

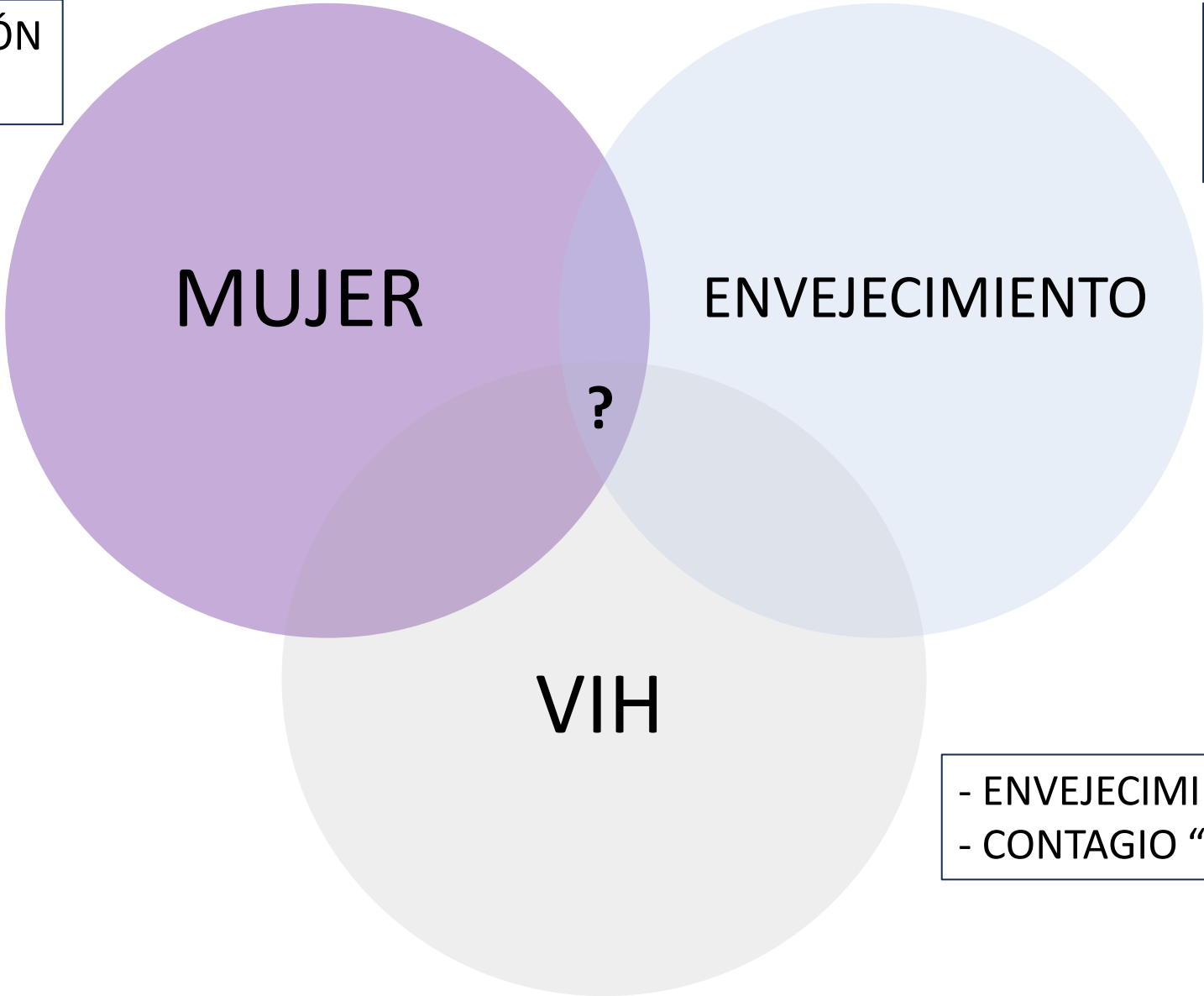


ENVEJECIMIENTO, MUJER E INFECCIÓN VIH

HÁBITOS DE VIDA SALUDABLES Y RIESGO METABÓLICO

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Hospital de A Coruña
01/07/2023

INFRARREPRESENTACIÓN
10-20%



- EDAD AVANZADA
- 65 AÑOS
- PERIMENOPAUSIA

- ENVEJECIMIENTO CON HIV
- CONTAGIO "TARDÍO"

The Prevalence and Burden of Non-AIDS Comorbidities Among Women Living With or at Risk for Human Immunodeficiency Virus Infection in the United States

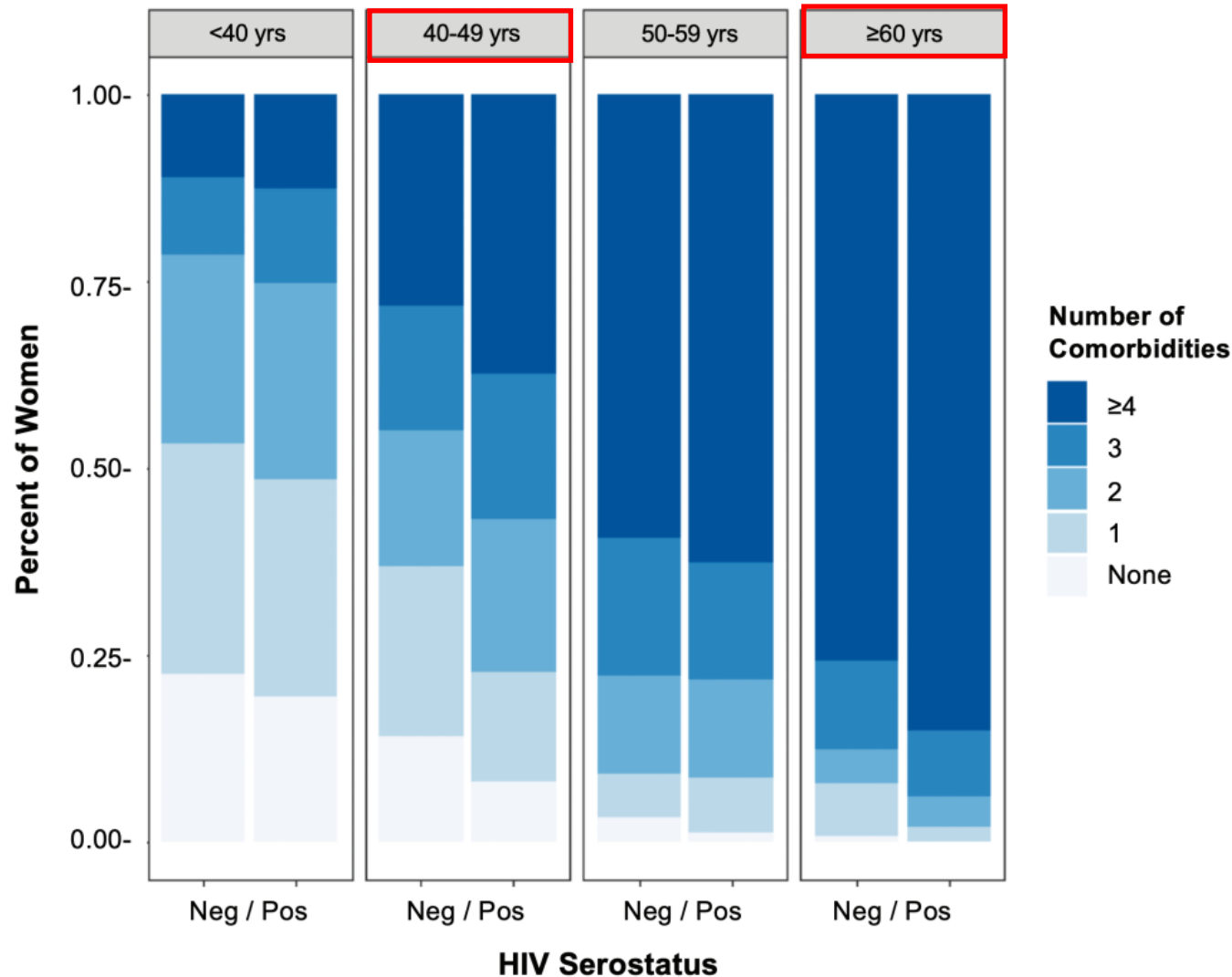
Incident Non-AIDS Comorbidity Burden Among Women With or at Risk for Human Immunodeficiency Virus in the United States

The Effect of Menopausal Status, Age, and Human Immunodeficiency Virus (HIV) on Non-AIDS Comorbidity Burden Among US Women

Comorbilidades “no relacionadas con VIH”

1. Hipertensión arterial
2. Dislipemia
3. Diabetes mellitus
4. Cáncer no relacionado con VIH
5. Enfermedad psiquiátrica
6. Enfermedad cardiovascular
7. Enfermedad ósea
8. Nefropatía
9. Neumopatía
10. Hepatopatía

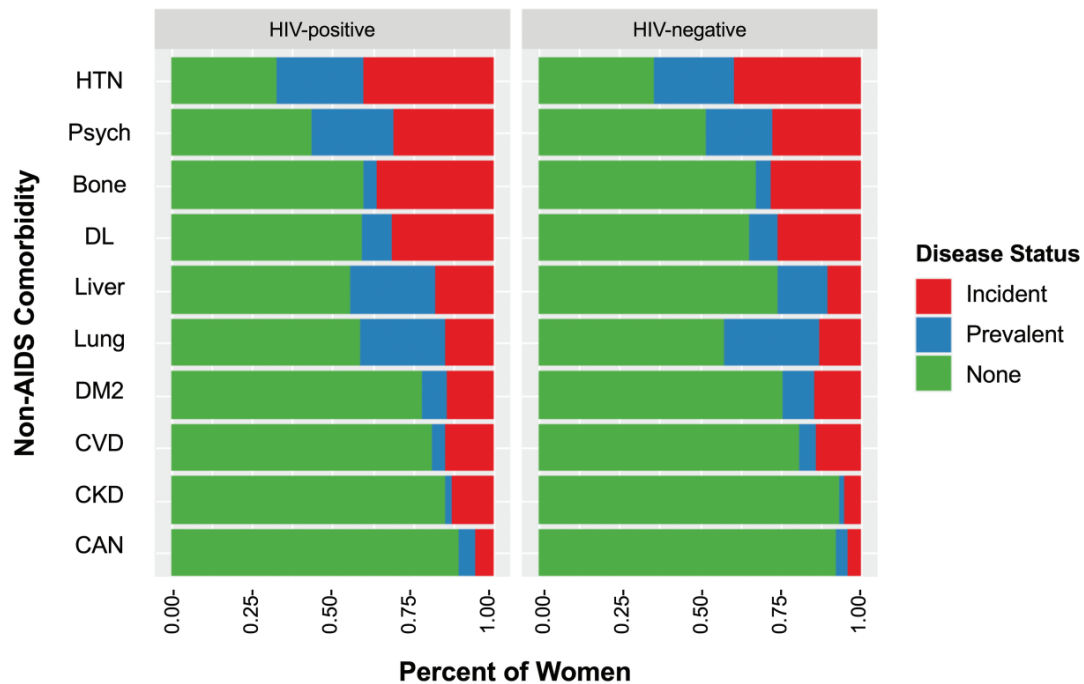
NACM Burden by HIV Serostatus and Age Group



