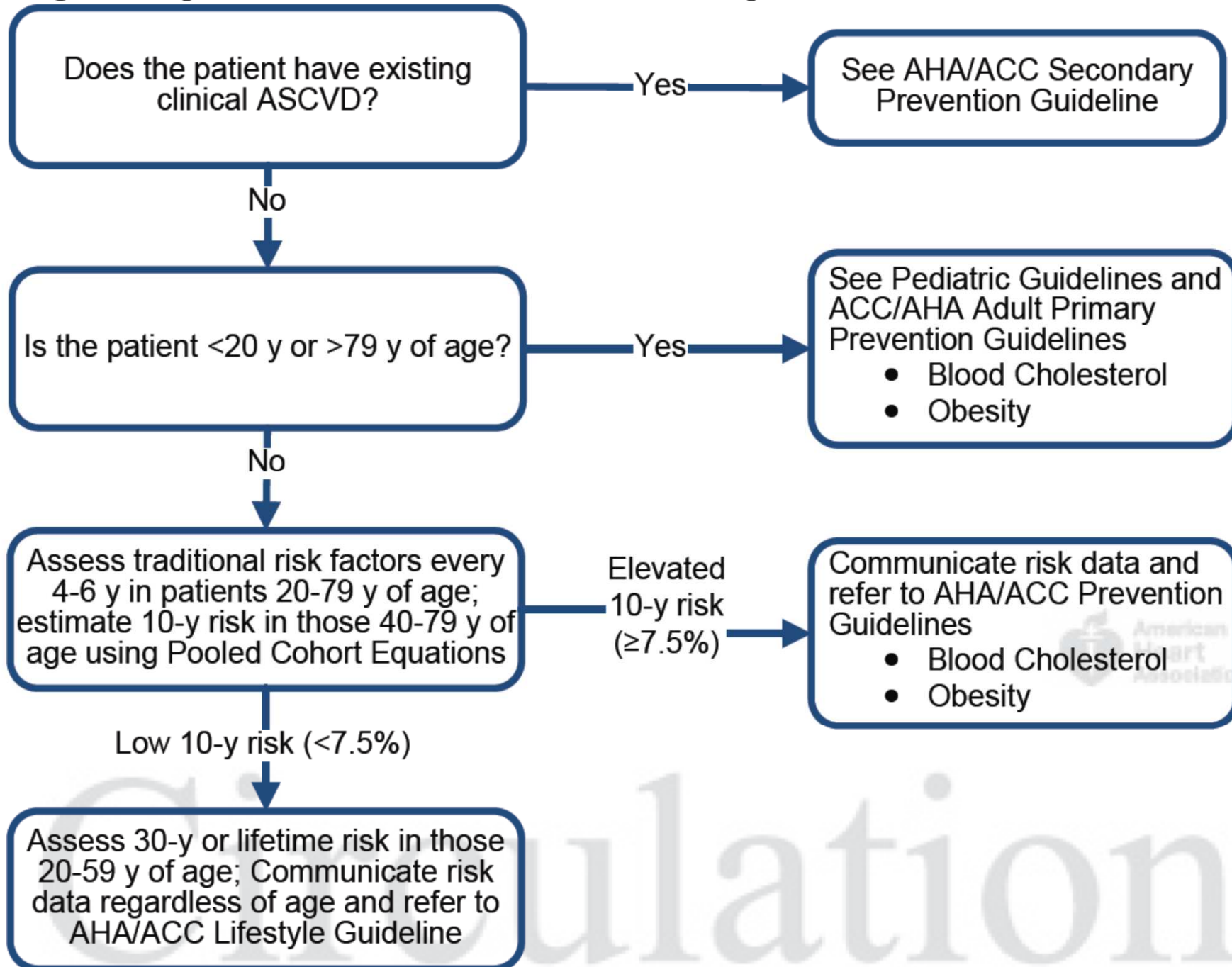
David C. Goff, Jr, Donald M. Lloyd-Jones, Glen Bennett, Sean Coady, Ralph B. D'Agostino, Sr, Raymond Gibbons, Philip Greenland, Daniel T. Lackland, Daniel Levy, Christopher J. O'Donnell, Jennifer Robinson, J. Sanford Schwartz, Susan T. Shero, Sidney C. Smith, Jr, Paul Sorlie, Neil J. Stone and Peter W.F. Wilson

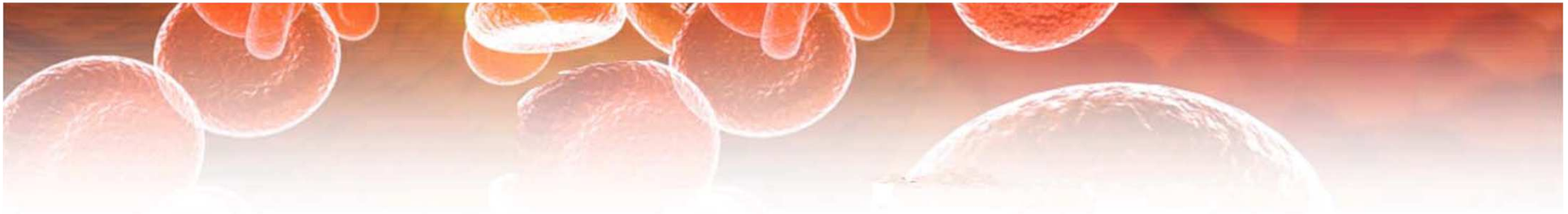
1. **2013 ACC/AHA Guideline on the Assessment of Cardiovascular Risk**
2. 2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol
3. 2013 AHA/ACC Guideline on Lifestyle Management
4. 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults

