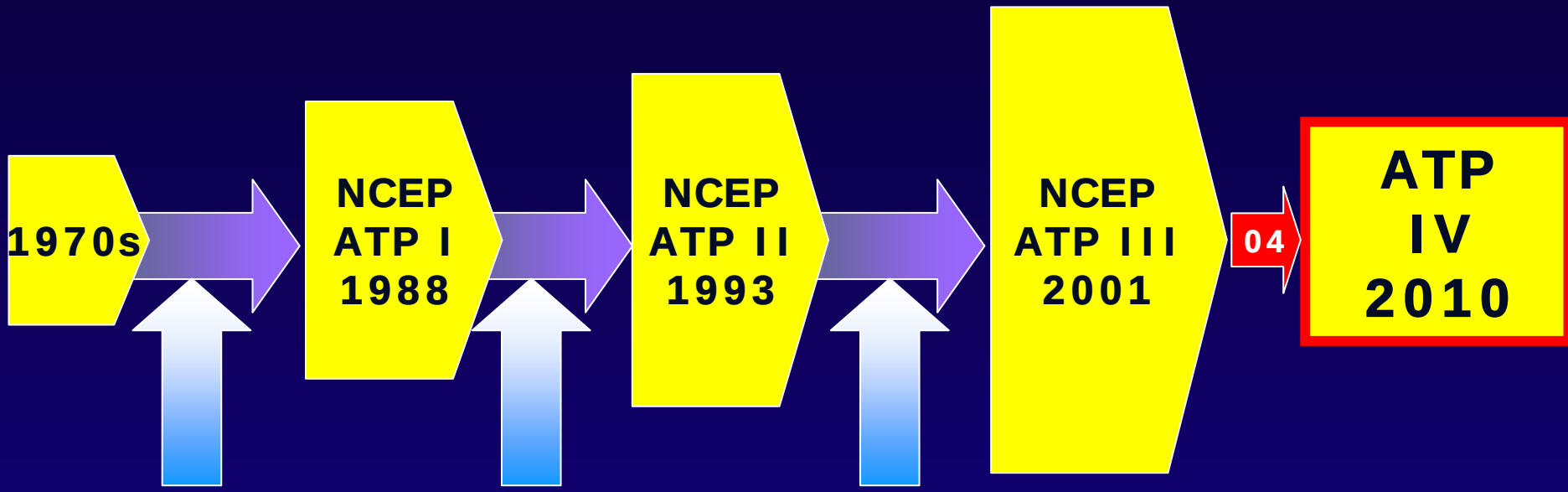
# Como cumplir las guias? Dosis altas/combo?


## Universidad Austral y F.L.E.N.I

# Evolucion de las guias terapeuticas




Framingham
MRFIT
LFC-CPPT
Coronary Drug Project
Helsinki

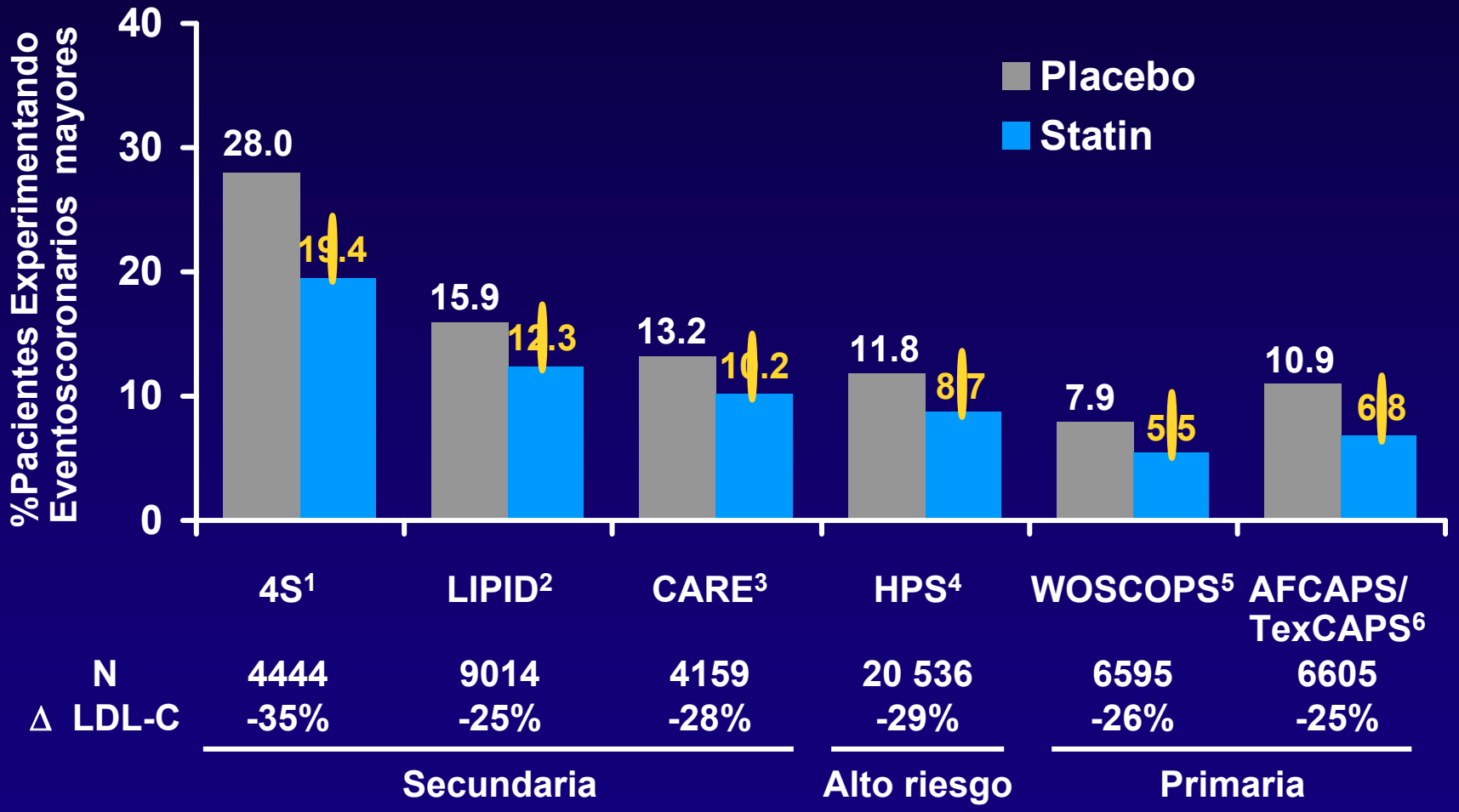
Angiograficos (FATS, POSCH, SCOR, STARS, Omish, MARS)
Meta-Analisis (Holme, Rossouw)

WOSCOPS, 4S,CARE, LIPID, AFCAPS, VAHIT, Otros

Improve It
TNT, IDEAL
A to Z
HPS
PROSPER
ASCOT
MIRACL
Jupiter

# Riesgo Cardiovascular Residual y Estatinas

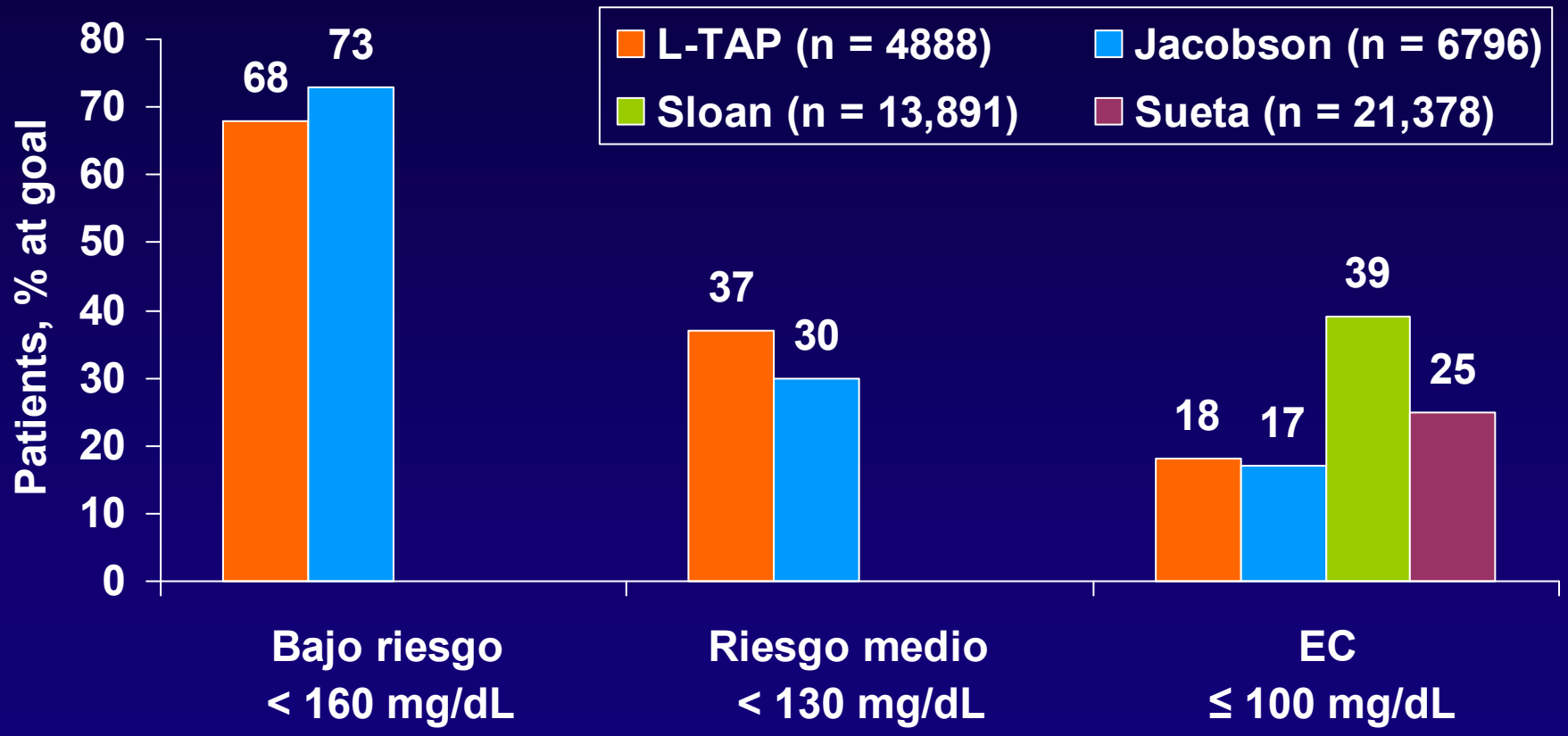
## Eventos Cardiovasculares versus placebo





[1] 4S Group. *Lancet.* 1994;344:1383-1389.
[2] LIPID Study Group. *N Engl J Med.* 1998;339:1349-1357.
[3] Sacks FM, et al. *N Engl J Med.* 1996;335:1001-1009.
[4] HPS Collaborative Group. *Lancet*. 2002;360:7-22.
[5] Shepherd J, et al. *N Engl J Med.* 1995;333:1301-1307
[6] Downs JR, et al. *JAMA.* 1998;279:1615-1622.