FACTORES RELACIONADOS	FACTORES NO RELACIONADOS
Mayor edad Raza blanca Obesidad Ingresos ≤ 22.364 euros Hábito tabáquico Cocaína/heroína	Recuento CD4 Tiempo desde inicio de tratamiento Supresión viral Excepción: USO RECIENTE ABACABIR

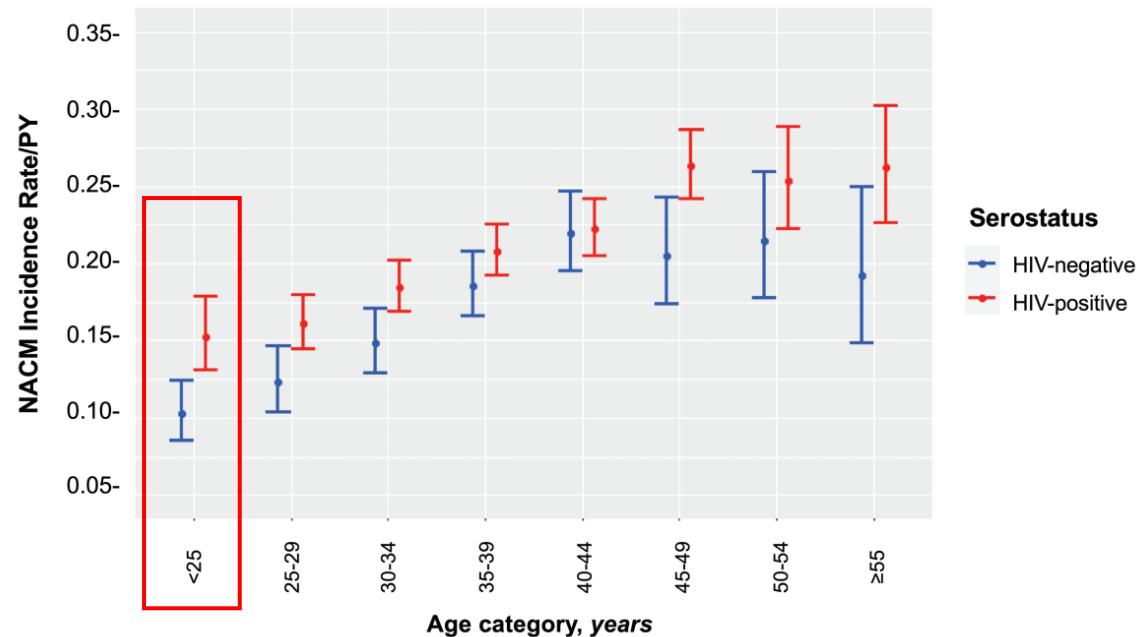
- MAYOR PREVALENCIA EN MUJERES VIH:**
1. Enfermedad psiquiátrica
 2. Hepatopatía
 3. Dislipemia
 4. Enfermedad ósea
 5. Enfermedad renal crónica
 6. Cáncer no-VIH

NACM Disease Status by HIV Serostatus



Mayor prevalencia y mayor incidencia en mujeres HIV

Adjusted NACM Incidence Rate/PY by Age Group



El impacto del VIH en el desarrollo de comorbilidades parece mayor en las mujeres **más jóvenes**

Table 1. Estimated Mean Non-AIDS Comorbidity Burden at Last Observation in the Women's Interagency HIV Study by HIV Serostatus, Age, Menopausal Status Adjusted for Race, Body Mass Index, and Smoking Status

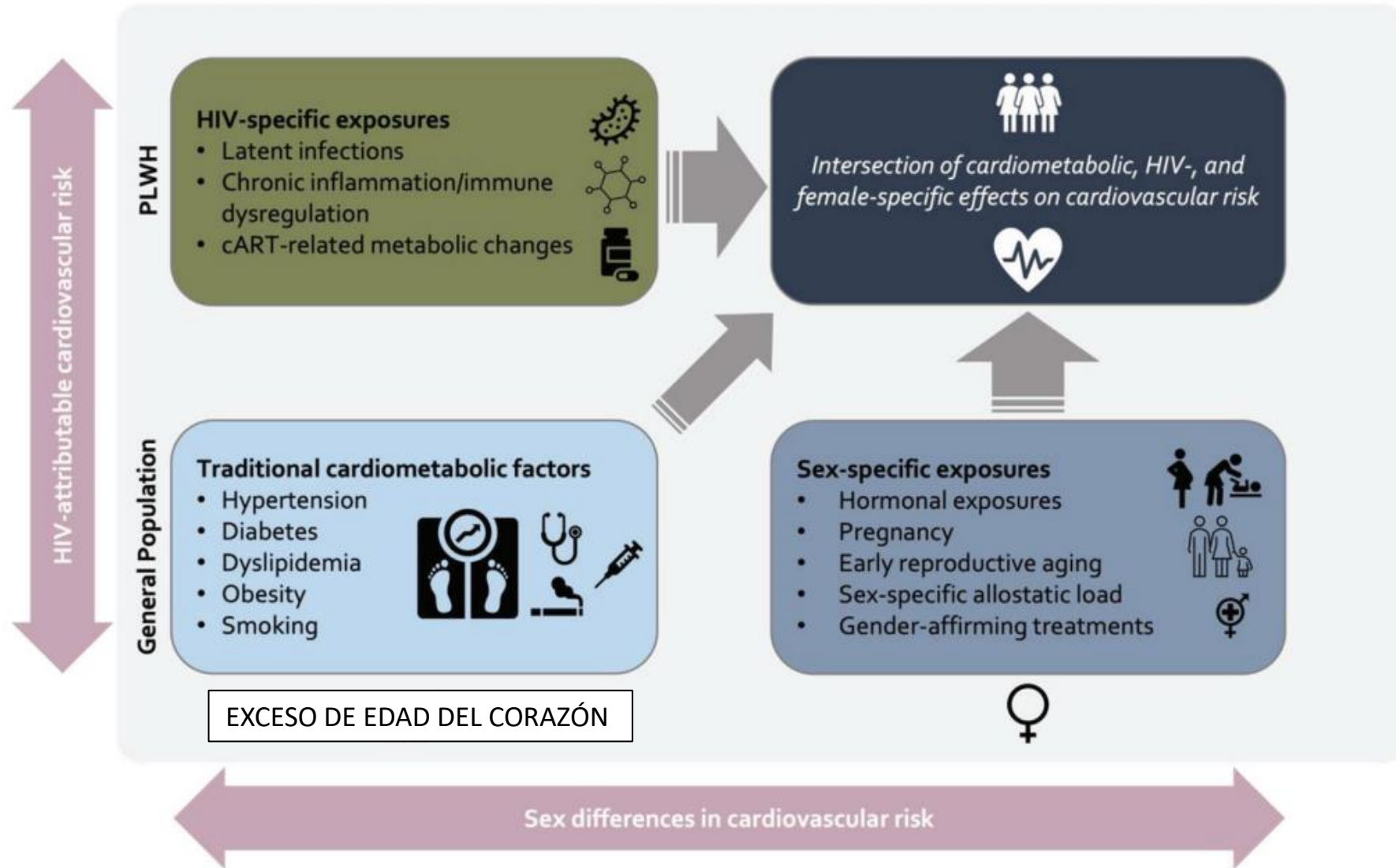
Age	HIV Serostatus	Sample Size (Pre-, Peri-, Postmenopausal), n	Estimated Mean NACM Burden (95% CI)			P
			Premenopausal (n = 923)	Perimenopausal (n = 411)	Postmenopausal (n = 1382)	
<40 years	Women with HIV	241, 40, 32	1.89 (1.64, 2.13)	2.33 (1.79, 2.88)	2.48 (1.87, 3.09)	.0687
	Women without HIV	156, 36, 12	1.66 (1.37, 1.95)	1.81 (1.23, 2.38)	2.70 (1.69, 3.71)	.0519
40–49 years	Women with HIV	318, 144, 235	2.56 (2.35, 2.77)	3.32 (3.03, 3.61)	3.57 (3.32, 3.81)	<.0001
	Women without HIV	160, 61, 60	2.06 (1.76, 2.35)	2.89 (2.44, 3.34)	3.32 (2.86, 3.77)	<.0001
50–59 years	Women with HIV	36, 97, 788	2.95 (2.38, 3.52)	3.56 (3.20, 3.92)	4.30 (4.15, 4.46)	<.0001
	Women without HIV	12, 33, 255	2.43 (1.46, 3.40)	3.09 (2.48, 3.69)	4.12 (3.89, 4.36)	.0008

Linear regression was performed for NACM burden with HIV serostatus, categorized age, menopausal status, and all interaction terms included in the model, as well as race, body mass index, and smoking status: age, $P < .0001$; HIV serostatus, $P = .0083$; menopausal status, $P < .0001$; race, $P < .0001$; body mass index, $P < .0001$; smoking status, $P < .0001$; age \times HIV, $P = .7275$; age \times menopausal status, $P = .0722$; menopausal status \times HIV, $P = .3522$; HIV \times age \times menopausal status, $P = .9580$.