Appendix 3. Characteristics of Previously Published Risk Scores and Current Pooled Cohort Equations (Including Data Sources, Covariates, and Outcomes)

Risk Score				Risk Factors/Covariates Included														Cardiovascular Disease Events									
																		Hard CVD including cardiac failure		Hard ASCVD		Hard CHD		Total CHD		Total CHD including revascularization	
Study Group	Study and Region	Data Source	Publication Year	Age	Sex	Total Chol	LDL-Chol	HDL-Chol	CRP	Systolic BP	BP Rx	Diabetes	HbA1c*	Smoking	Family Hx CVD†	Body Mass Index	Social	Region	Coronary Revasc	Angina Pectoris	Unstable Angina	Myocardial Infarct	CHD Death	Stroke	Stroke Death	Cardiac Failure	TIA
Framingham CHD (56)	Framingham MA, USA	EAF, EAM	1998	x	x	x	x	x		x		x		x						x	x	x	x				
ATP III (25)	Framingham MA, USA	EAF, EAM	2001	x	x	x		x		x	x			x									x	x			
Framingham Global (57)	Framingham MA, USA	EAF, EAM	2008	x	x	x		x		x	x	x		x								x	x	x	x	x	
PRO-CAM (58)	Muenster, Germany	EM	2002	x			x	x		x		x		x	x							x	x				
CRISK (59)	GRESE ARCH, United Kingdom	EF, EM	2007	x	x	x		x		x	x			x	x	x	x ²	x	x	x	x	x	x	x	x	x	x
Reynolds Men (60)	Phys Health Study USA	EAF	2008	x		x		x	x	x				x	x				x			x	x	x	x		
Reynolds Women (61)	Women's Health Study USA	EAM	2007	x		x		x	x	x			x	x	x				x			x	x	x	x		
EURO-SCORE (62)	12 cohorts Europe	EF, EM	2003	x	x	x		x		x				x				x					x		x		
Pooled Cohort (current)	CARDIA, Framingham, ARIC, CHS, USA	EAF, EAM, AAF, AAM		x	x	x		x		x	x	x		x								x	x	x	x		

Figure 1. Implementation of Risk Assessment Work Group Recommendations





Recommendation 1.

The race- and sex-specific Pooled Cohort Equations to predict 10-year risk for a first hard ASCVD* event should be used in nonHispanic African Americans and nonHispanic Whites, 40 to 79 years of age.

(Grade B, Moderate); ACC/AHA COR I, LOE B

Recommendation 2.

Use of the sex-specific Pooled Cohort Equations for nonHispanic Whites may be considered when estimating risk in patients from populations other than African Americans and nonHispanic Whites.

(Grade E, Expert Opinion); ACC/AHA COR IIb, LOE C

CQ1: “What is the evidence regarding reclassification or contribution to risk assessment when high-sensitivity C-reactive protein (hs-CRP), apolipoprotein B (ApoB), glomerular filtration rate (GFR), microalbuminuria, family history, cardiorespiratory fitness, ankle-brachial index (ABI), carotid intima-media thickness (CIMT), or coronary artery calcium (CAC) score are considered in addition to the variables that are in the traditional risk scores?”

Recommendation 1. If, after quantitative risk assessment, a risk-based treatment decision is uncertain, assessment of 1 or more of the following—family history, hs-CRP, CAC score, or ABI—may be considered to inform treatment decision making.

(Grade E, Expert Opinion); ACC/AHA COR Iib, LOE B

Recommendation 2. CIMT is not recommended for routine measurement in clinical practice for risk assessment for a first ASCVD event.

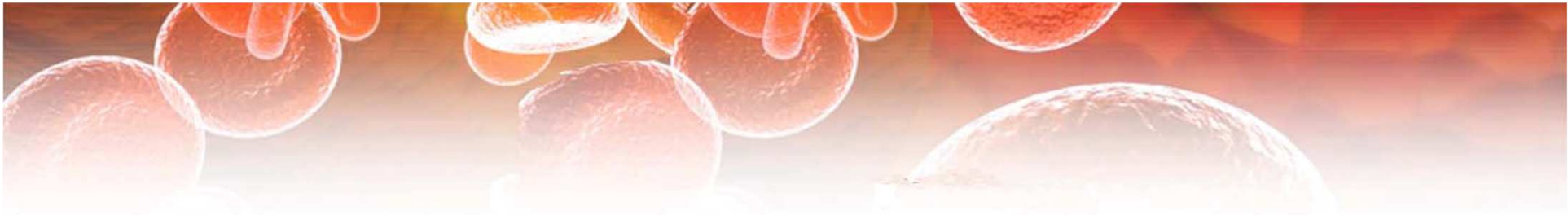
(Grade N, No Recommendation For or Against); ACC/AHA Class III: No Benefit, LOE B

- *Based on new evidence reviewed during ACC/AHA update of the evidence.*

Recommendation 3. The contribution to risk assessment for a first ASCVD event using ApoB, chronic kidney disease, albuminuria, or cardiorespiratory fitness is uncertain at present.