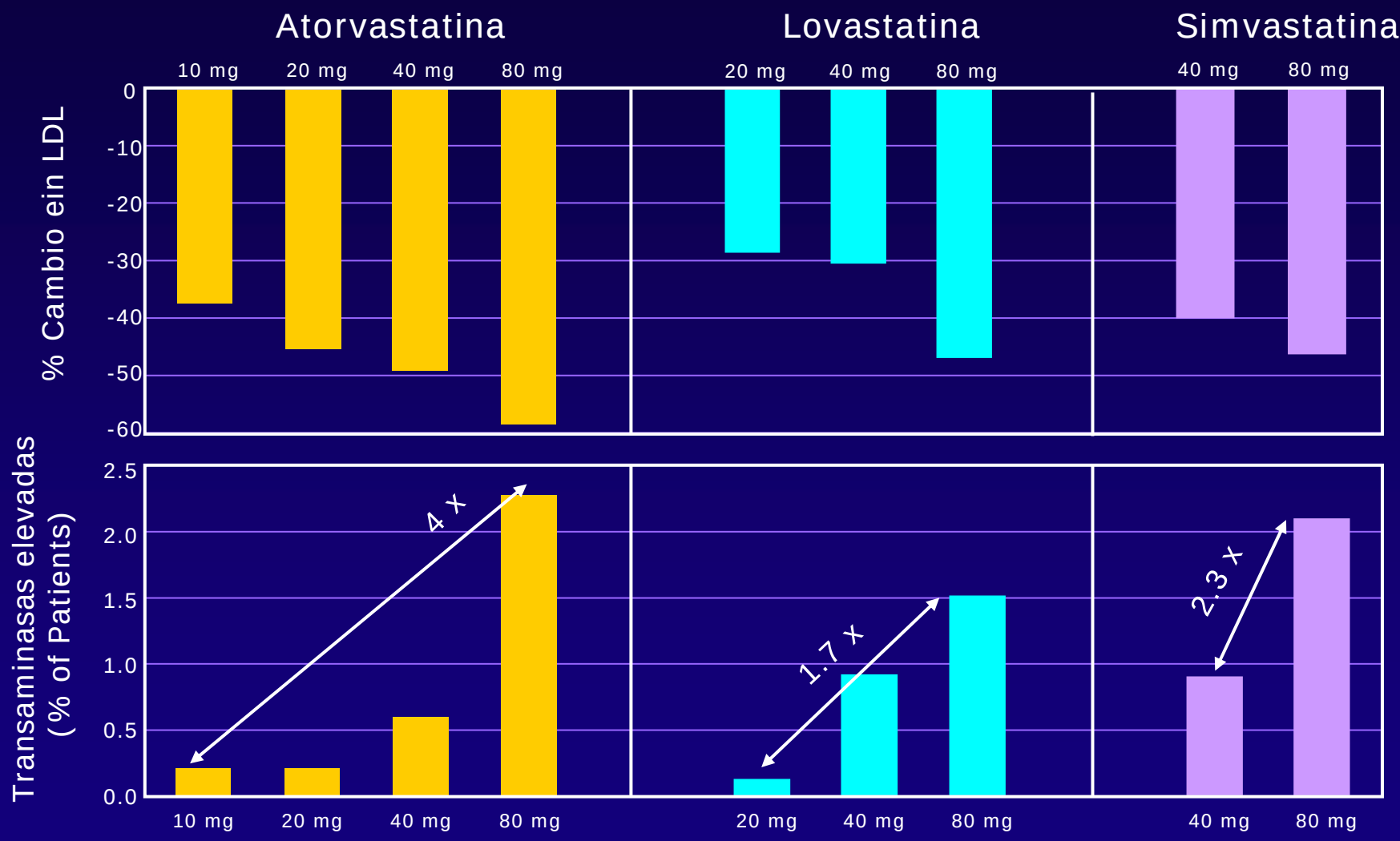
# Cumplimiento de objetivos de LDL ATP II: Pocos pacientes los alcanzan: Por que ??





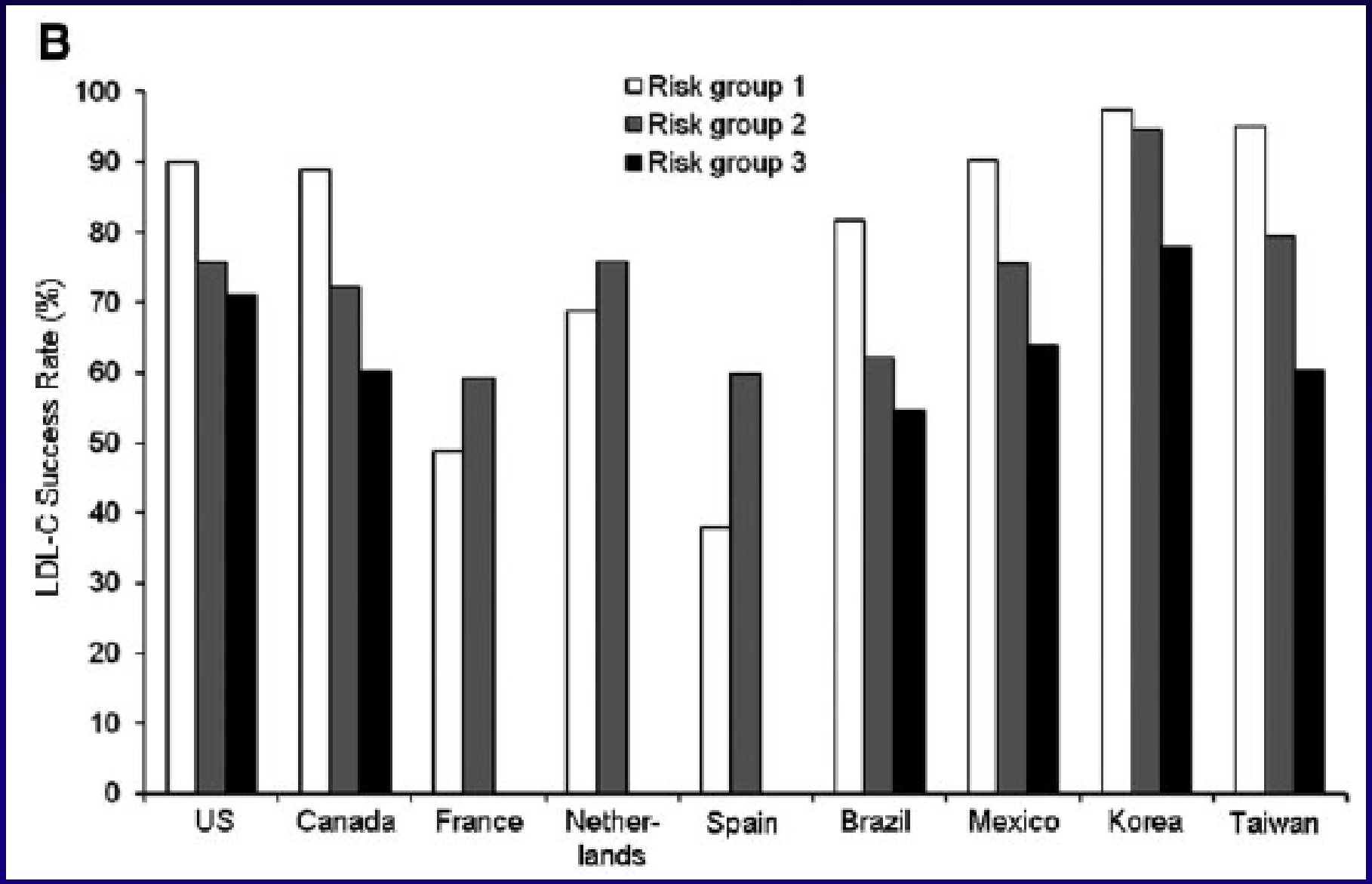
Pearson TA, et al. *Arch Intern Med.* 2000;160:459-467;
Jacobson TA, et al. *Arch Intern Med.* 2000;160:1361-1369;
Sloan KL, et al. *Am J Cardiol.* 2001;88:1143-1146;
Sueta CA, et al. *Am J Cardiol.* 1999;83:1303-1307.

# Riesgo Beneficio al Titular Estatinas

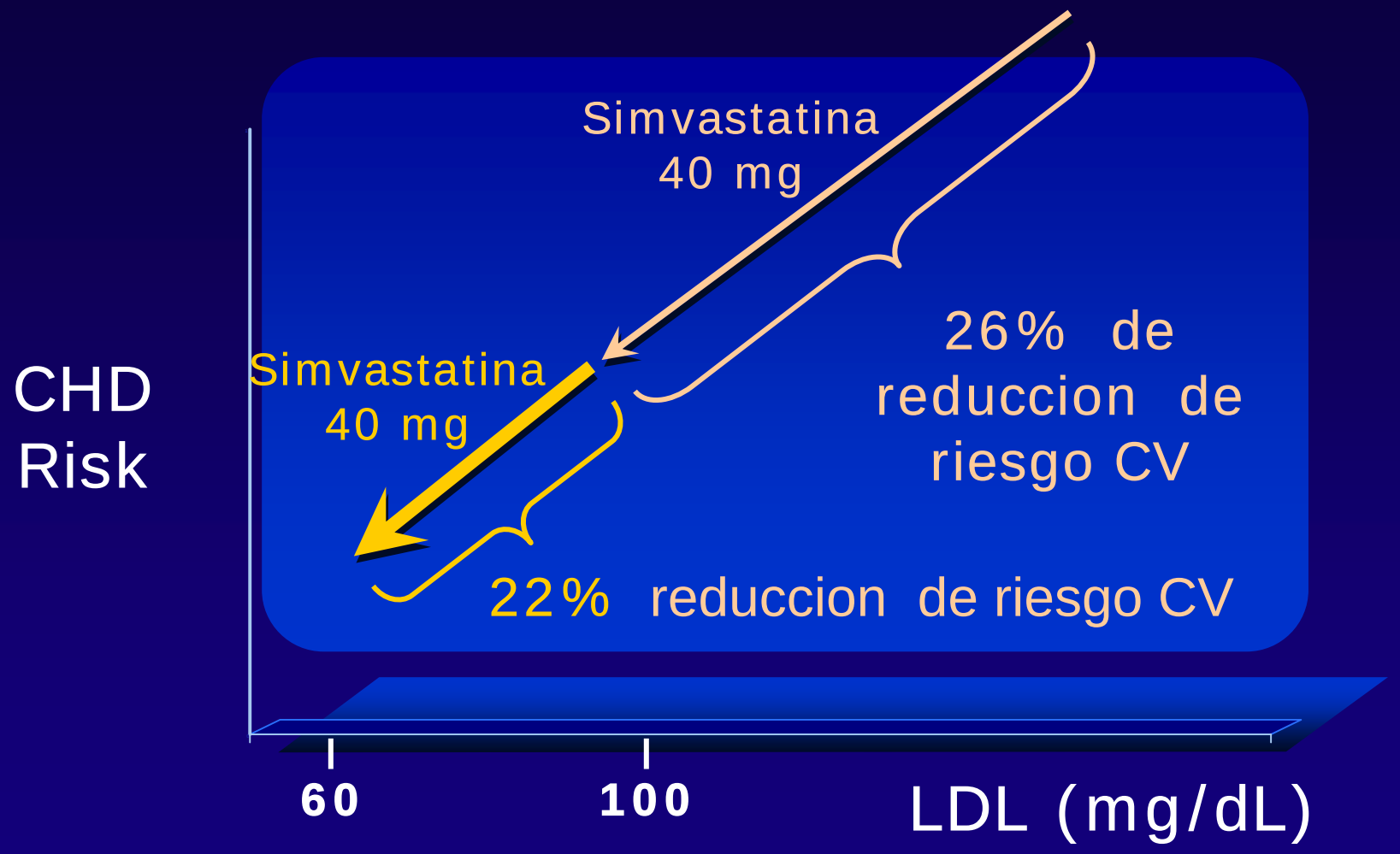



Data from prescribing information for atorvastatin, lovastatin, simvastatin.
This does not represent data from a comparative study.

# LTAP 2: Cumplimiento de las Metas y riesgo



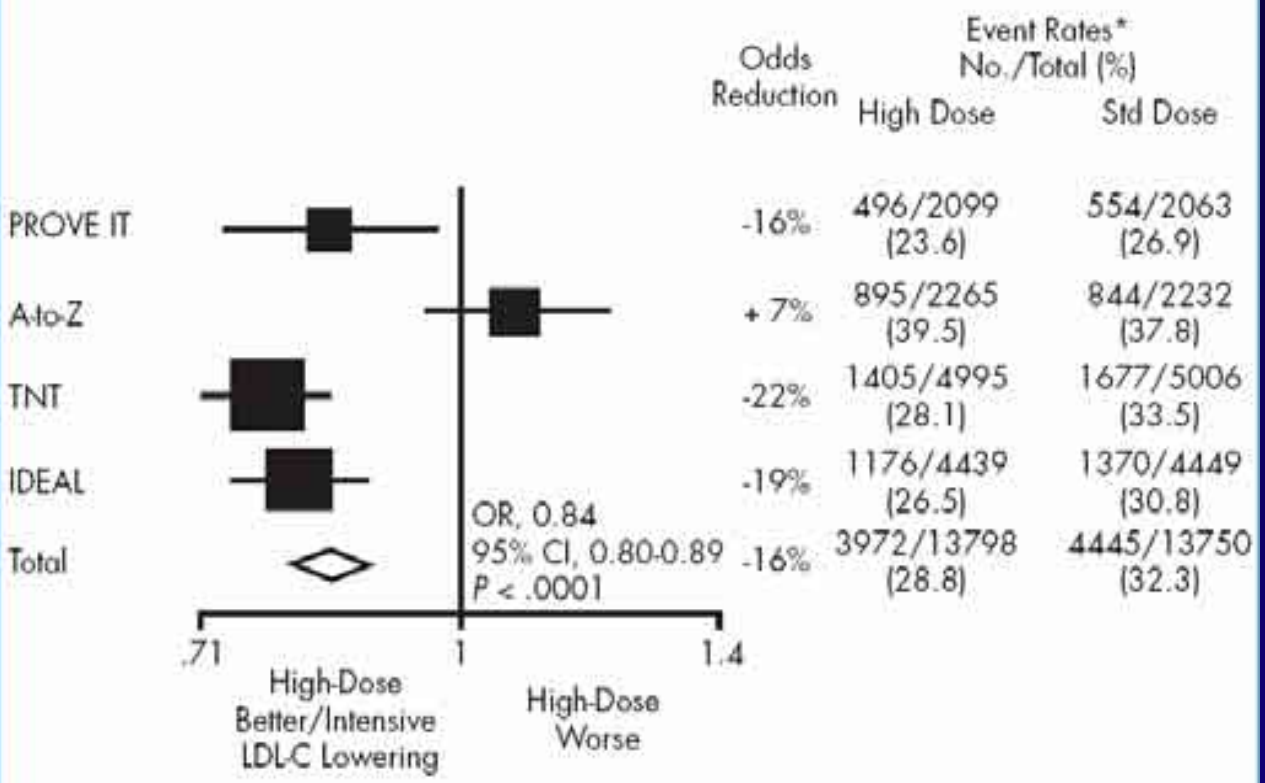
# Heart Protection Study: LDL y riesgo CV




Heart Protection Study Collaborative Group. *Lancet* 2002;360:7–22.