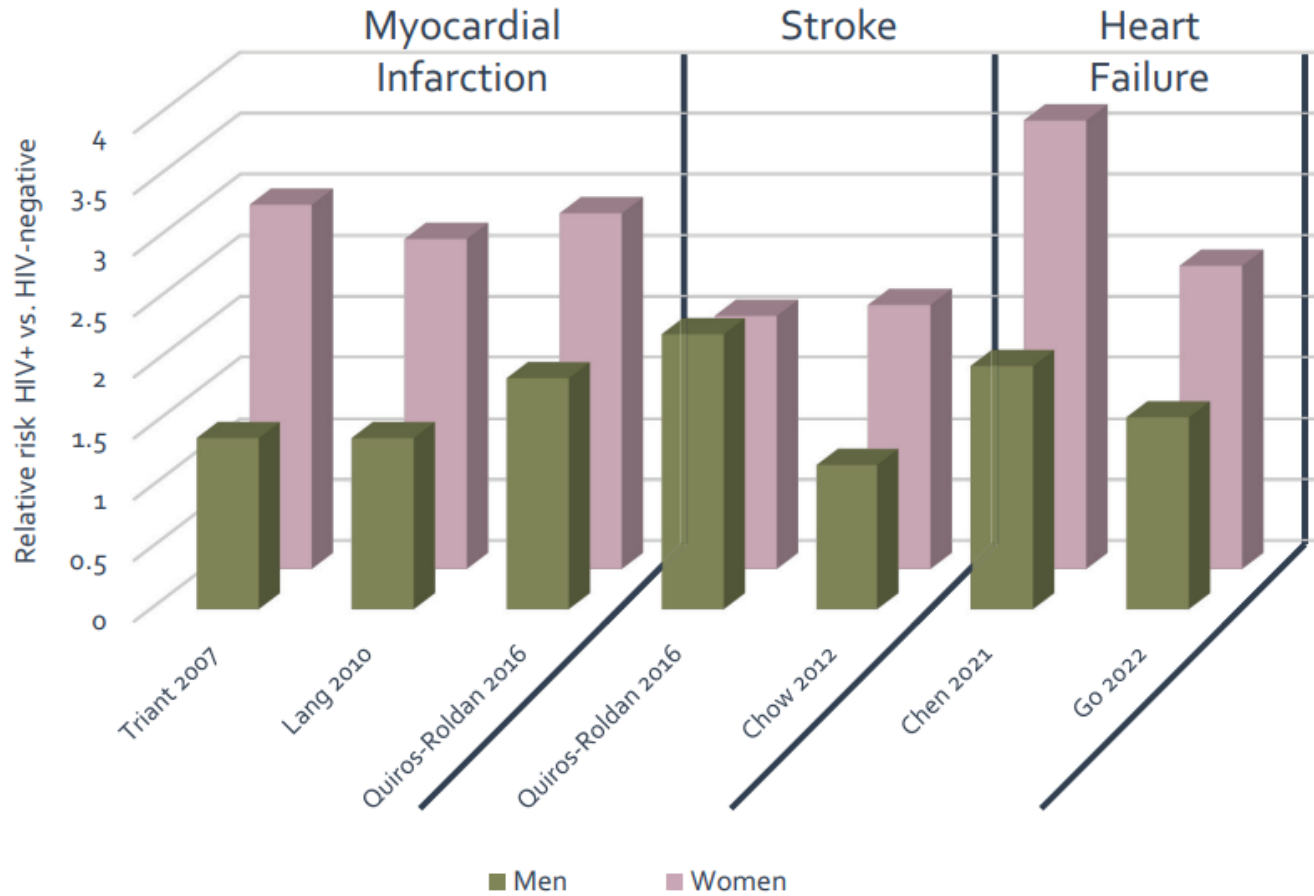
Abbreviations: HIV, human immunodeficiency virus; NACM, non-AIDS comorbidity.

Mayor carga de enfermedad en periodos de pre y perimenopausia

Cardiovascular disease risk in women living with HIV



Cardiovascular disease risk in women living with HIV



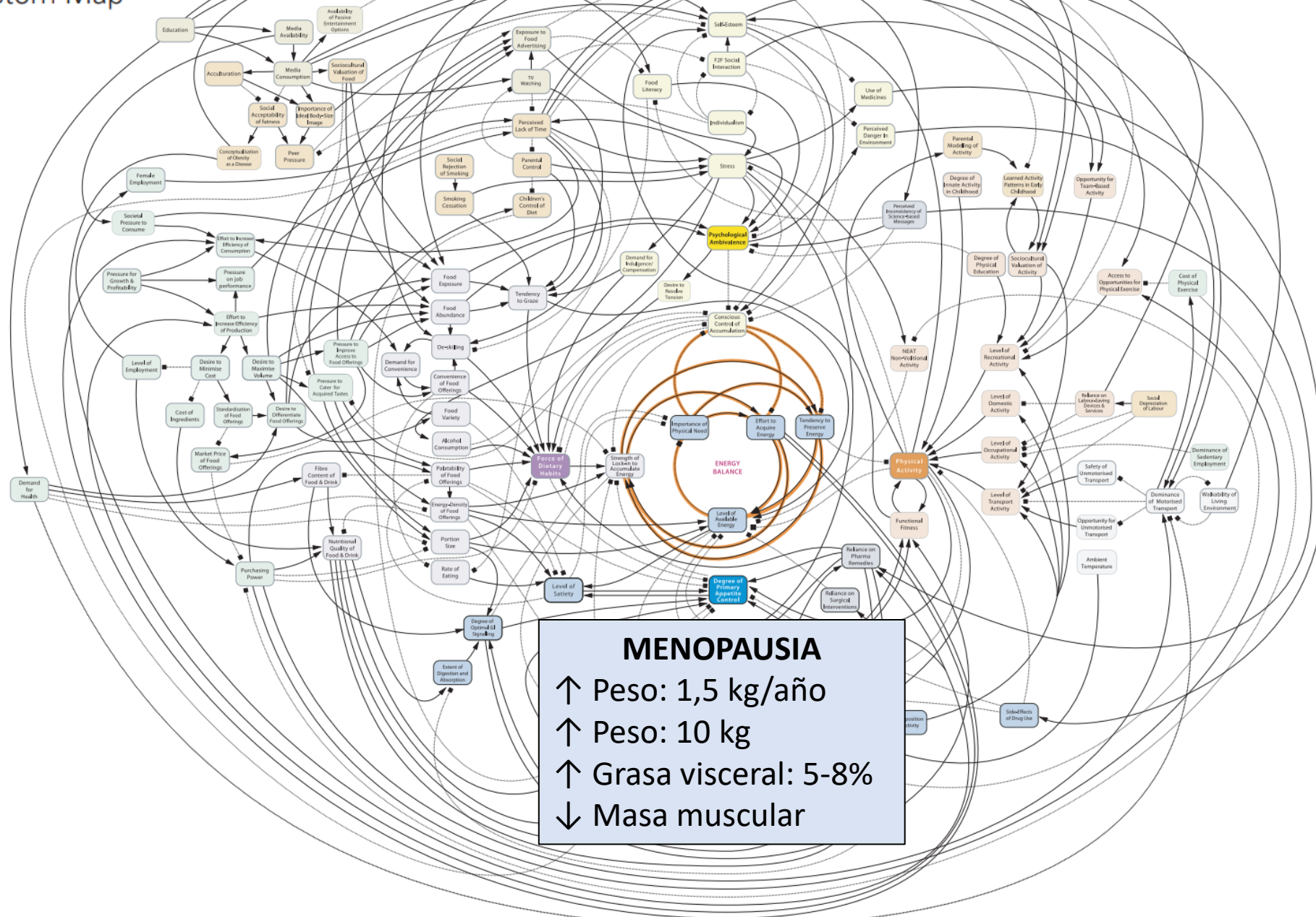
La mujer que vive con VIH tiene mayor carga de enfermedad cardiovascular que las mujeres sin VIH y que los hombres con VIH

Factores relacionados:

- Viremia
- Valor de CD4

Foresight

Obesity System Map



- Media
- Social
- Psychological
- Economic
- Food
- Activity
- Infrastructure
- Developmental
- Biological
- Medical

MENOPAUSIA
↑ Peso: 1,5 kg/año
↑ Peso: 10 kg
↑ Grasa visceral: 5-8%
↓ Masa muscular

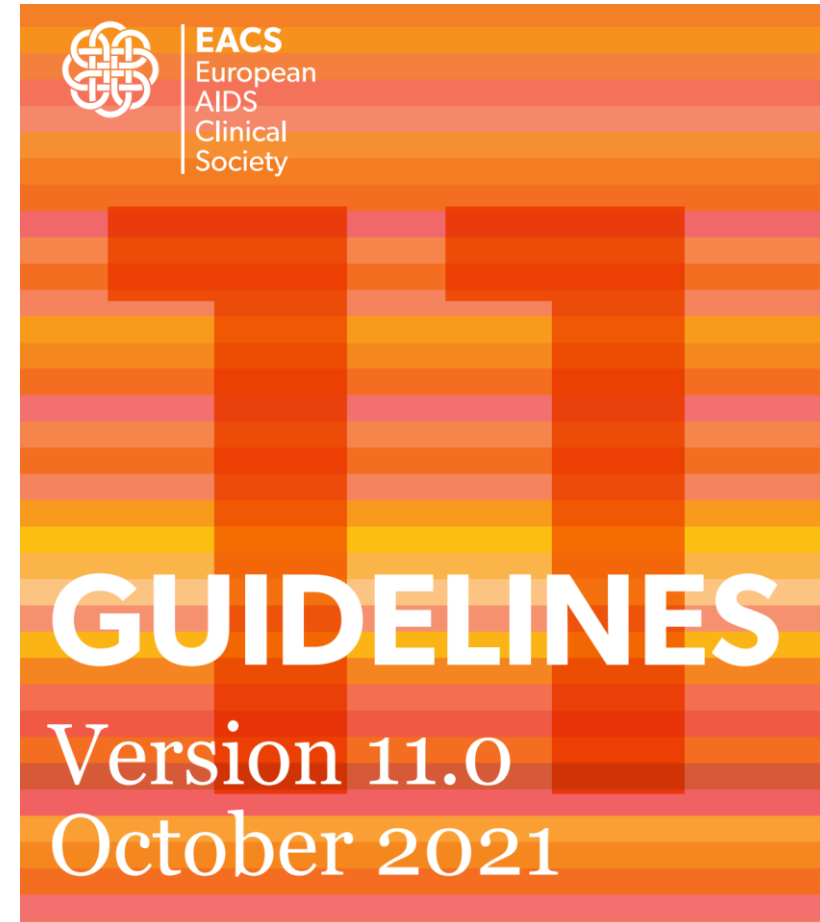
AHA SCIENTIFIC STATEMENT

Characteristics, Prevention, and Management of Cardiovascular Disease in People Living With HIV
A Scientific Statement From the American Heart Association