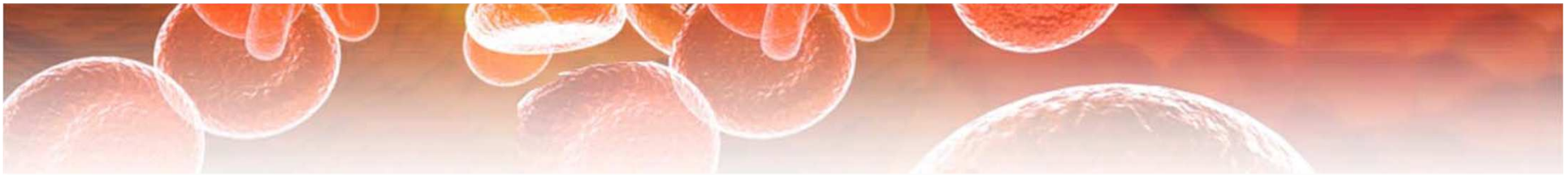
(Grade N, No Recommendation For or Against)





use of Newer Risk Markers After Quantitative Risk Assessment

Measure	Support Revising Risk Assessment Upward	Do Not Support Revising Risk Assessment
Family history of premature CVD	Male <55 years of age Female <65 years of age (1 st degree relative)	Occurrences at older ages only (if any)
hs-CRP	≥ 2 mg/L	<2 mg/L
CAC score	≥ 300 Agatston units or $\geq 75^{\text{th}}$ percentile for age, sex, and ethnicity*	<300 Agatston units and <75 percentile for age, sex, and ethnicity*
ABI	<0.9	≥ 0.9



CQ2: “Are models constructed to assess the long-term (≥ 15 years or lifetime) risk for a first cardiovascular disease (CVD) event in adults effective in assessing variation in long-term risk among adults at low and/or intermediate short-term risk, whether analyzed separately or combined?”

Recommendation 1. It is reasonable to assess traditional ASCVD risk factors every 4 to 6 years in adults 20 to 79 year of age who are free from ASCVD and estimate 10-year ASCVD risk every 4 to 6 years in adults 40 to 79 years of age who are free from ASCVD.

(Grade B, Moderate); ACC/AHA COR IIa, LOE B

Recommendation 2. Assessing 30-year or lifetime ASCVD risk based on traditional risk factors[†] may be considered in adults 20 to 59 years of age who are free from ASCVD and who are not at high short-term risk.

(Grade C, Weak); ACC/AHA COR IIb, LOE C

Pooled Cohort Risk Assessment Equations

Predicts 10-year risk for a first atherosclerotic cardiovascular disease (ASCVD) event

Risk Factors for ASCVD

Gender Male Female

Systolic BP mmHg

Age years

Receiving treatment for high blood pressure (if SBP > 120 mmHg) No Yes

Race

Diabetes No Yes

Total Cholesterol mg/dL

Smoker No Yes

HDL Cholesterol mg/dL

Reset

Calculate

⇌ US units

Q Search

Enter search

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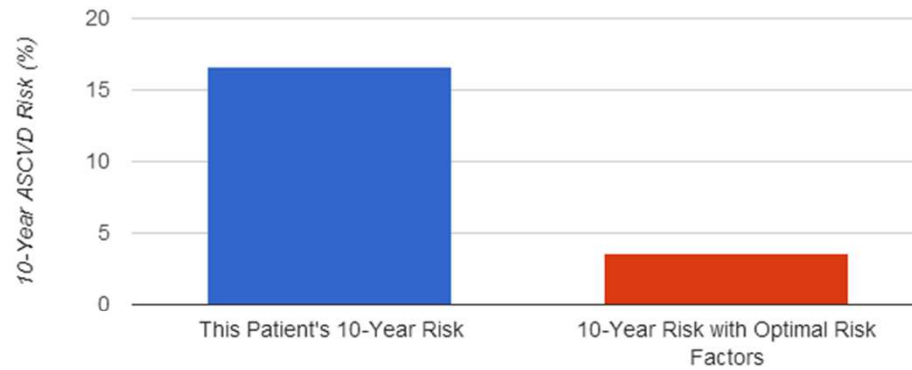
RESULTS


ASCVD Risk Evaluation

 Print

10-year risk of atherosclerotic cardiovascular disease: **16.6%**

10-year risk in a similar patient with optimal risk factors : **3.6%**



Lifetime risk of atherosclerotic cardiovascular disease : **50%**
(95% CI 46% to 55%)