# Figure 2. Intensive LDL-C Lowering Reduces Risk of Coronary Death or any CV Event*

## More Intensive LDL-C Lowering With High-Dose Therapy†



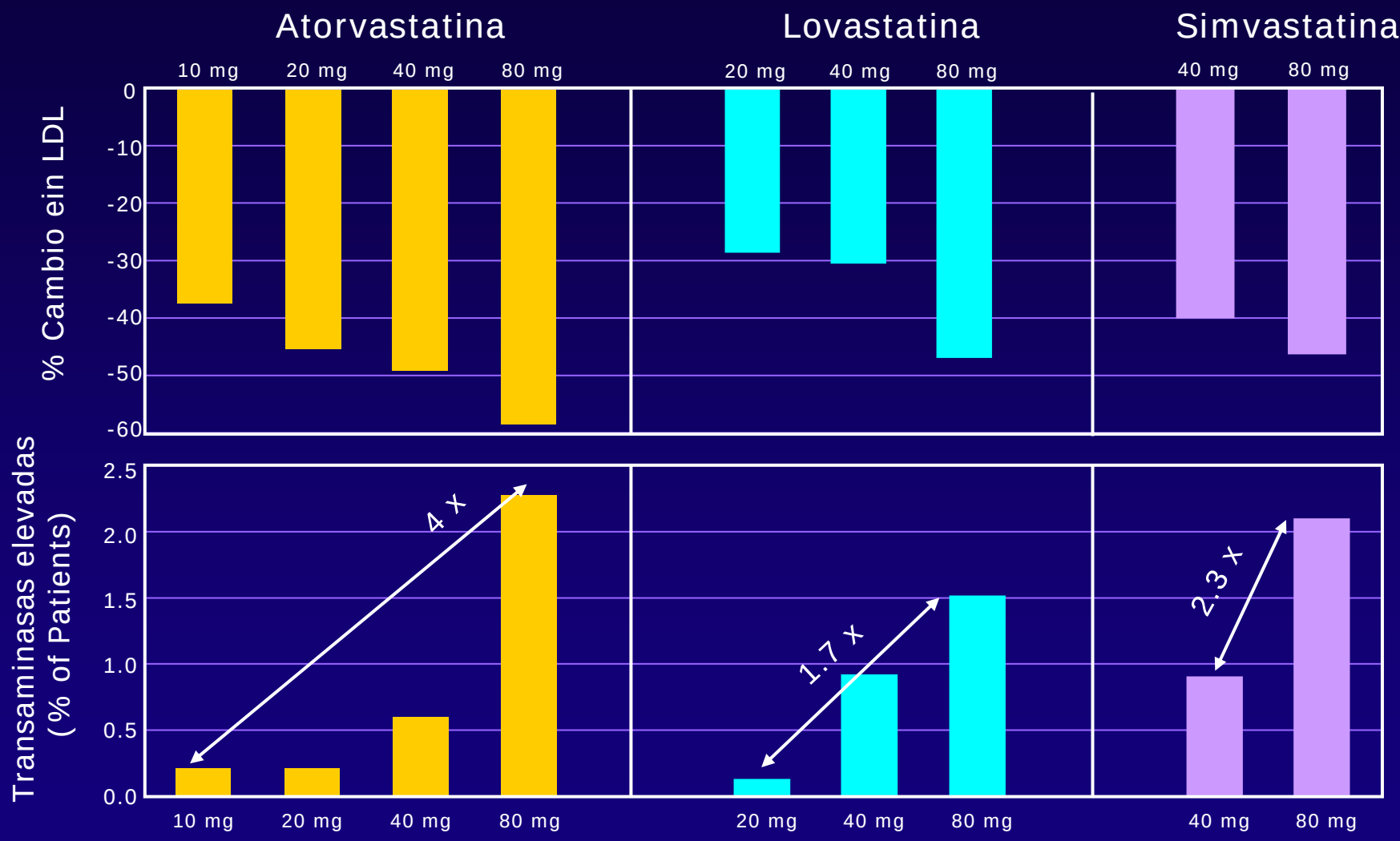

*Coronary death or any cardiovascular event (myocardial infarction, stroke, hospitalisation for unstable angina, revascularisation).

†Mean LDL-C: high-dose therapy, 1.9 mmol/L; standard-dose therapy, 2.6 mmol/L.

A-to-Z: Aggrastat to Zocor; IDEAL: Incremental Decrease in Events Through Aggressive Lipid Lowering; PROVE IT: Pravastatin and Atorvastatin Evaluation and Infection Therapy; TNT: Treating to New Targets.

Adapted from: Cannon CP et al. *J Am Coll Cardiol.* 2006;48:438-445.

# Riesgo Beneficio al Titular Estatinas




Data from prescribing information for atorvastatin, lovastatin, simvastatin.
This does not represent data from a comparative study.

# Unintended effects of statins in men and women in England and Wales: population based cohort study using the Q database

- BMJ 2010
- Historia electronica
- 2 millones de pacientes
- Sistema estatal Ingles
- Mayor tamano

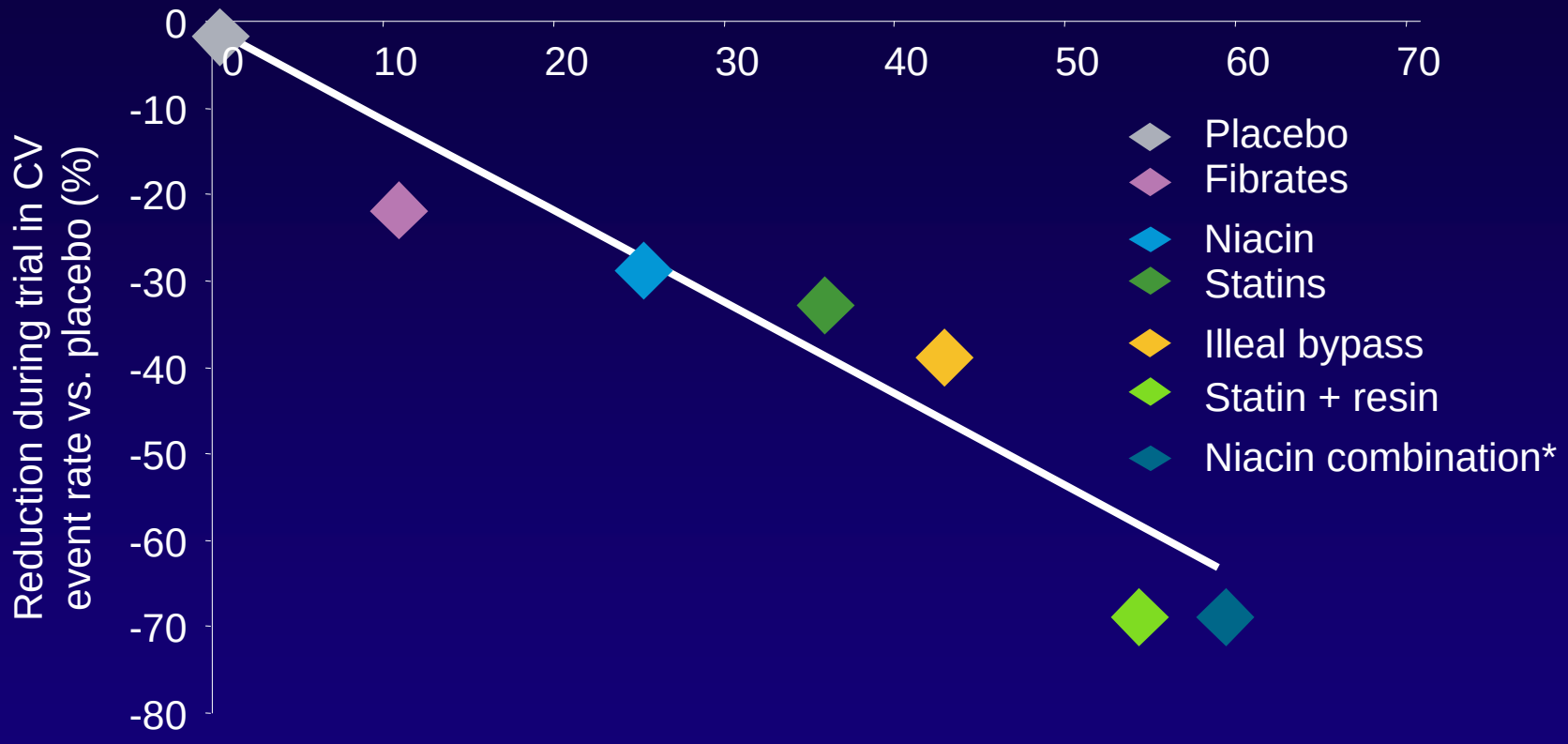
Table 7| Numbers needed to harm (NNH) or numbers needed to treat (NNT) and numbers of extra or prevented cases for each outcome over five years in patients aged 35-74 free of cardiovascular disease at baseline with QRISK2 score of ≥20% or ≥15%

| | | High risk patients (QRISK2 score ≥20%) | | | Medium risk patients (QRISK2 score ≥15%) | | |
|---|---|---|---|---|---|---|---|
| Variables | Adjusted hazard ratio† for statin use (95% CI) | 5 year risk of outcome in patients unexposed to statins | NNH or NNT (95% CI) | Estimated No of extra (or prevented) cases per 10 000 patients treated (95% CI) | 5 year risk of outcome in patients unexposed to statins | NNH or NNT (95% CI) | Estimated No of extra (or prevented) cases per 10 000 patients treated (95% CI) |
| **Women** | | | | | | | |
| Potential benefits: | | | | | | | |
| Cardiovascular disease* | 0.76 (0.67 to 0.86) | 0.1184 | −37 (−64 to −27) | −271 (−374 to −157) | 0.0989 | −44 (−76 to −32) | −228 (−315 to −132) |
| Oesophageal cancer | 0.68 (0.52 to 0.88) | 0.0025 | −1266 (−3460 to −850) | −8 (−12 to −3) | 0.0021 | −1483 (−4053 to −996) | −7 (−10 to −3) |
| Potential harms: | | | | | | | |
| Acute renal failure | 1.56 (1.31 to 1.86) | 0.0041 | 434 (284 to 783) | 23 (13 to 35) | 0.0030 | 593 (388 to 1070) | 17 (9 to 26) |
| Cataract | 1.3 (1.26 to 1.35) | 0.1089 | 33 (28 to 38) | 307 (260 to 355) | 0.0882 | 40 (34 to 47) | 252 (213 to 292) |
| Liver dysfunction | 1.53 (1.41 to 1.66) | 0.0140 | 136 (109 to 175) | 74 (57 to 91) | 0.0123 | 154 (125 to 199) | 65 (50 to 80) |
| Myopathy | 2.97 (2.36 to 3.74) | 0.0020 | 259 (186 to 375) | 39 (27 to 54) | 0.0016 | 313 (225 to 453) | 32 (22 to 44) |
| **Men** | | | | | | | |
| Potential benefits: | | | | | | | |
| Cardiovascular disease* | 0.76 (0.67 to 0.86) | 0.1326 | −33 (−57 to −24) | −301 (−417 to −174) | 0.1156 | −38 (−65 to −27) | −265 (−366 to −153) |
| Oesophageal cancer | 0.78 (0.66 to 0.91) | 0.0042 | −1082 (−2807 to −711) | −9 (−14 to −4) | 0.0037 | −1236 (−3207 to −812) | −8 (−12 to −3) |
| Potential harms: | | | | | | | |
| Acute renal failure | 1.61 (1.39 to 1.87) | 0.0047 | 346 (245 to 539) | 29 (19 to 41) | 0.0037 | 447 (316 to 696) | 22 (14 to 32) |
| Cataract | 1.32 (1.26 to 1.37) | 0.0630 | 52 (44 to 63) | 191 (158 to 225) | 0.0495 | 66 (56 to 80) | 151 (125 to 178) |
| Liver dysfunction | 1.53 (1.42 to 1.66) | 0.0133 | 142 (115 to 180) | 71 (56 to 87) | 0.0122 | 155 (126 to 197) | 64 (51 to 79) |
| Myopathy | 6.15 (5.19 to 7.3) | 0.0021 | 91 (74 to 112) | 110 (90 to 134) | 0.0018 | 106 (87 to 130) | 95 (77 to 116) |