ABSTRACT: As early and effective antiretroviral therapy has become more widespread, HIV has transitioned from a progressive, fatal disease to a chronic, manageable disease marked by elevated risk of chronic comorbid diseases, including cardiovascular diseases (CVDs). Rates of myocardial infarction, heart failure, stroke, and other CVD manifestations, including pulmonary hypertension and sudden cardiac death, are significantly higher for people living with HIV than for uninfected control subjects, even in the setting of HIV viral suppression with effective antiretroviral therapy. These elevated risks generally persist after demographic and clinical risk factors are accounted for and may be partly attributed to chronic inflammation and immune dysregulation. Data on long-term CVD outcomes in HIV are limited by the relatively recent epidemiological transition of HIV to a chronic disease. Therefore, our understanding of CVD pathogenesis, prevention, and treatment in HIV relies on large observational studies, randomized controlled trials of HIV therapies that are underpowered to detect CVD end points, and small interventional studies examining surrogate CVD end points. The purpose of this document is to provide a thorough review of the existing evidence on HIV-associated CVD, in particular atherosclerotic CVD (including myocardial infarction and stroke) and heart failure, as well as pragmatic recommendations on how to approach CVD prevention and treatment in HIV in the absence of large-scale randomized controlled trial data. This statement is intended for clinicians caring for people with HIV, individuals living with HIV, and clinical and translational researchers interested in HIV-associated CVD.

Matthew J. Feinstein, MD, MSc, FAHA, Chair
Priscilla Y. Hsue, MD, Vice Chair
Laura A. Benjamin, PhD
Gerald S. Bloomfield, MD, MPH, FAHA
Judith S. Currier, MD
Matthew S. Freiberg, MD, MSc
Steven K. Grinspoon, MD
Jules Levin, MS
Chris T. Longenecker, MD, FAHA
Wendy S. Post, MD, MS
On behalf of the American Heart Association Prevention Science Committee of the Council on Epidemiology and Prevention and Council on Cardiovascular and Stroke Nursing; Council on Clinical Cardiology; and Stroke Council

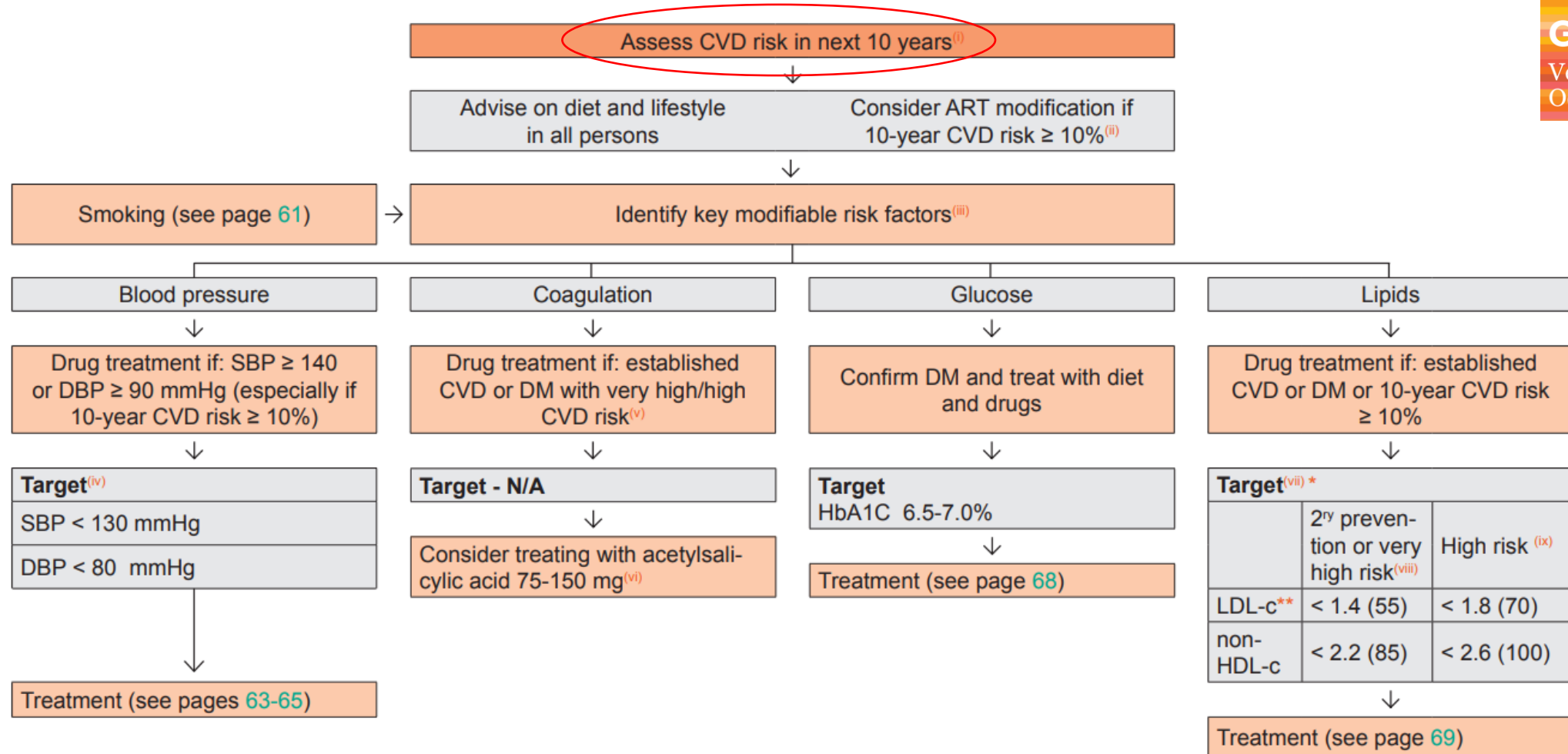
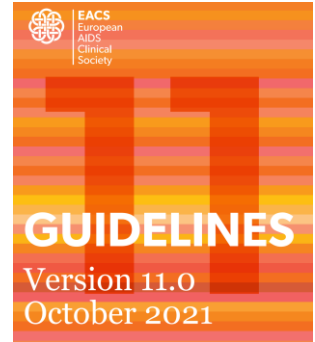
Key Words: AHA Scientific Statements
■ cardiovascular diseases ■ HIV
■ preventive medicine
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<https://www.ahajournals.org/journal/circ>



No EVIDENCIA específica para pacientes mujeres
No EVIDENCIA específica para edad avanzada

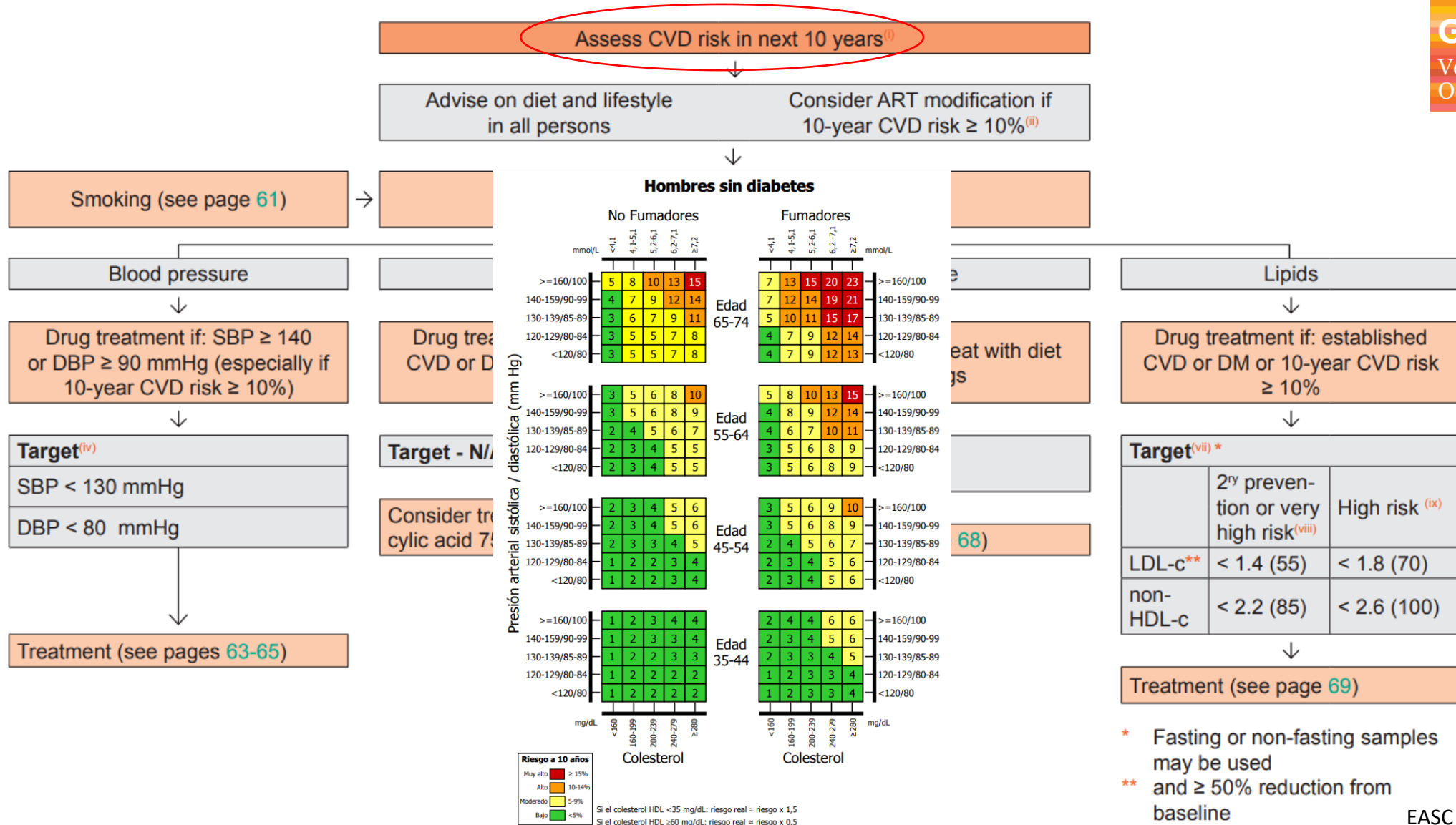
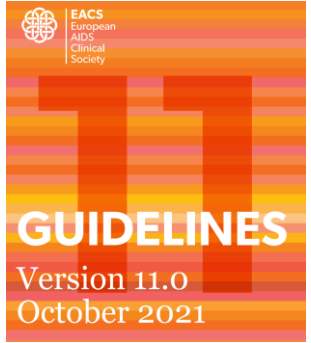
No EVIDENCIA específica para mujeres
No EVIDENCIA específica para edad avanzada