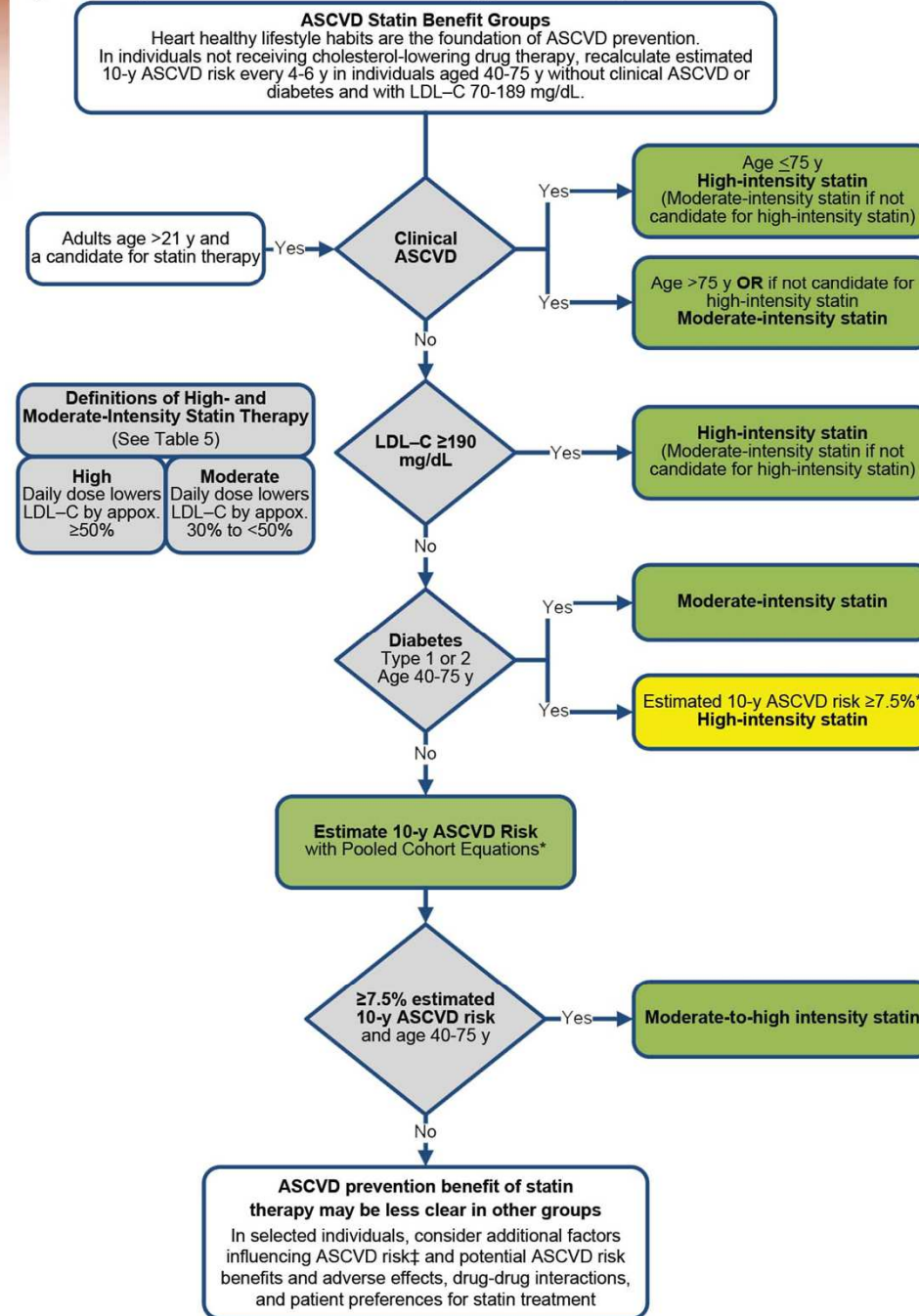
Lifetime risk for a 50-year-old with optimal risk factors : **5%**
(95% CI 0% to 12%)

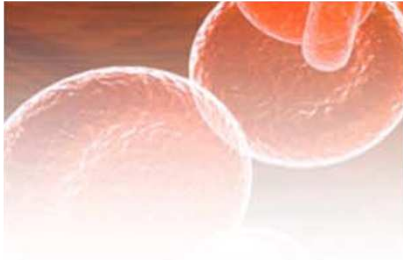
ASCVD Risk Interpretation ^{1,2}

- ▶ This patient is at ELEVATED 10-year risk ($\geq 7.5\%$) for atherosclerotic cardiovascular disease (ASCVD)
- ▶ In diabetics (40-75 years, LDL 70-189 mg/dL), a high-intensity statin should be considered with a 10-year ASCVD risk $\geq 7.5\%$
- ▶ In individuals not receiving cholesterol-lowering drug therapy, recalculate the 10-year ASCVD risk every 4 to 6 years (assuming age 40-75 years, no clinical ASCVD or diabetes, and LDL 70-189 mg/dL)