Negative numbers indicate numbers needed to treat or cases prevented. Positive numbers indicate numbers needed to harm or extra cases.
*Odds ratios based on meta-analysis by Brugts et al.[2]
†Adjusted hazard ratios for all statins combined adjusted for same variables as in tables 4 and 5 (see web extra).

statins were of similar magnitude and all less than 1, but few patients were prescribed rosuvastatin to draw firm

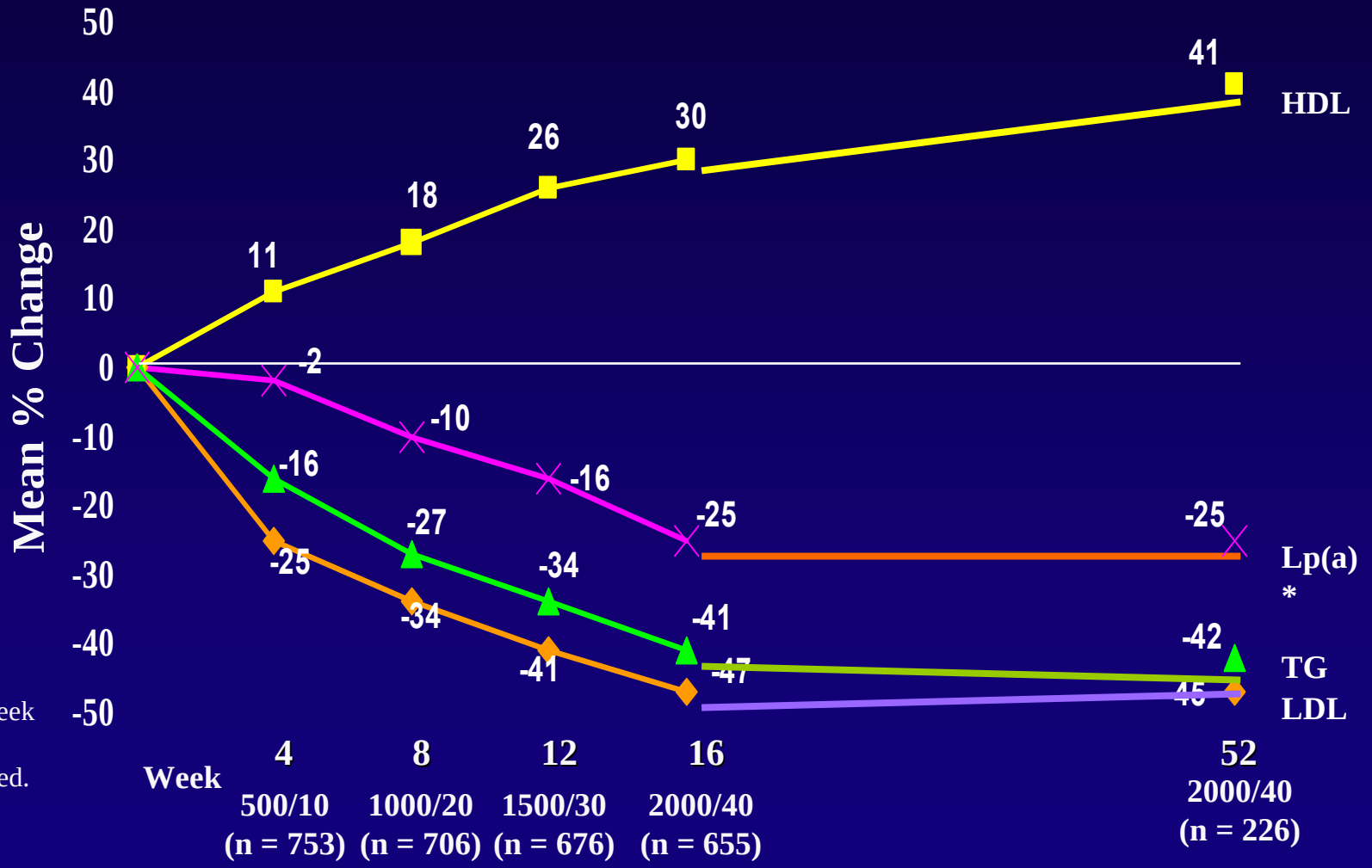
# Efecto de clases de drogas en los eventos




Percentage change in HDL-C - percentage change in LDL-C in Rx [placebo adjusted] (%)

1. Brown BG et al. *Curr Opin Lipidol* 2006;17:631-636.

# Niacina y Lovastatina: Eficacia a largo plazo




*n~200; point at week 16 is extrapolated.

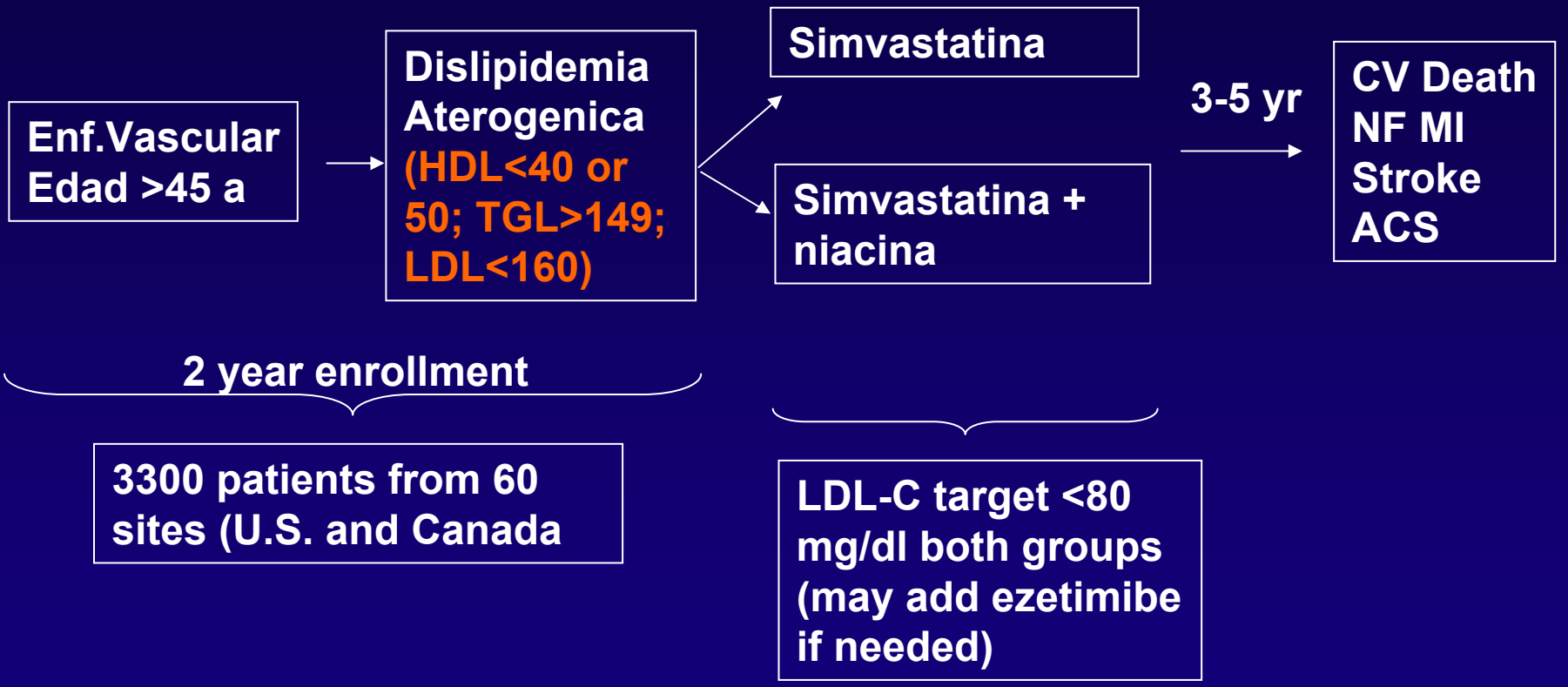
($p<0.001$)

**Kashyap ML, et al. Long-term safety and efficacy of a once-daily Niaspan/lovastatin formulation for patients with dyslipidemia. *Am J Cardiol.* 2002;89:672-678.**

# Estudios con combinaciones

| Treatment group | | | Δ% Stenosis | % Event |
|---|---|---|---|---|
| Study | Regimen | LDL | (*P*) | reduction |
| CLAS I | D + R + N | ↓43 | — | 25 |
| POSCH (5y) | D + PIB ± R | ↓42 | — | 35 (62) |
| Lifestyle | V + M + E | ↓37 | ↓2.2(0.001) | — |
| FATS (N+C) | D + R + N | ↓32 | ↓0.9(0.005) | 80 |
| FATS (L+C) | D + R + L | ↓46 | ↓0.7(0.02) | 70 |
| CLAS II | D + R + N | ↓40 | — | 43 |
| USCF-SCOR | D + R + N ± L | ↓39 | ↓1.5(0.04) | — |
| SCRIP | D+(R+N+L+F)+E, BP | ↓21 | — | 50 |
| HARP | D+P+N+C+F | ↓41 | ↑2.1 | 33 |
| Post-CABG | D+L+C | ↓37-40 | ↓0.054 | 29 |

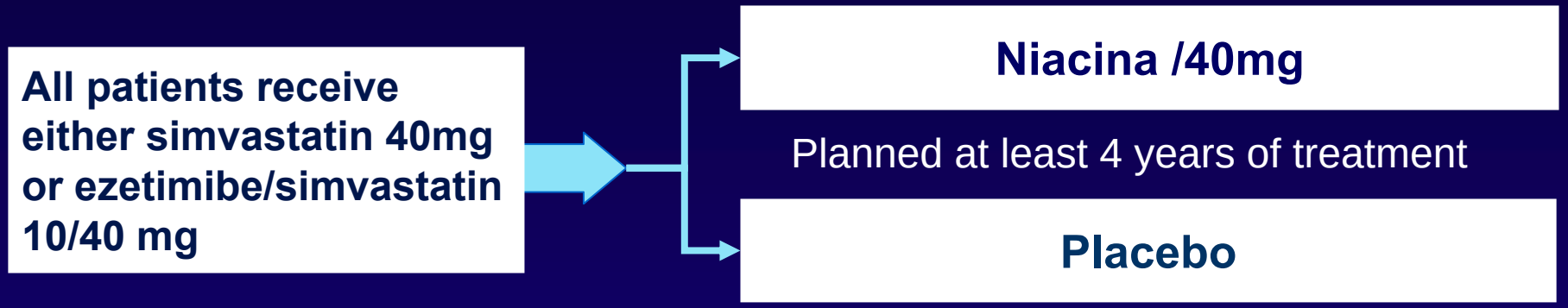
# AIM-HIGH: diseño del estudio




Study Start Date: September 2005
Study Completion Date: approximately December 2010

ClinicalTrials.gov Identifier: NCT00120289

# HPS 2-THRIVE (Heart Protection Study 2 Treating HDL to Reduce Vascular Events)




| Patient Population | Subjects | Primary End Point |
|---|---|---|
| ■ Age 50-80<br>• History of MI or cerebrovascular atherosclerotic disease or PAD or Diabetes mellitus with any of the above or with other evidence of symptomatic CHD | ■ 20,000<br>■ UK (n=7500), Scandinavia (n=5000) and China (n=7500) | ■ Major vascular events during the scheduled treatment period (non-fatal MI or coronary death, non-fatal or fatal stroke, or revascularisation) |