PREVENCIÓN DE ENFERMEDAD CARDIOVASCULAR



* Fasting or non-fasting samples may be used
 ** and ≥ 50% reduction from baseline

PREVENCIÓN DE ENFERMEDAD CARDIOVASCULAR

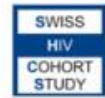


68)

* Fasting or non-fasting samples may be used
** and ≥ 50% reduction from baseline

People living with HIV

People from the general population

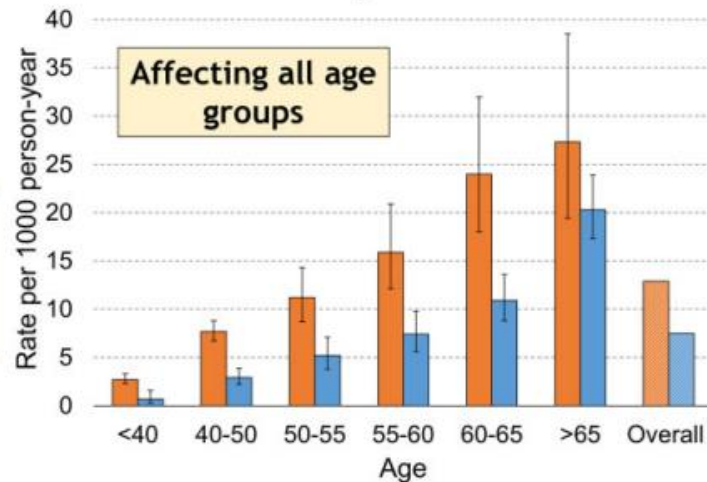


Swiss HIV Cohort Study
& Swiss Mother and Child HIV Cohort Study

86,303.9 person-years of follow-up

28% ♀

12.9 (95% CI 12.8-13.0)



■ Swiss HIV study ■ CoLaus|PsyCoLaus study



53,216.9 person-years of follow-up

7.5 (95% CI 7.4-7.5)



AUROC:
0.745



SCORE-2



PCE



AUROC:
0.757



D:A:D

AUROC:
0.763

10-year predictive performance of cardiovascular risk scores



AUROC:
0.800



AUROC:
0.806

Abbreviations: ASCVD, atherosclerotic cardiovascular disease; AUROC, area under the receiver operating curve; CI, confidence interval; D:A:D, Data Collection on Adverse Events of Anti-HIV Drugs

EN VIH la incidencia de enfermedad CV es el doble que en población sin VIH. Especialmente en la gente más joven.

People living with HIV

People from the general population

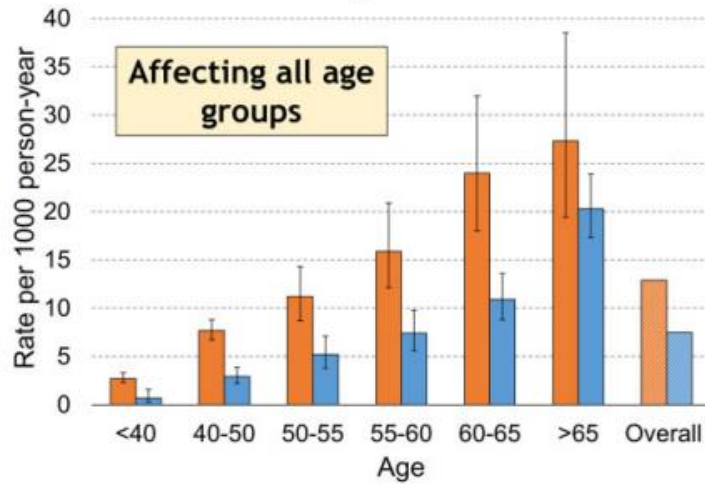


Swiss HIV Cohort Study
& Swiss Mother and Child HIV Cohort Study

86,303.9 person-years of follow-up

28% ♀

12.9 (95% CI 12.8-13.0)



Swiss HIV study (orange bar) | CoLaus|PsyCoLaus study (blue bar)

Age-standardized atherosclerotic cardiovascular disease rate

7.5 (95% CI 7.4-7.5)

53,216.9 person-years of follow-up



Abbreviations: ASCVD, atherosclerotic cardiovascular disease; AUROC, area under the receiver operating curve; CI, confidence interval; D:A:D, Data Collection on Adverse Events of Anti-HIV Drugs



SCORE-2

ESC
European Society
of Cardiology

AUROC:
0.745



PCE

AMERICAN
COLLEGE of
CARDIOLOGY

AUROC:
0.757



D:A:D

AUROC:
0.763

10-year predictive performance of cardiovascular risk scores

ASCVD correctly identified (green icon) | ASCVD not identified (grey icon)



ESC
European Society
of Cardiology

AUROC:
0.800

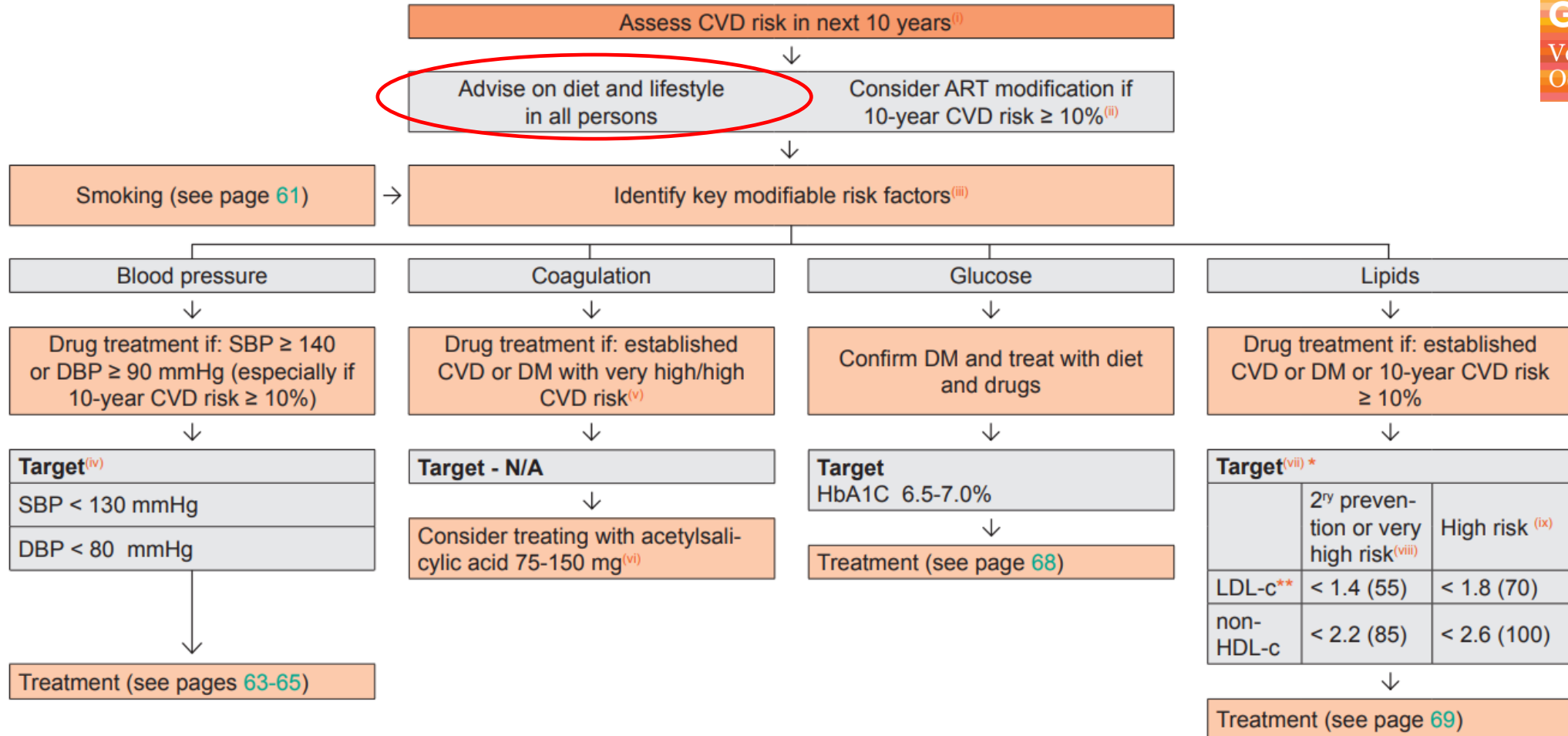
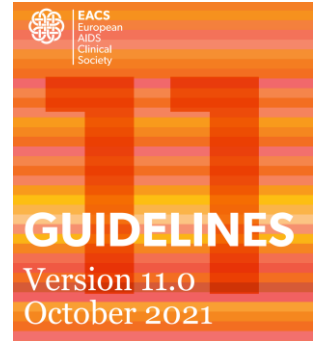


AMERICAN
COLLEGE of
CARDIOLOGY

AUROC:
0.806



PREVENCIÓN DE ENFERMEDAD CARDIOVASCULAR



* Fasting or non-fasting samples may be used
 ** and $\geq 50\%$ reduction from baseline

INTERVENCIONES EN ESTILO DE VIDA

1) ABANDONO HÁBITO TABÁQUICO

2) PROMOCIÓN DEL EJERCICIO FÍSICO

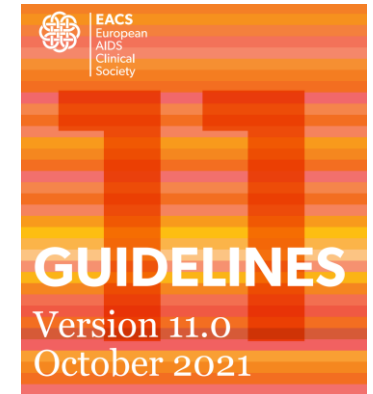
- Promover una vida activa para evitar y tratar la obesidad, la hipertensión y la diabetes.
- Recomendar ejercicio físico de intensidad moderada frente a ejercicio de alta intensidad.
- Mantener la fuerza muscular y la flexibilidad articular.