Figure 2. Major recommendations for statin therapy for ASCVD prevention



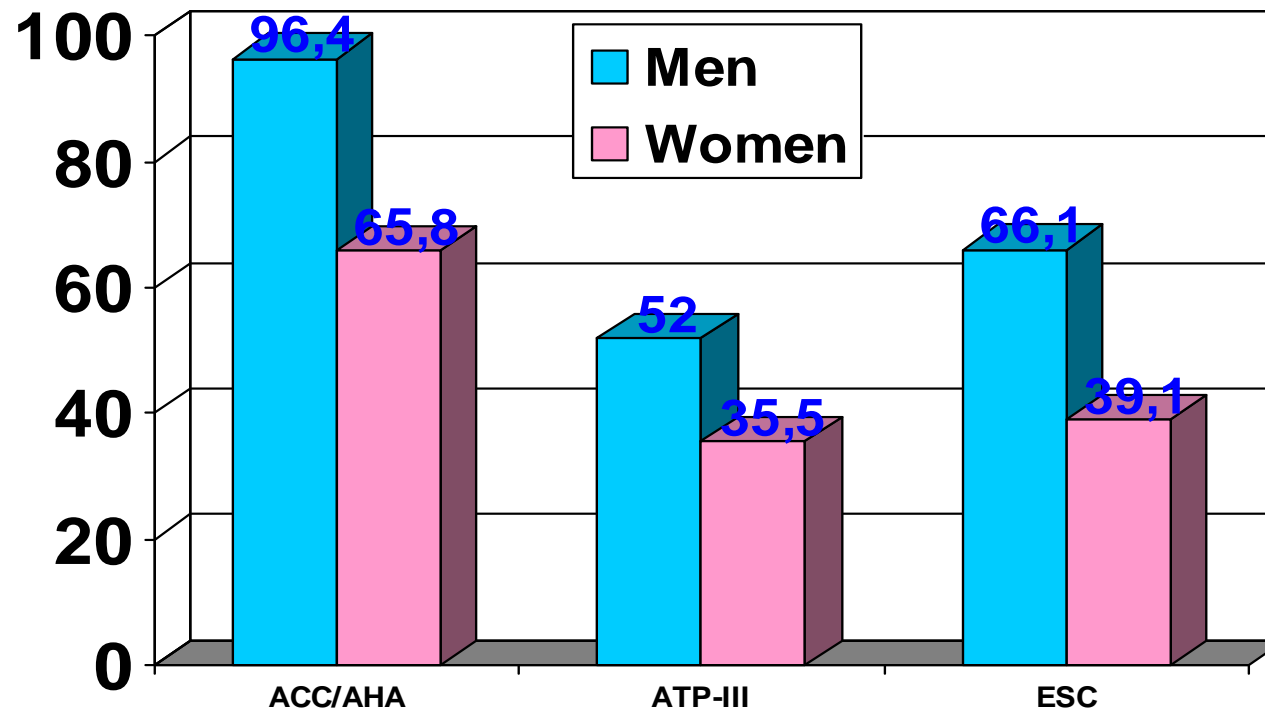


Comparison of Application of the ACC/AHA Guidelines, Adult Treatment Panel III Guidelines, and European Society of Cardiology Guidelines for Cardiovascular Disease Prevention in a European Cohort

Maryam Kavousi, MD, PhD¹; Maarten J. G. Leening, MD, MSc^{1,2}; David Nanchen, MD, MSc³; Philip Greenland, MD^{4,5}; Ian M. Graham, MD⁶; Ewout W. Steyerberg, PhD⁷; M. Arfan Ikram, MD, PhD^{1,8,9}; Bruno H. Stricker, MMed, PhD^{1,10,11}; Albert Hofman, MD, PhD¹; Oscar H. Franco, MD, PhD¹

JAMA. 2014;311(14):1416-1423. doi:10.1001/jama.2014.2632.

Statin treatment recommendation in 4854 individuals aged +55 y

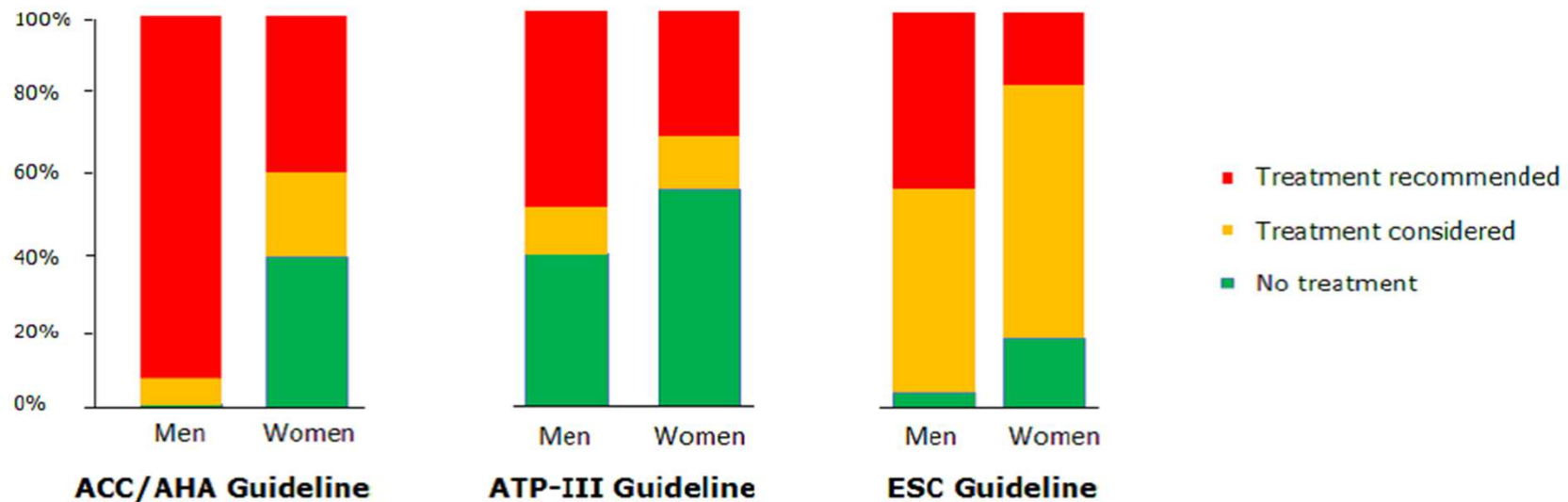


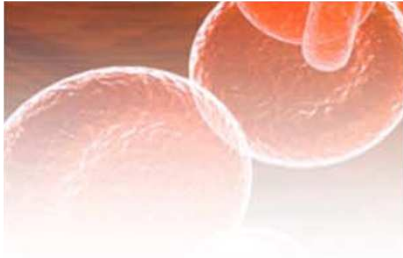
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A. Treatment recommendations for Rotterdam Study participants 55-65 years old (N=2069)^a, based on the 2013 ACC/AHA, 2001 ATP-III, and 2012 ESC guidelines