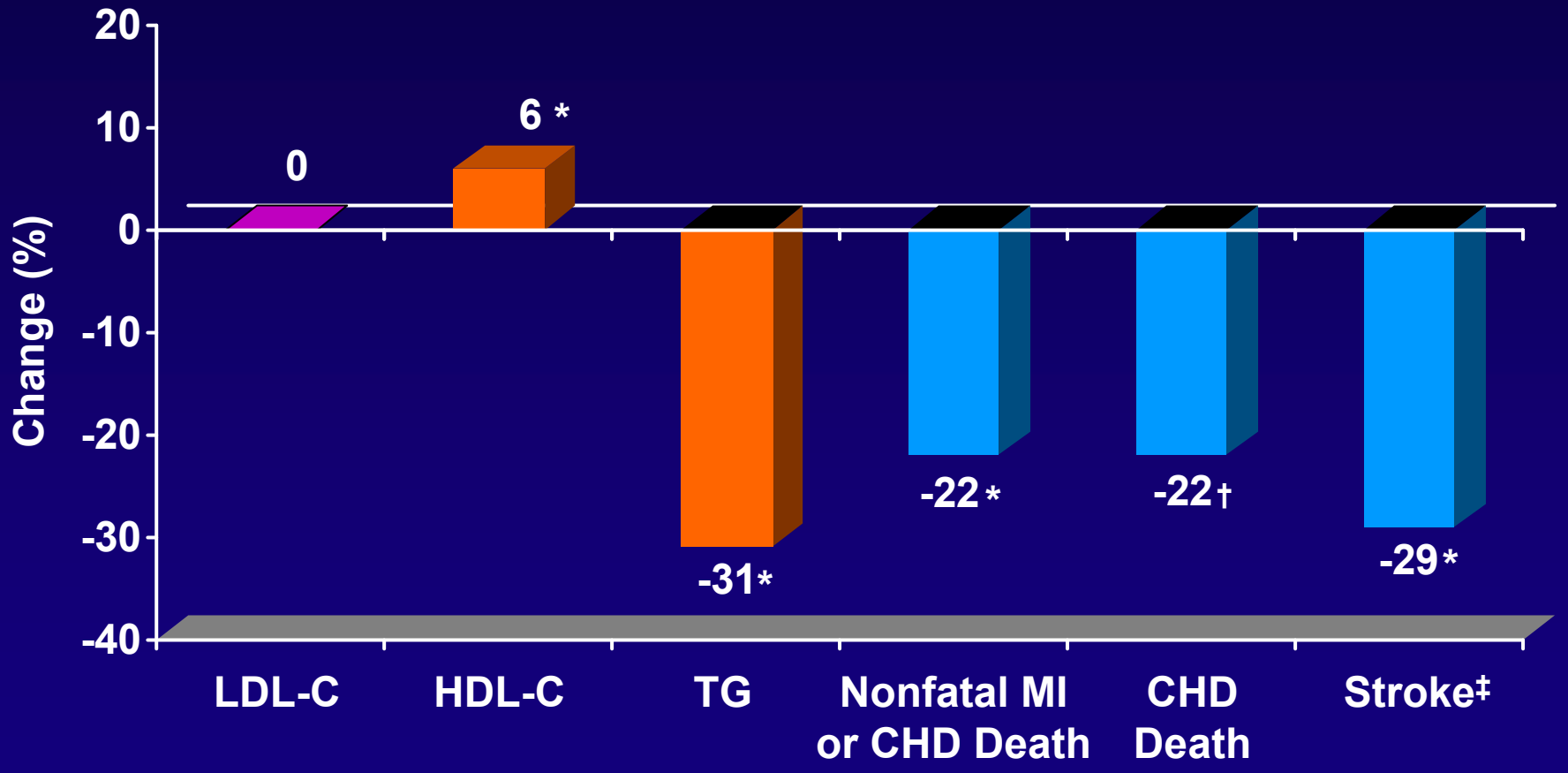
ClinicalTrials.gov Identifier: NCT00461630