3) CONSEJO DIETÉTICO

- Limitar el consumo de grasas saturadas, colesterol y azúcares refinados.
 - Ingesta de grasa < 30% aporte calórico total.
 - Ingesta de colesterol < 300 mg diarios.
- Priorizar el consumo de frutas, verduras, aporte de fibra.
- Priorizar el consumo de pescado y carnes blancas.
- Evitar azúcares añadidos.
- Moderar el consumo de sal < 3 gr diarios.
- En caso de sobrepeso/obesidad (IMC) recomendar pérdida ponderal evitando dietas restrictivas.
- Limitar la ingesta de alcohol a < 20-40 g diarios (1 bebida en mujeres y 2 bebidas en hombres).

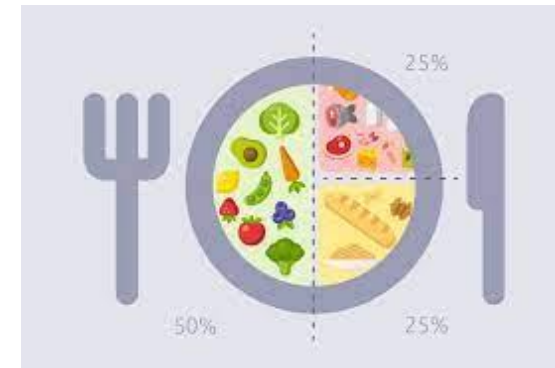


American
Heart
Association®



ESTILO DE VIDA SALUDABLE → MENOPAUSIA SALUDABLE

1. Preguntar acerca de la **autopercepción** de su dieta y estilo de vida.
2. Recoger un **diario de hábitos** de dieta y ejercicio de 3-4 días.
3. Plantear **cambios graduales**. 2-3 cambios en cada visita.
4. **Planificar los menús** diarios o semanales.
5. **No** recomendar **dietas populares**.
6. Hacer recomendaciones basadas en **grupos de alimentos** (Plato de Harvard).
7. El **ejercicio de resistencia** practicado de forma regular es esencial para perder peso y mantener la masa muscular.
8. Recomendar suplementos solo si es necesario.
9. Aconsejar valorar la evolución con *medidas variadas*: peso, circunferencia de cintura, ropa, autopercepción...
10. Plantear **expectativas realistas, alcanzables y sostenibles en el tiempo**.



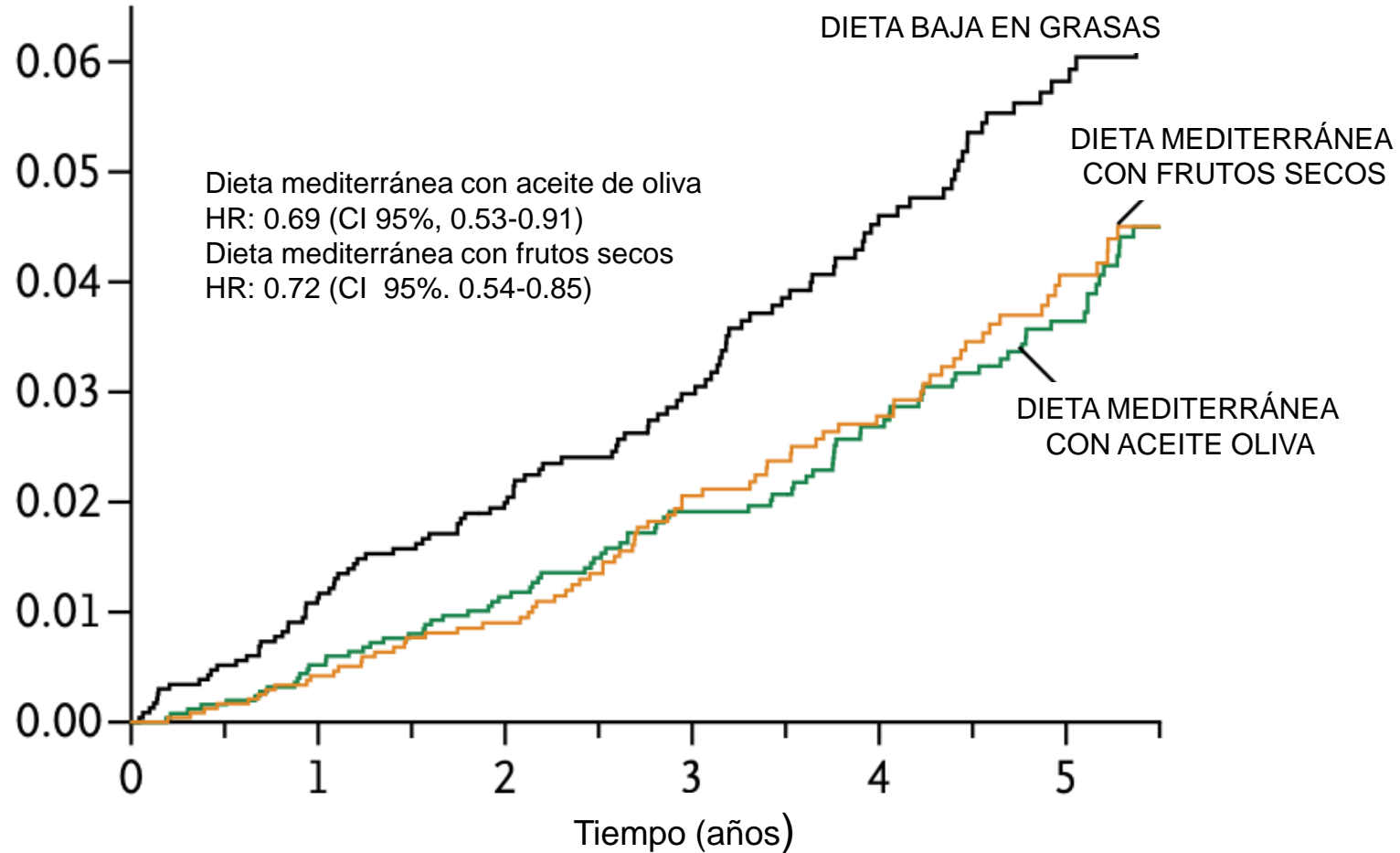
The evolution of the heart-healthy diet for vascular health: A walk through time

Nicole Mercado Fischer, Vincent A Pallazola¹, Helen Xun, Miguel Cainzos-Achirica and Erin D Michos²

“Eat food, not too much, mostly plants”

Dietary pattern	Includes	Restricts	Health benefits	Key differences
Dietary Approaches to Stop Hypertension (the DASH diet) ^{35,36} OMNIHEART	Vegetables, fruits, low-fat dairy products, wholegrains, lean meats, fish, poultry, fish, beans, and nuts	Sodium intake \leq 2300 mg or \leq 1500 mg per day	<ul style="list-style-type: none"> • Lower blood pressure • Lower LDL-C level • Reduced CVD risk 	- More emphasis on restricting sodium intake than other diets
The Mediterranean Diet ^{39–41} PREDIMED	Vegetables, fruits, nuts, legumes, wholegrains, and extra-virgin olive oil, lean meats, fish, and poultry	Limited red meat, processed meats, and sweets intake	<ul style="list-style-type: none"> • Primary and secondary prevention of CVD • Reduced risk of CVD mortality • Reduced risk of MI and stroke • Reduced risk of all-cause mortality 	<ul style="list-style-type: none"> - More emphasis on nuts, fish, and olive oil than other diets - Less emphasis on dairy than the other diets
Healthy Vegetarian Eating Pattern ^{34,44,45}	Vegetables, fruits, wholegrains, legumes, soy products, nuts, low-fat dairy products, and seeds	All meats, poultry, and sea food	<ul style="list-style-type: none"> • Lower blood pressure • Lower LDL-C level • Reduced CVD risk 	<ul style="list-style-type: none"> - More emphasis on soy products, legumes, and dairy products compared to other diets - Lean protein is entirely plant-based

CVD, cardiovascular disease; LDL-C, low-density lipoprotein cholesterol; MI, myocardial infarction.