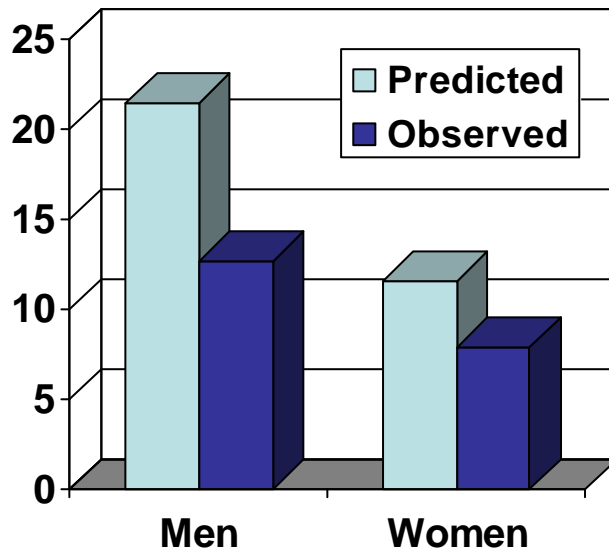
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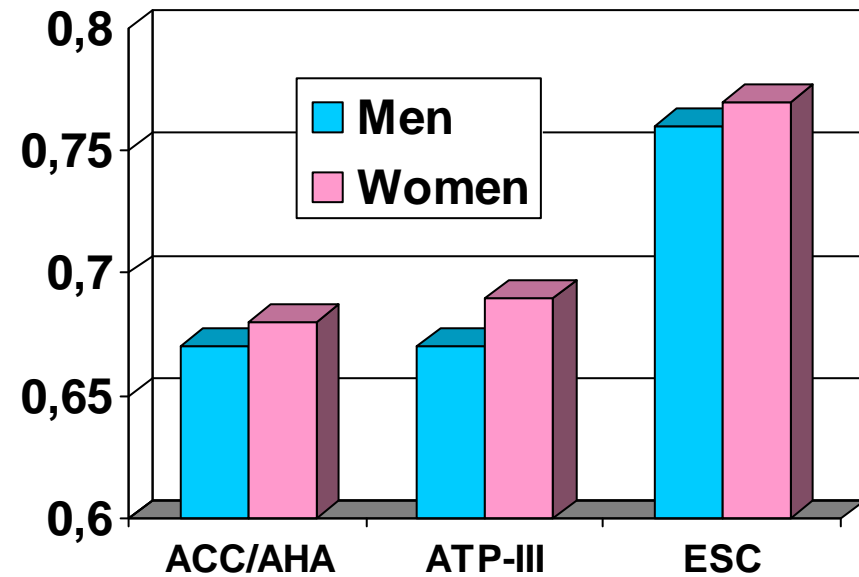
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JAMA. 2014;311(14):1416-1423. doi:10.1001/jama.2014.2632.

ACC/AHA model (pooled)



AUC (C-statistic)



Population and economic impact of the 2013 ACC/AHA guidelines compared with European guidelines to prevent cardiovascular disease.

Vaucher J, Marques-Vidal P, Preisig M, et al. Eur Heart J (2014) 35 (15): 958-959.

CURRENT OPINION

Ratio, Population at Risk by ACC/AHA vs ESC Guidelines Criteria, and Estimated Daily Cost of Resulting Statin Therapy in the Population of Switzerland

Age (y)	Men	Women ^a	Total	Daily cost ^b
50–60	30.6	—	33.2	447
60–70	2.1	5.8	2.5	884
70–75	1.0	1.1	1.1	572
All	2.2	1.9	2.1	2023

a. SCORE equation doesn't predict CV risk for women under 60 years

b. Cost of **atorvastatin** expressed in 1000s of Swiss francs



POOLED											
NON-SMOKER WOMEN					SMOKER WOMEN						
SBP					AGE	SBP				AGE	
180					65	180				65	
160					65	160				65	
140					65	140				65	
120					65	120				65	
	4	5	6	7	8		4	5	6	7	8
180					60	180				60	
160					60	160				60	
140					60	140				60	
120					60	120				60	
	4	5	6	7	8		4	5	6	7	8
180					55	180				55	
160					55	160				55	
140					55	140				55	
120					55	120				55	
	4	5	6	7	8		4	5	6	7	8
Cholesterol mmol/l											
NON-SMOKER MEN					SMOKER MEN						
SBP					AGE	SBP				AGE	
180					65	180				65	
160					65	160				65	
140					65	140				65	
120					65	120				65	
	4	5	6	7	8		4	5	6	7	8
180					60	180				60	
160					60	160				60	
140					60	140				60	
120					60	120				60	
	4	5	6	7	8		4	5	6	7	8
180					55	180				55	
160					55	160				55	
140					55	140				55	
120					55	120				55	
	4	5	6	7	8		4	5	6	7	8
Cholesterol mmol/l											



SCORE. LOW-RISK COUNTRIES.