- Study start: January 2007
- Expected completion: January 2013

# VA-HIT: HDL Intervention Trial

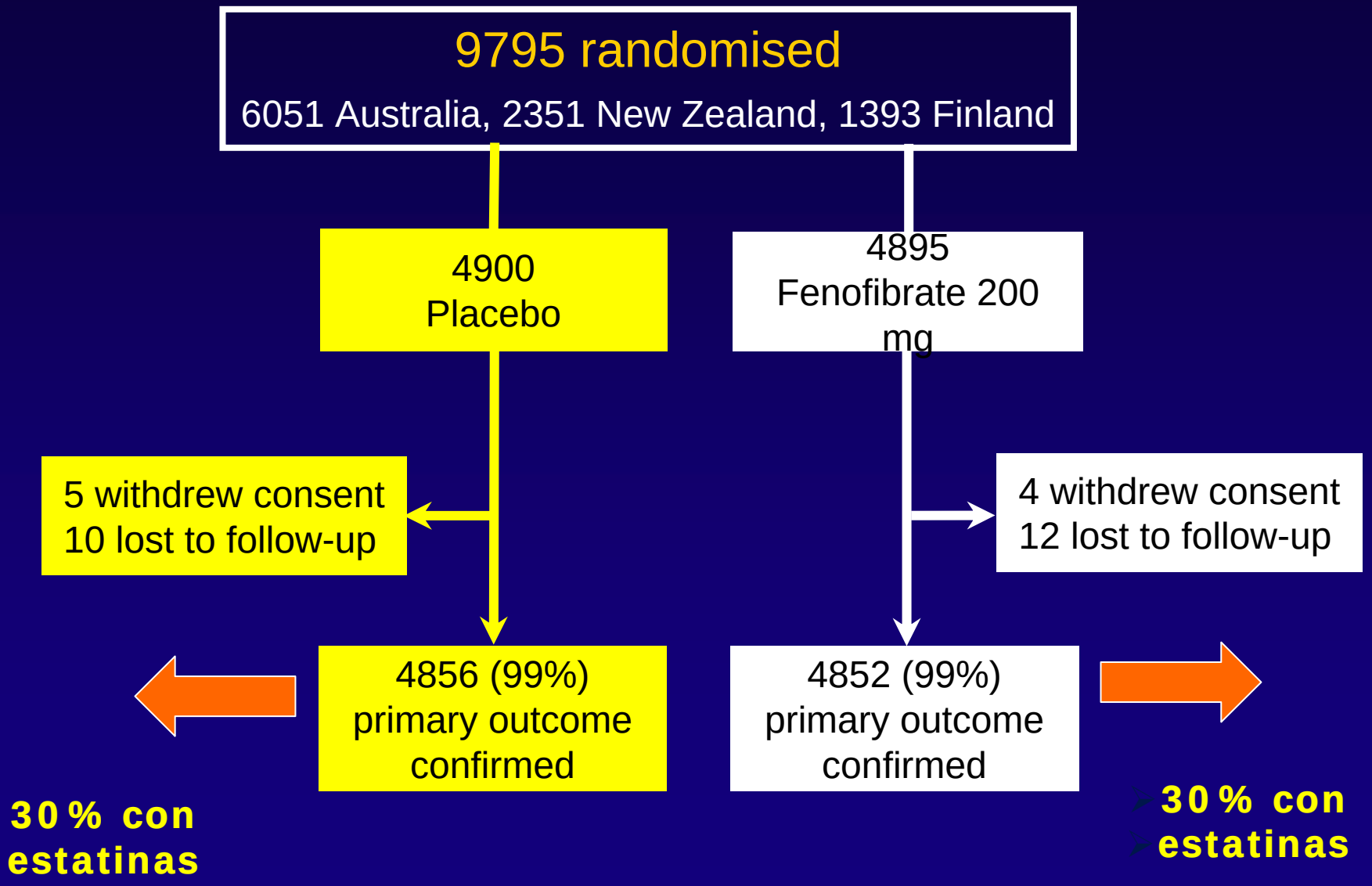
*$P \leq 0.05$
†$P = 0.07$

## Lipidos y Eventos

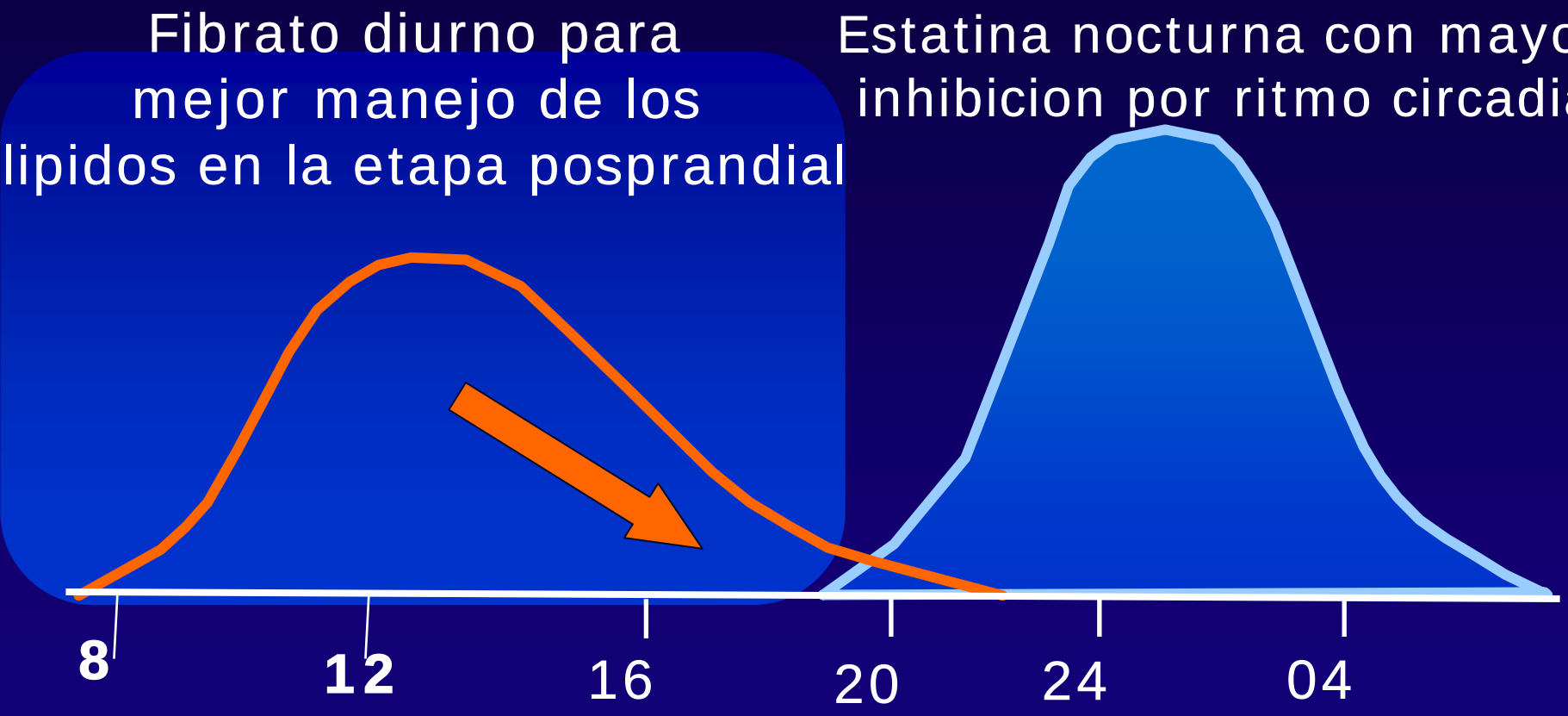



Rubins HB et al. *N Engl J Med.* 1999;341:410

# FIELD: flujo de pacientes



# Fibrato mas estatina: administracion distanciada y sus concentraciones sericas

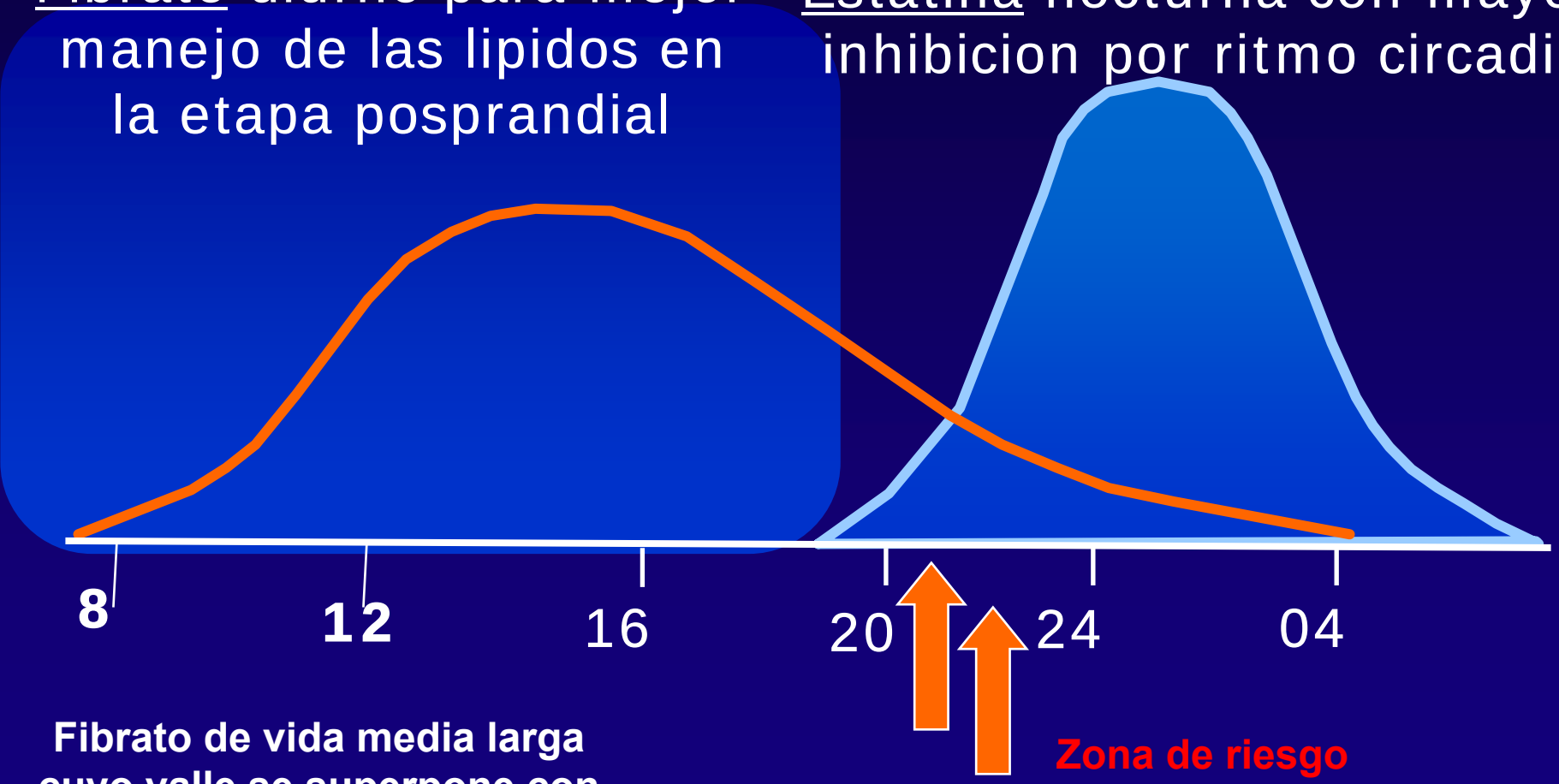



**Fibrato de vida media corta cuyo valle NO se superpone con la estatina nocturna**

# Fibrato mas estatina: administracion distanciada y las concentraciones sericas

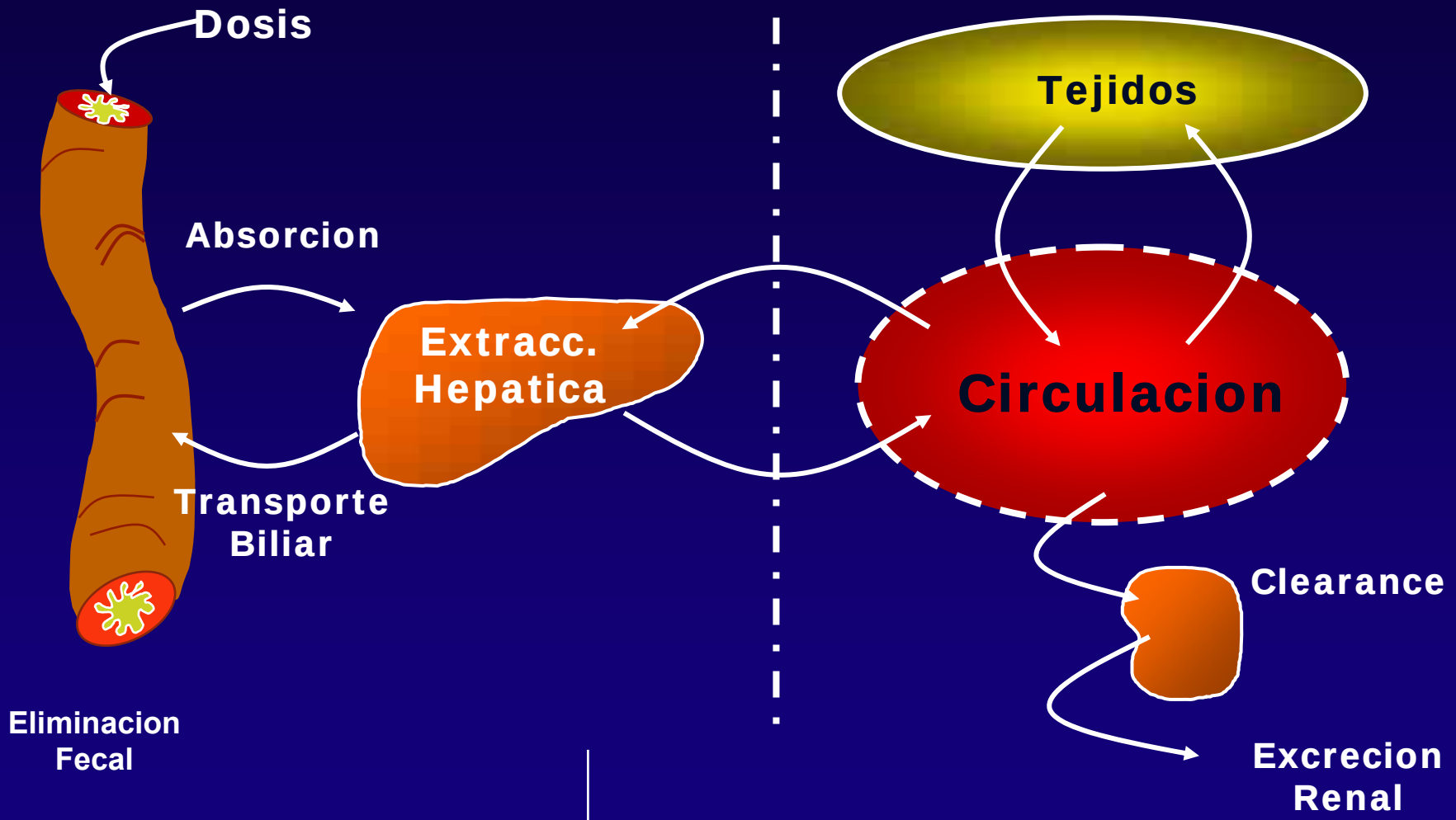
Fibrato diurno para mejor manejo de las lipidos en la etapa posprandial

Estatina nocturna con mayor inhibicion por ritmo circadiano



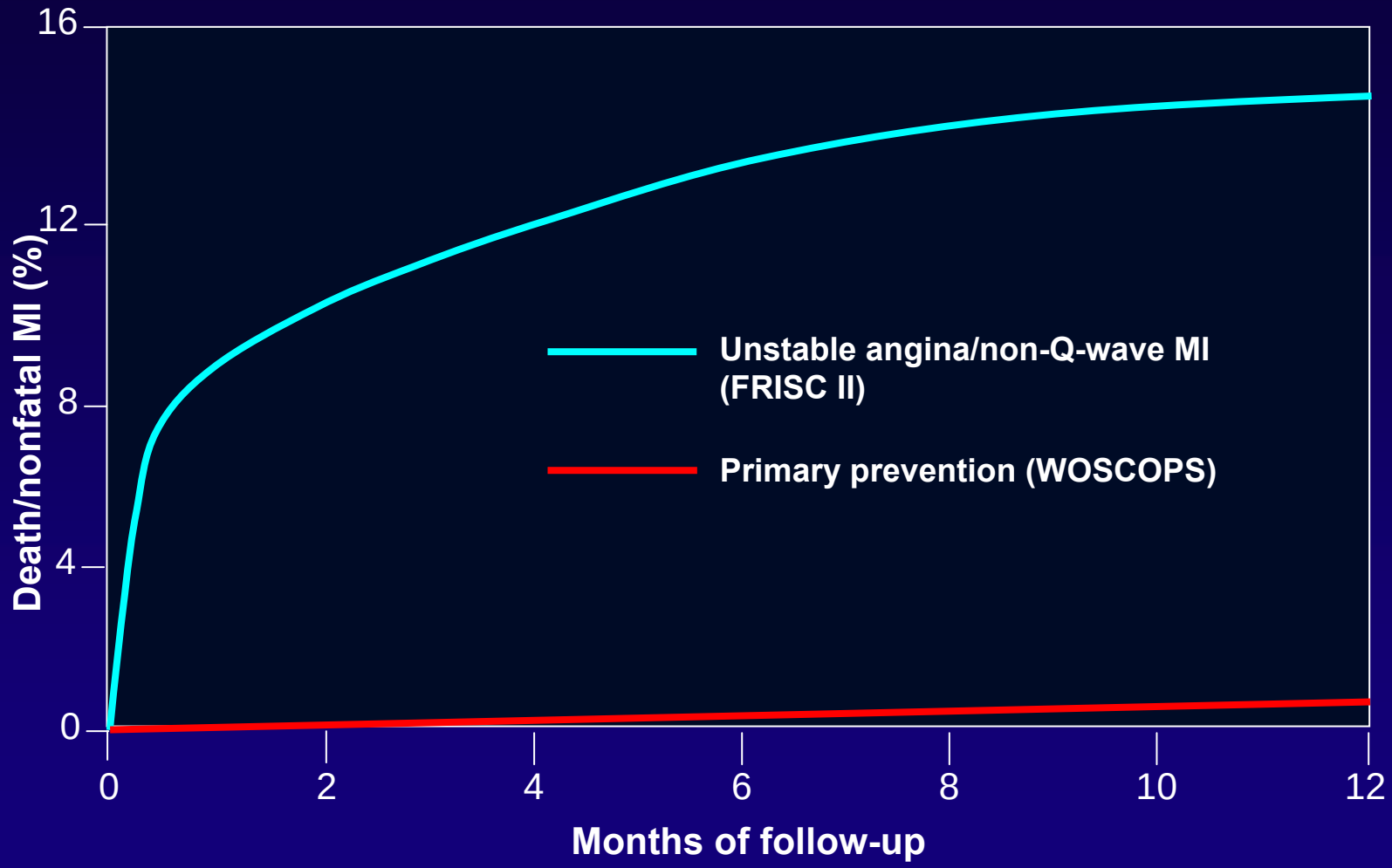

**Fibrato de vida media larga cuyo valle se superpone con la estatina nocturna**

# Exposicion sistemica reducida: una forma de evitar interaciones de drogas




Olsson et al., (2002);

# Riesgo y eventos en los estudios de prevencion 1ª y enfermedad coronaria estable e inestable

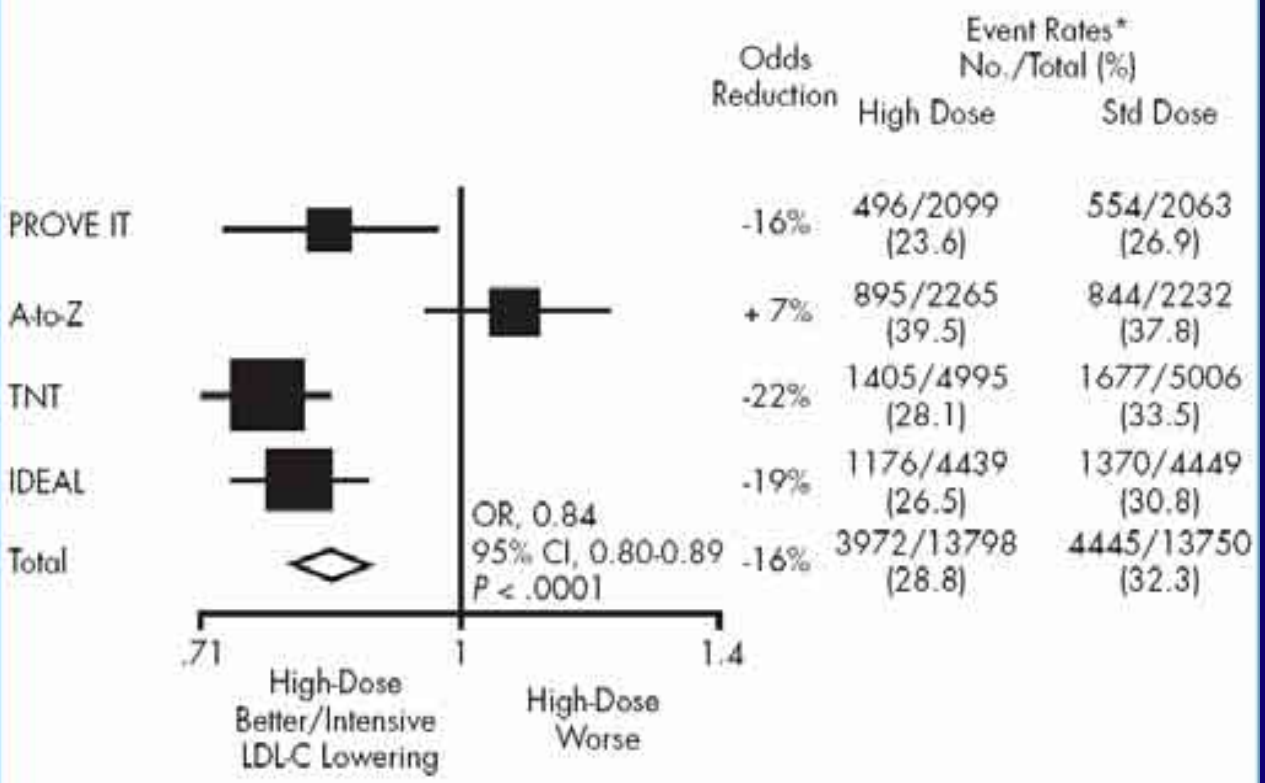




Wallentin L *et al. Lancet* 2000;**356**:9–16.
Juul-Moller S *et al. Lancet* 1992;**340**:1421–1425.
Shepherd J *et al. N Engl J Med* 1995;**333**:1301–1307.