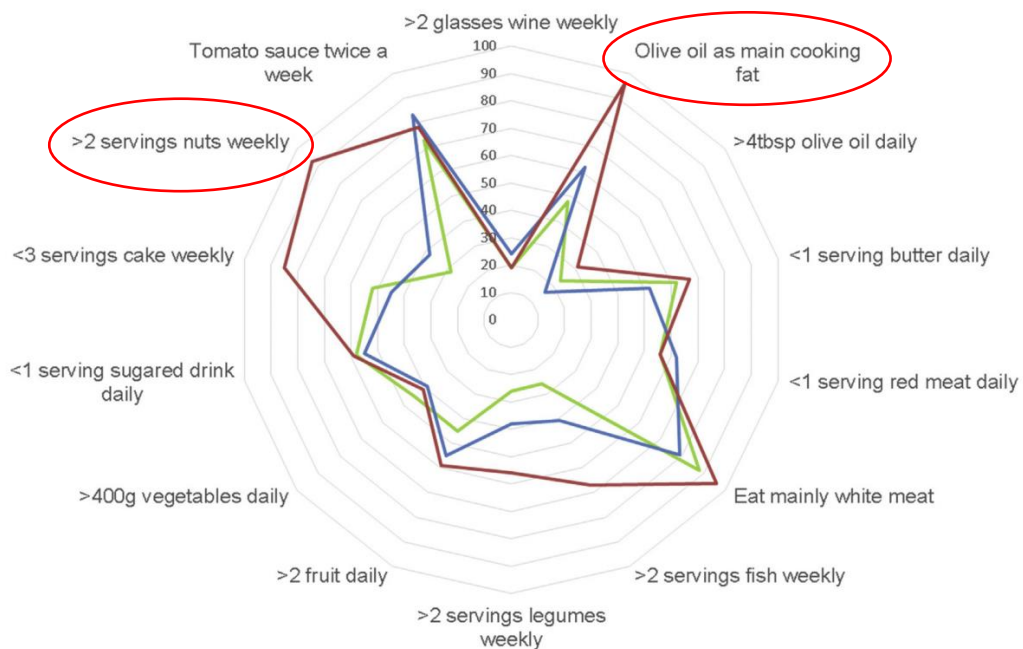


**Una intervención con una Dieta Mediterránea tradicional
suplementada con Aceite de Oliva Virgen Extra y Frutos Secos
reduce en un 30% la incidencia de complicaciones cardiovasculares mayores**

Randomized parallel-group pilot trial (Best foods for your heart) comparing the effects of a Mediterranean Portfolio diet with a low saturated fat diet on HIV dyslipidemia



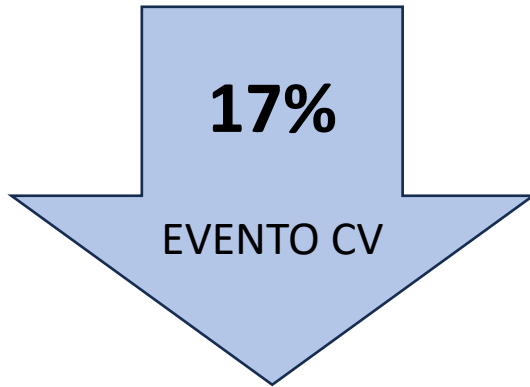
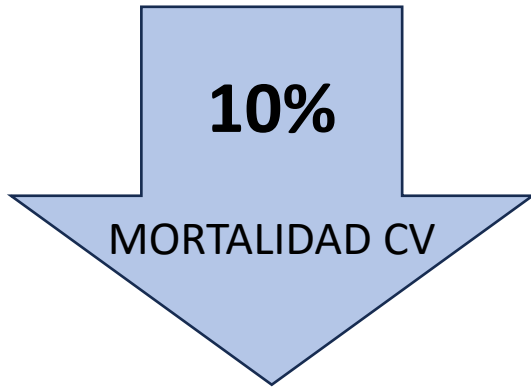
Características basales:
 Edad media: 42,4 ± 6,8 años
 Proporción de mujeres: 52%



DIFERENCIAS ESTADÍSTICAMENTE SIGNIFICATIVAS
 A FAVOR DE LA DIETA MEDITERRÁNEA

↓LDL-COLESTEROL 19,3 mg/dl

↓TA SISTÓLICA 8 mmHg



HIV Infection Does Not Prevent the Metabolic Benefits of Diet-Induced Weight Loss in Women with Obesity

TABLE 1 Body composition and cardiometabolic variables before and after weight loss

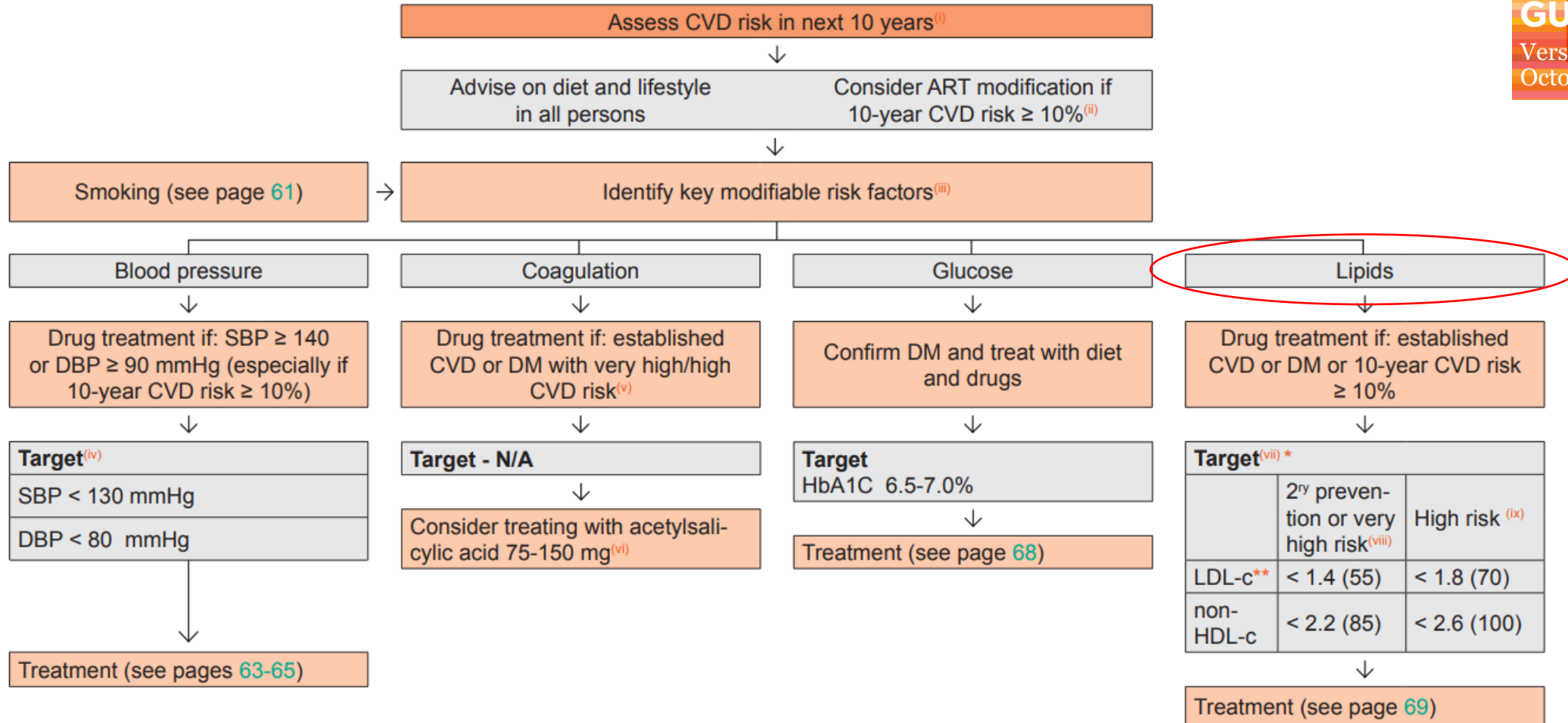
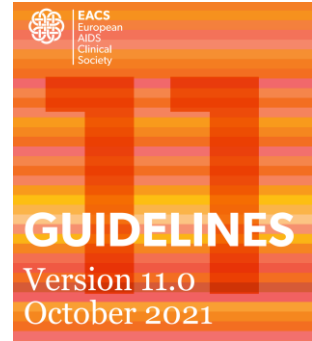
	HIV– before	HIV– after	Percent difference	HIV+ before	HIV+ after	Percent difference	
COMPOSICIÓN CORPORAL	Body weight (kg)	113 ± 17	105 ± 6	-7.3 ± 0.1*	108 ± 5	100 ± 4	-7.7 ± 0.1*
	BMI (kg/m ²)	39.9 ± 2.2	36.9 ± 1.9	-7.1 ± 1.0*	39.1 ± 1.6	36.3 ± 1.5	-7.2 ± 0.8*
	Fat-free mass (kg)	55.7 ± 3.0 ^B	54.8 ± 2.9 ^{A,B}	-1.7 ± 1.0 ^B	51.1 ± 2.0 ^B	48.9 ± 1.9 ^{A,B}	-4.4 ± 0.7 ^B
	Appendicular fat-free mass (kg)	25.5 ± .9	25.4 ± 1.1*	-0.6 ± 2.4	25.2 ± 1.3	23.7 ± 1.1 ^{*,B}	-5.8 ± 0.7 ^B
	Fat mass (% body weight)	45.9 ± 2.4	44.0 ± 2.3	-4.4 ± 1.6*	49.7 ± 1.6	48.0 ± 1.4	-3.2 ± 0.8*
	Total abdominal adipose tissue (cm ³)	5052 ± 574	4815 ± 618	-6.4 ± 4.9*	5227 ± 428	4757 ± 461*	-7.4 ± 3.1*
	Visceral adipose tissue (cm ³)	1139 ± 187	1034 ± 183	-12 ± 4*	1164 ± 140	997 ± 137*	-14 ± 4*
	VAT:TAT ratio	0.22 ± 0.03	0.22 ± 0.03	-5.1 ± 4.7*	0.24 ± 0.03	0.22 ± 0.03*	-7.1 ± 3.0*
	IHTG content (%)	7.5 ± 2.4	5.4 ± 1.5	-16.8 ± 43.8*	4.6 ± 1.7	2.2 ± 1.0*	-26.3 ± 18.6*
	Systolic BP (mmHg)	126 ± 5	117 ± 6	-7 ± 4*	122 ± 3	118 ± 4	-4 ± 2*
VARIABLES METABÓLCAS	Diastolic BP (mmHg)	76 ± 5	69 ± 5	-9 ± 3*	72 ± 3	69 ± 3	-4 ± 3*
	Glucose (mg/dL)	91.5 ± 3.0	87.6 ± 2.5	-4.0 ± 3.3	94.1 ± 2.0	91.7 ± 1.6	-2.2 ± 2.0
	Insulin (μU/L)	18.3 ± 3.3	8.8 ± 2.6 ^{A,B}	-54.0 ± 7.3 ^B	16.6 ± 2.5	14.2 ± 1.9 ^B	-11.1 ± 10.5 ^B
	C-peptide (ng/mL)	3.2 ± 0.5	2.2 ± 0.4 ^{A,B}	-28.2 ± 9.4	2.8 ± 0.3	2.7 ± 0.2 ^B	-3.9 ± 6.6 ^B
	Leptin (μg/L)	39.0 ± 6.6	36.2 ± 6.3	-8.6 ± 11.8*	53.1 ± 4.5	39.8 ± 4.3	-20.4 ± 6.4*
	Hemoglobin A ^{1c} (%)	5.8 ± 0.2	5.3 ± 0.2	-7.9 ± 2.9	5.7 ± 0.1	5.6 ± 0.1	-3.2 ± 2.0
	FFA (μmol/mL)	550 ± 66	527 ± 85	-3.1 ± 7.9	661 ± 45	662 ± 58	-1.1 ± 8.4
	LDL-C (mg/dL)	111 ± 14	100 ± 7	-9 ± 5	103 ± 10	101 ± 12	-1 ± 4
	HDL-C (mg/dL)	43 ± 3	39 ± 3 ^A	-9 ± 3*	42 ± 2	39 ± 2 ^A	-7 ± 3*
	Triglyceride (mg/dL)	128 ± 28	92 ± 28	-17 ± 15	112 ± 18	119 ± 22	12 ± 12

Values are means ± SE.