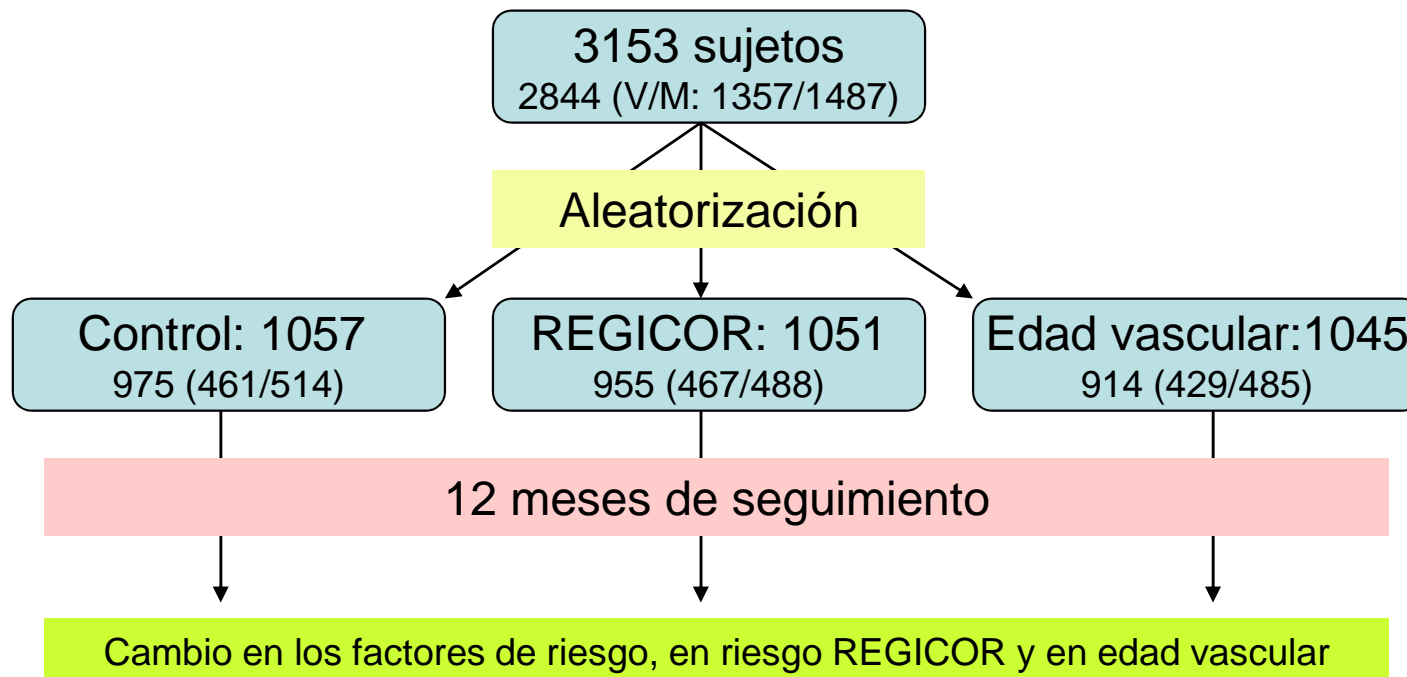
NON-SMOKER WOMEN						SMOKER WOMEN						
SBP					AGE	SBP					AGE	
180	4	5	6	7	8	65	4	5	6	7	8	65
160	4	5	6	7	8	65	4	5	6	7	8	65
140	4	5	6	7	8	65	4	5	6	7	8	65
120	4	5	6	7	8	65	4	5	6	7	8	65
180	4	5	6	7	8	60	4	5	6	7	8	60
160	4	5	6	7	8	60	4	5	6	7	8	60
140	4	5	6	7	8	60	4	5	6	7	8	60
120	4	5	6	7	8	60	4	5	6	7	8	60
180	4	5	6	7	8	55	4	5	6	7	8	55
160	4	5	6	7	8	55	4	5	6	7	8	55
140	4	5	6	7	8	55	4	5	6	7	8	55
120	4	5	6	7	8	55	4	5	6	7	8	55
Cholesterol mmol/l						Cholesterol mmol/l						
NON-SMOKER MEN						SMOKER MEN						
SBP					AGE	SBP					AGE	
180	4	5	6	7	8	65	4	5	6	7	8	65
160	4	5	6	7	8	65	4	5	6	7	8	65
140	4	5	6	7	8	65	4	5	6	7	8	65
120	4	5	6	7	8	65	4	5	6	7	8	65
180	4	5	6	7	8	60	4	5	6	7	8	60
160	4	5	6	7	8	60	4	5	6	7	8	60
140	4	5	6	7	8	60	4	5	6	7	8	60
120	4	5	6	7	8	60	4	5	6	7	8	60
180	4	5	6	7	8	55	4	5	6	7	8	55
160	4	5	6	7	8	55	4	5	6	7	8	55
140	4	5	6	7	8	55	4	5	6	7	8	55
120	4	5	6	7	8	55	4	5	6	7	8	55
Cholesterol mmol/l						Cholesterol mmol/l						