# Figure 2. Intensive LDL-C Lowering Reduces Risk of Coronary Death or any CV Event*

## More Intensive LDL-C Lowering With High-Dose Therapy†




*Coronary death or any cardiovascular event (myocardial infarction, stroke, hospitalisation for unstable angina, revascularisation).

†Mean LDL-C: high-dose therapy, 1.9 mmol/L; standard-dose therapy, 2.6 mmol/L.

A-to-Z: Aggrastat to Zocor; IDEAL: Incremental Decrease in Events Through Aggressive Lipid Lowering; PROVE IT: Pravastatin and Atorvastatin Evaluation and Infection Therapy; TNT: Treating to New Targets.

Adapted from: Cannon CP et al. *J Am Coll Cardiol.* 2006;48:438-445.

# El estudio Courage

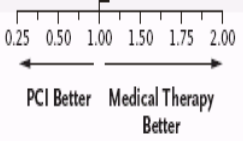
The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 APRIL 12, 2007 VOL. 356 NO. 15

## Optimal Medical Therapy with or without PCI for Stable Coronary Disease

William E. Boden, M.D., Robert A. O'Rourke, M.D., Koon K. Teo, M.B., B.Ch., Ph.D., Pamela M. Hartigan, Ph.D., David J. Maron, M.D., William J. Kostuk, M.D., Merril Knudtson, M.D., Marcin Dada, M.D., Paul Casperson, Ph.D., Crystal L. Harris, Pharm.D., Bernard R. Chaitman, M.D., Leslee Shaw, Ph.D., Gilbert Gosselin, M.D., Shah Nawaz, M.D., Lawrence M. Title, M.D., Gerald Gau, M.D., Alvin S. Blaustein, M.D., David C. Booth, M.D., Eric R. Bates, M.D., John A. Spertus, M.D., M.P.H., Daniel S. Berman, M.D., G.B. John Mancini, M.D., and William S. Weintraub, M.D., for the COURAGE Trial Research Group*

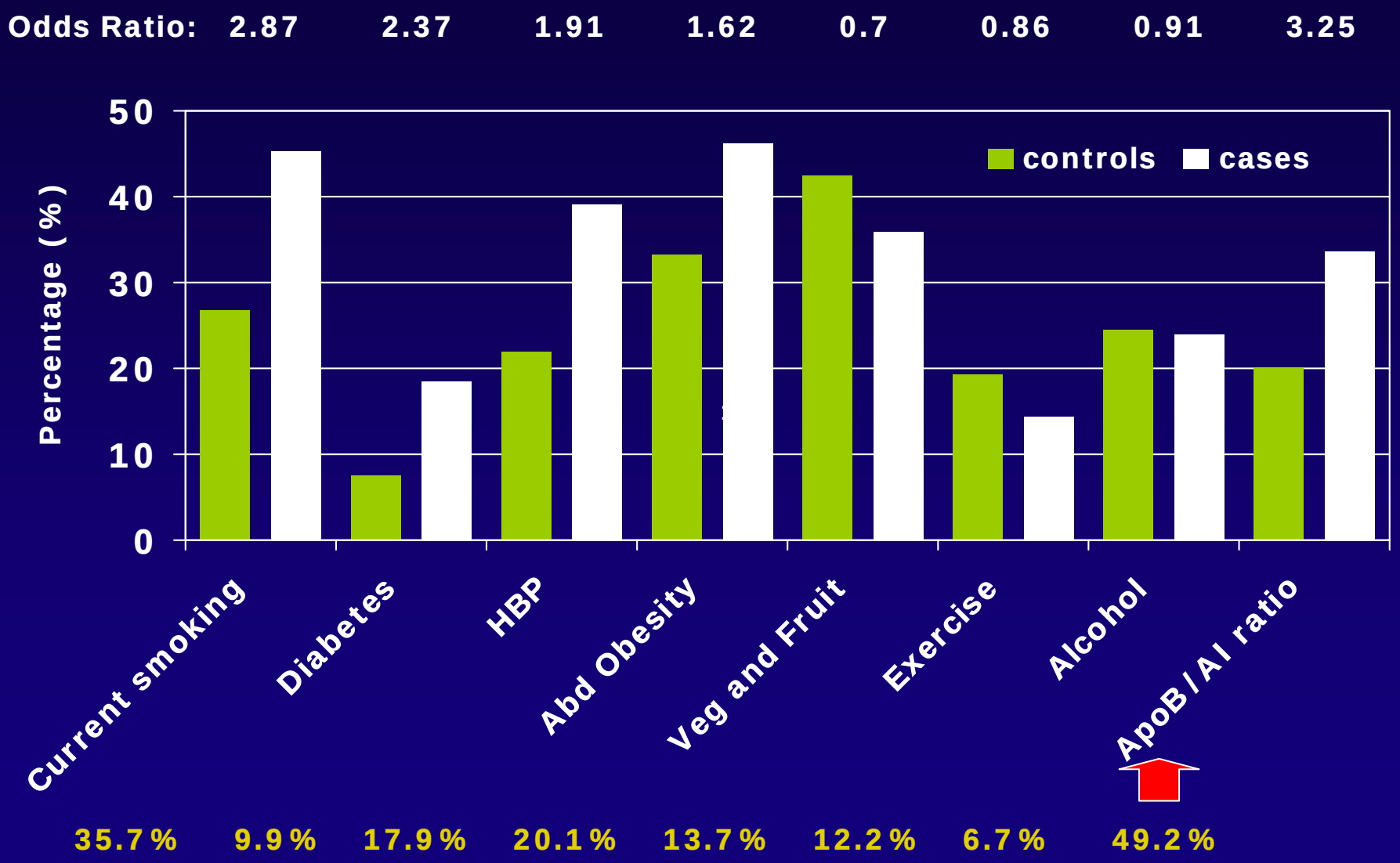
| Baseline Characteristics | No. of Patients | Hazard Ratio (95% CI) | Event Rate for the Primary Outcome | | P Value |
|---|---|---|---|---|---|
| | | | PCI | Medical Therapy | |
| Overall | 2287 | 1.05 (0.87–1.27) | 0.19 | 0.19 | |
| Sex | | | | | 0.03 |
| Male | 1947 | 1.15 (0.93–1.42) | 0.19 | 0.18 | |
| Female | 338 | 0.65 (0.40–1.06) | 0.18 | 0.26 | |
| Myocardial infarction | | | | | 0.15 |
| Yes | 876 | 0.91 (0.69–1.21) | 0.23 | 0.25 | |
| No | 1371 | 1.22 (0.93–1.60) | 0.17 | 0.14 | |
| Extent of CAD | | | | | 0.65 |
| Multivessel disease | 1581 | 1.04 (0.84–1.30) | 0.21 | 0.21 | |
| Single-vessel disease | 700 | 1.17 (0.76–1.80) | 0.15 | 0.12 | |
| Smoking | | | | | 0.71 |
| Current | 653 | 1.00 (0.71–1.41) | 0.20 | 0.21 | |
| Not current | 1631 | 1.08 (0.86–1.36) | 0.19 | 0.18 | |
| Diabetes | | | | | 0.33 |
| Yes | 766 | 0.99 (0.73–1.32) | 0.25 | 0.24 | |
| No | 1468 | 1.20 (0.92–1.56) | 0.17 | 0.15 | |
| CCS angina class | | | | | 0.73 |
| 0 or I | 964 | 1.01 (0.75–1.38) | 0.17 | 0.20 | |
| II or III | 1371 | 1.09 (0.85–1.40) | 0.20 | 0.18 | |
| Ejection fraction | | | | | 0.72 |
| ≤50% | 406 | 1.14 (0.77–1.70) | 0.28 | 0.26 | |
| >50% | 1848 | 1.05 (0.84–1.32) | 0.17 | 0.16 | |
| Age | | | | | 0.62 |
| >65 yr | 904 | 1.10 (0.83–1.46) | 0.24 | 0.22 | |
| ≤65 yr | 1381 | 1.00 (0.77–1.32) | 0.16 | 0.16 | |
| Previous CABG | | | | | 0.81 |
| No | 2039 | 1.04 (0.84–1.29) | 0.17 | 0.17 | |
| Yes | 248 | 0.98 (0.52–1.82) | 0.34 | 0.29 | |
| Race | | | | | 0.43 |
| White | 1963 | 1.08 (0.87–1.34) | 0.19 | 0.18 | |
| Nonwhite | 322 | 0.87 (0.54–1.42) | 0.19 | 0.24 | |
| Health care system | | | | | 0.17 |
| Canadian | 932 | 1.27 (0.90–1.78) | 0.17 | 0.14 | |
| U.S. non-VA | 387 | 0.71 (0.44–1.14) | 0.15 | 0.21 | |
| U.S. VA | 968 | 1.06 (0.80–1.38) | 0.22 | 0.22 | |



# Como cumplir las guias? Dosis altas/combo?

- Riesgo: Framingham/R
- Tratamiento dirigido a todos los FR-CV
- Aterosclerosis Subclinica y marcadores como seguimiento
- Casos especiales, HDL
- Triglicéridos
- Nuevos FR CV
- Dosis alta/ combo segun las evidencias