**P* < 0.05 for main effect of time. ^AValue is different from corresponding value at baseline, *P* < 0.05. ^BValue is different from corresponding value in other group, *P* < .05.

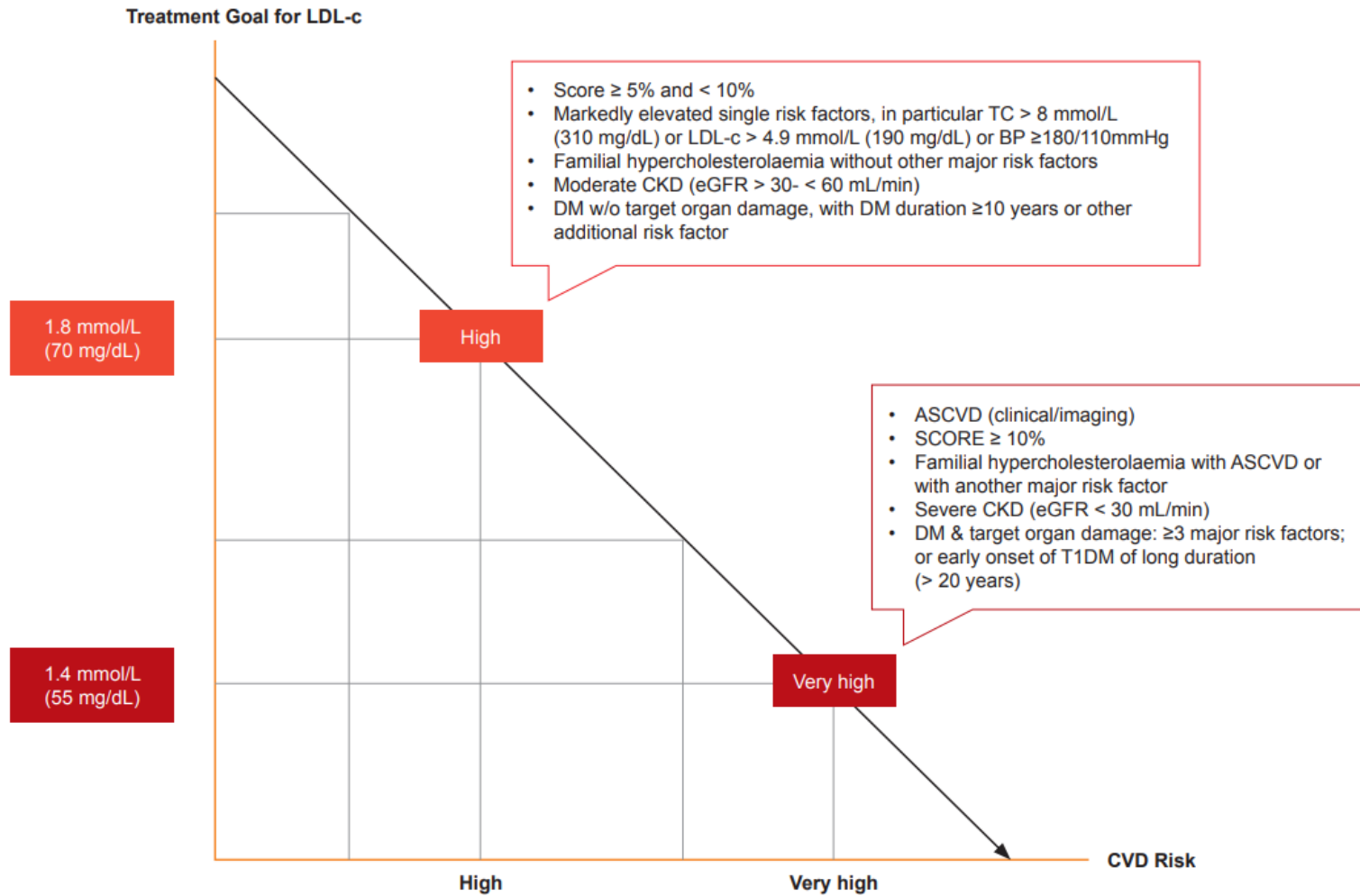
VAT:TAT, visceral adipose tissue (VAT) area as percent of total abdominal adipose tissue (TAT) area; IHTG, intrahepatic triglyceride content; BP, blood pressure; FFA, free fatty acid; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density lipoprotein cholesterol.

PREVENCIÓN DE ENFERMEDAD CARDIOVASCULAR



* Fasting or non-fasting samples may be used
 ** and ≥ 50% reduction from baseline

OBJETIVOS LDL-C EN PACIENTES DE MUY ALTO Y ALTO RIESGO CV



Moderate CVD risk:

Young persons (T1DM < 35 years; T2DM < 50 years) with DM duration < 10 years, without other risk factors. Calculated SCORE $> 1\%$ and $< 5\%$ for 10-year risk of fatal CVD/. LDL-c goal 2.6 mmol/L (100 mg/dL)

Low CVD risk:

Calculated SCORE $< 1\%$ for 10-year risk of fatal CVD. LDL-c goal 3.0 mmol/L (116 mg/dL)



REPRIEVE

Valorar un estudio sin precedentes de prevención primaria de enfermedad cardiovascular en pacientes con el virus de la inmunodeficiencia humana

7557

CANTIDAD DE PARTICIPANTES

32%


PORCENTAJE DE MUJERES

50

EDAD PROMEDIO

13

PROMEDIO DE AÑOS VIVIENDO CON VIH



Desde 2015 hasta 2019, REPRIEVE inscribió a 7,770 participantes de más de 100 centros clínicos de 5 continentes. Los participantes representan un grupo de personas que viven con VIH con diversidad de raza, origen étnico y sexo.

Los participantes:

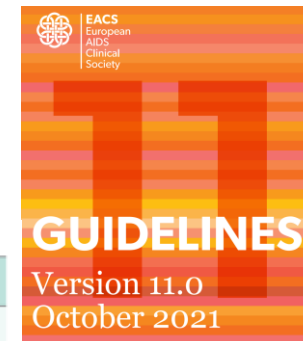
- › Edades de 40 a 75 años
- › En tratamiento antirretroviral
- › Con riesgo bajo a moderado de enfermedad cardíaca

El objetivo de REPRIEVE es probar si la pitavastatina cálcica, una estatina conocida como pitavastatina, reduce el riesgo de enfermedades cardíacas, entre otras, infarto de miocardio y accidentes cerebrovasculares, en las personas que viven con VIH. El estudio también analizó las características y

comorbilidades de los participantes, entre ellas:

- › Uso de tratamientos antirretrovirales y perfiles inmunitarios
- › Transiciones del envejecimiento reproductivo en la mujer (menopausia)
- › Identidad de género, medida de la cintura y enfermedades metabólicas
- › Función renal de inicio
- › Deterioro de las funciones físicas y fragilidad
- › Uso de tratamientos antirretrovirales y esteatosis de miocardio (acumulación de grasa en las células del corazón)

OBESIDAD



	Weight Gain	Obesity	Comments
Definition	<p>It is a physiological phenomenon associated with aging. Body weight of an average European adult is estimated to increase by 0.3 - 0.5 kg per year</p> <p>Definition is lacking. An increase > 5% of weight is often used, as opposed to the magnitude of weight loss recommended in lifestyle interventions as initial treatment of cardiometabolic conditions</p>	<p>BMI-based definitions (WHO):</p> <p>Overweight: BMI 25 to < 30 kg/m²</p> <p>Class I obesity: BMI 30 to < 35 kg/m²</p> <p>Class II obesity: BMI 35 to < 40 kg/m²</p> <p>Class III obesity: BMI ≥ 40 kg/m²</p> <p>For Asian populations, overweight is defined as BMI 23 to 27.5 kg/m² and obesity ≥ 27.5 kg/m²</p>	<p>Weight gain and obesity represent a continuum associated with negative health outcomes</p>
General principles	<p>Treat underlying or associated conditions</p> <p>There are several drugs specifically recommended for those with a BMI ≥ 30 kg/m² or ≥ 25 kg/m² and weight-related complications (DM, hypertension) (e.g. orlistat, phentermine/topiramate, lorcaserin, naltrexone/bupropion, liraglutide). These drugs should be prescribed by an endocrinologist or obesity expert. All of them may have adverse effects and drug-drug interactions with ART</p> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin: 10px auto;"> <p>¿ANÁLOGOS DE GLP-1?</p> </div>		<p>Consider TDM (therapeutic drug monitoring) in obese PLWH.</p> <p>↑ risk of virological failure with long acting CAB/RPV in obese PLWH</p>
Bariatric surgery		<p>Medical devices or endoscopic procedures (e.g intragastric balloon, aspiration therapy, endoscopic sleeve gastroplasty) or bariatric surgery should be considered in persons with a BMI ≥ 40 kg/m² or ≥ 35 kg/m² with obesity-related co-morbidities refractory to serious attempts at lifestyle changes and should be coordinated through an established, specialist-led obesity programme.</p>	<p>Consider therapeutic drug monitoring and drug dose adjustment post-bariatric surgery</p>

MUCHAS GRACIAS