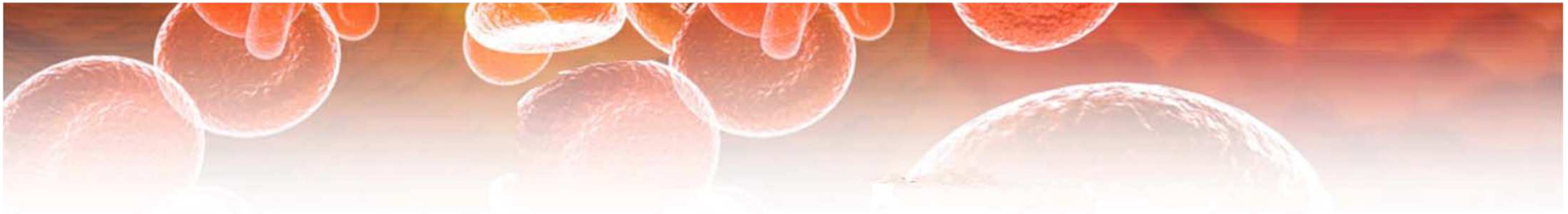


Effectiveness of the Heart Age tool for improving modifiable cardiovascular risk factors in a Southern European population: a randomized trial

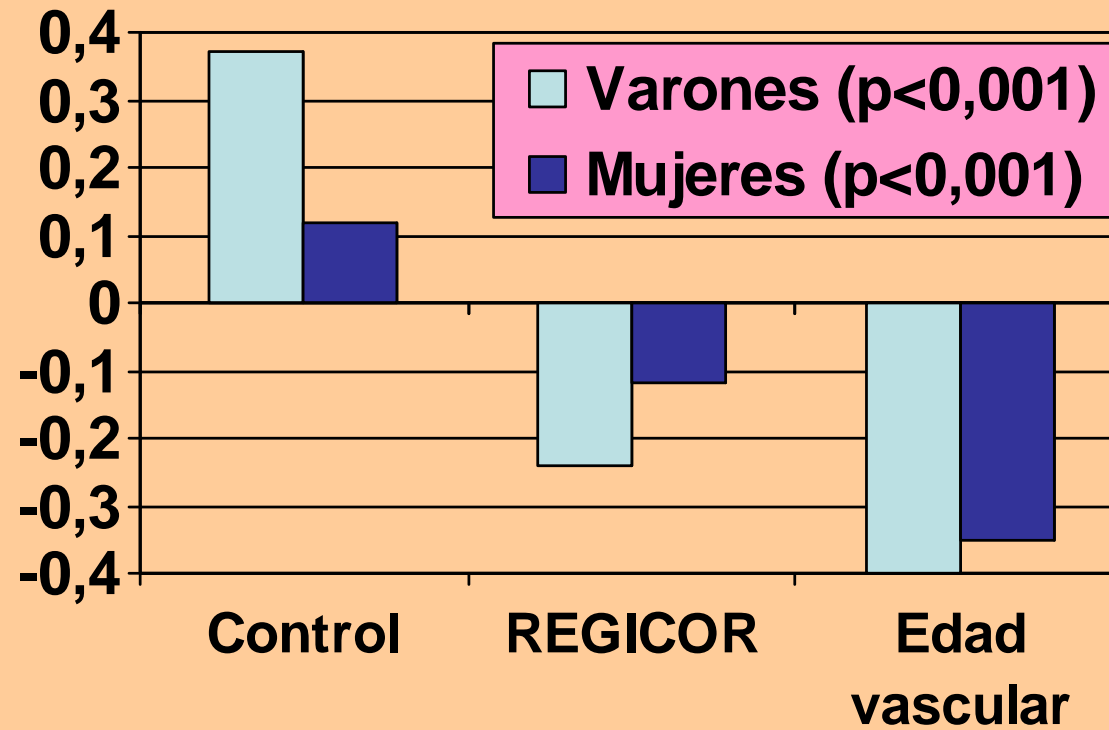
Angel A Lopez-Gonzalez, Antoni Aguiló, Margalida Frontera, Miquel Bennasar-Veny, Irene Campos, Teofila Vicente-Herrero, Matias Tomas-Salva, Joan De Pedro-Gomez, and Pedro Tauler

European Journal of Preventive Cardiology, 2047487313518479, first published on February 3, 2014





Cambio en el riesgo cardiovascular



1. **Peso**
2. **Perímetro abdominal**
3. **IMC**
4. **PAS**
5. **PAD**
6. **Glucemia**
7. **Colesterol total**
8. **HDL-colesterol**
9. **Triglicéridos**
10. **Actividad física**
11. **Tabaquismo**
12. **Riesgo absoluto**
13. **Edad vascular**
14. **Años perdidos**

En todas las variables:
edad vascular>>REGICOR>>control
con $p<0,001$

En todas las variables mejoraron
REGICOR y edad vascular

En todas las variables excepto
actividad física empeoró control

Informar a los pacientes
sobre su riesgo cardiovascular
expresado como edad vascular
consigue una reducción de su riesgo
cardiovascular mayor que cuando se
informa del riesgo absoluto.



Mensajes para llevar

1. Hay vida más allá del riesgo absoluto: nuevos conceptos epidemiológicos de medición e información del riesgo cardiovascular.
2. La nueva ecuación de riesgo americana sobreestima el riesgo en Europa.
3. ¿El riesgo de por vida es más útil que el riesgo a 10 años o el riesgo relativo o la edad vascular?
4. Informar de la edad vascular mejora el nivel de riesgo que informar del riesgo absoluto.



Gracias