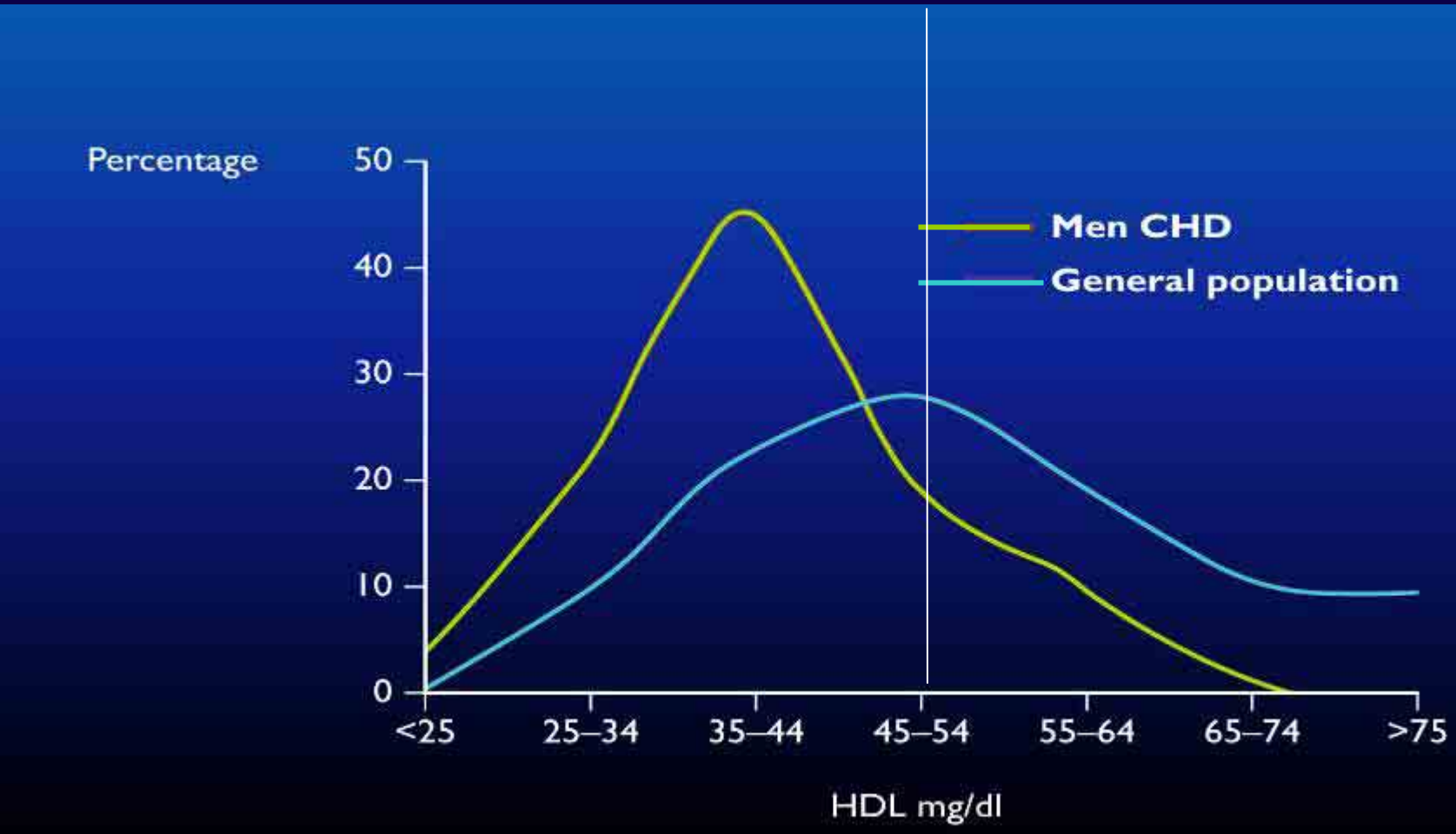
# Interheart: Factores de Riesgo IAM



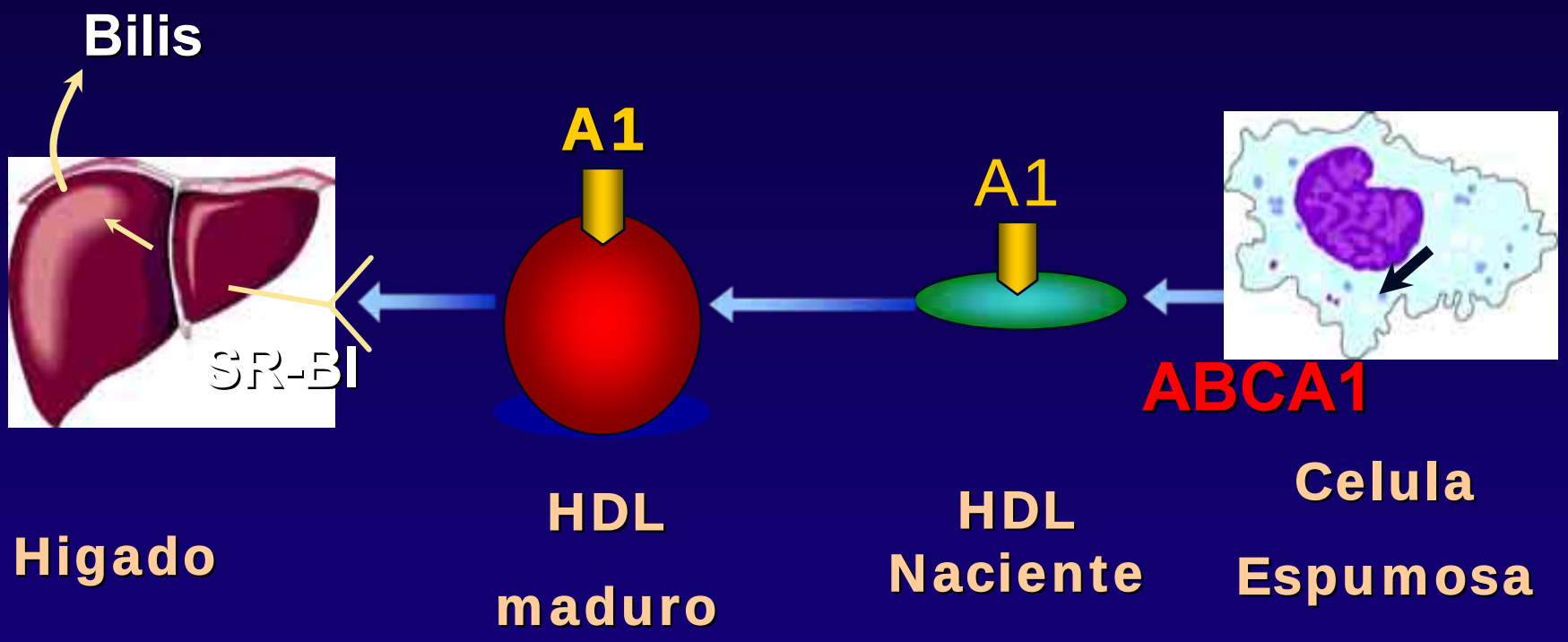

Population attributable risk

Yusuf S, et al. Lancet 2004;364:937–952

# **70% de hombres con EC tienen HDL bajo ≤44 mg/dL** (Framingham Male Offspring 35-54)



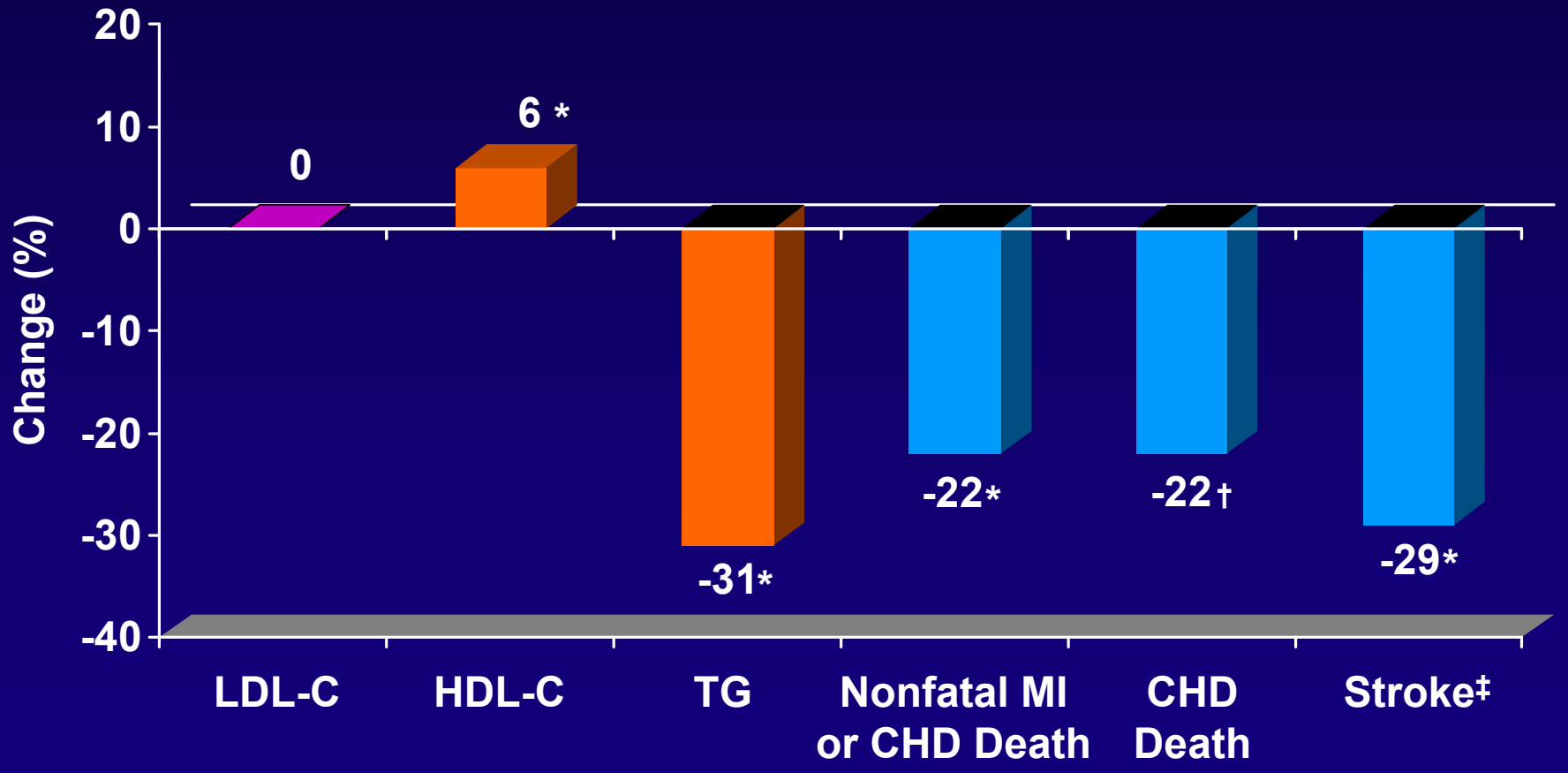
# HDL y Transporte Reverso de Colesterol



# VA-HIT: HDL Intervention Trial

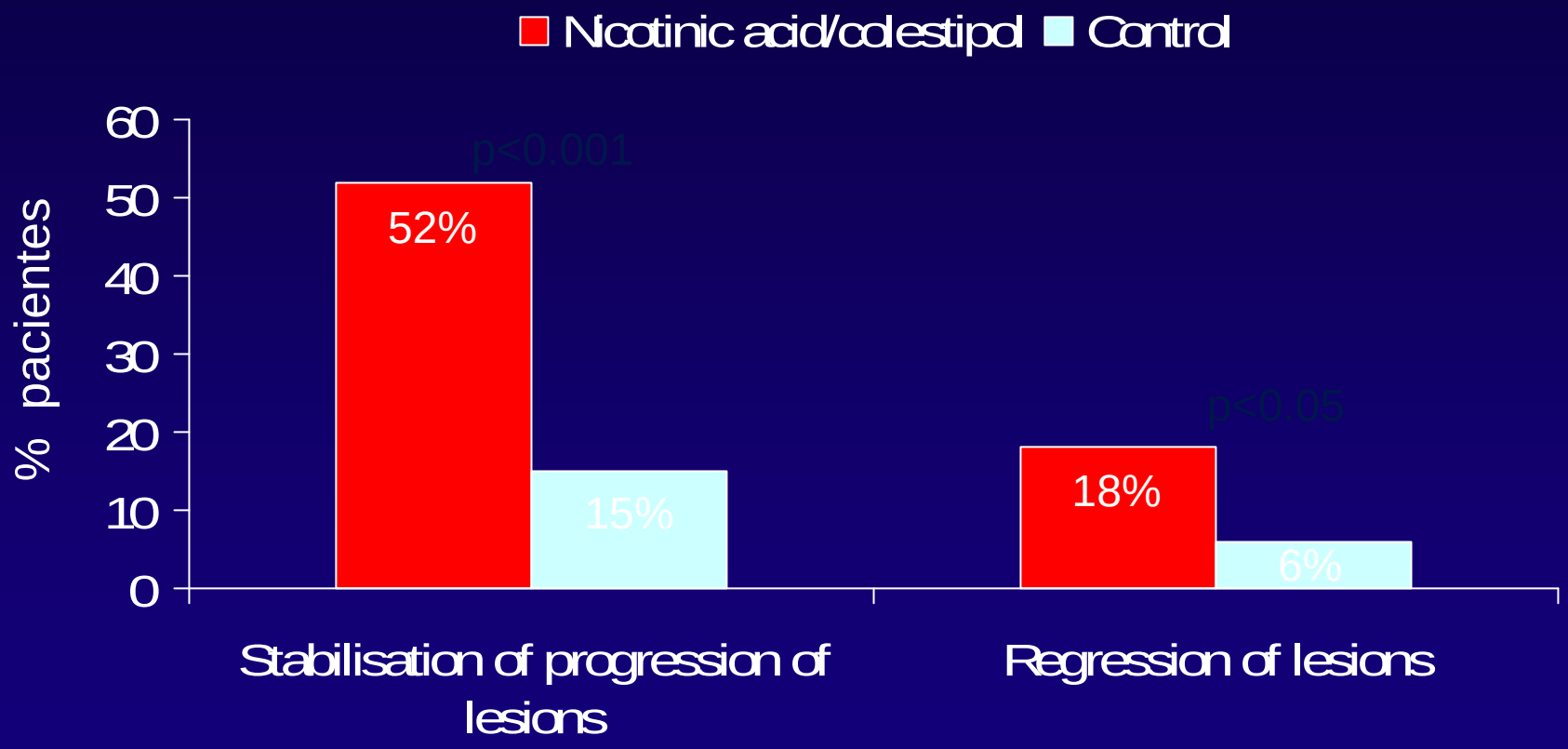
*$P \leq 0.05$
†$P = 0.07$

## Lipidos y Eventos



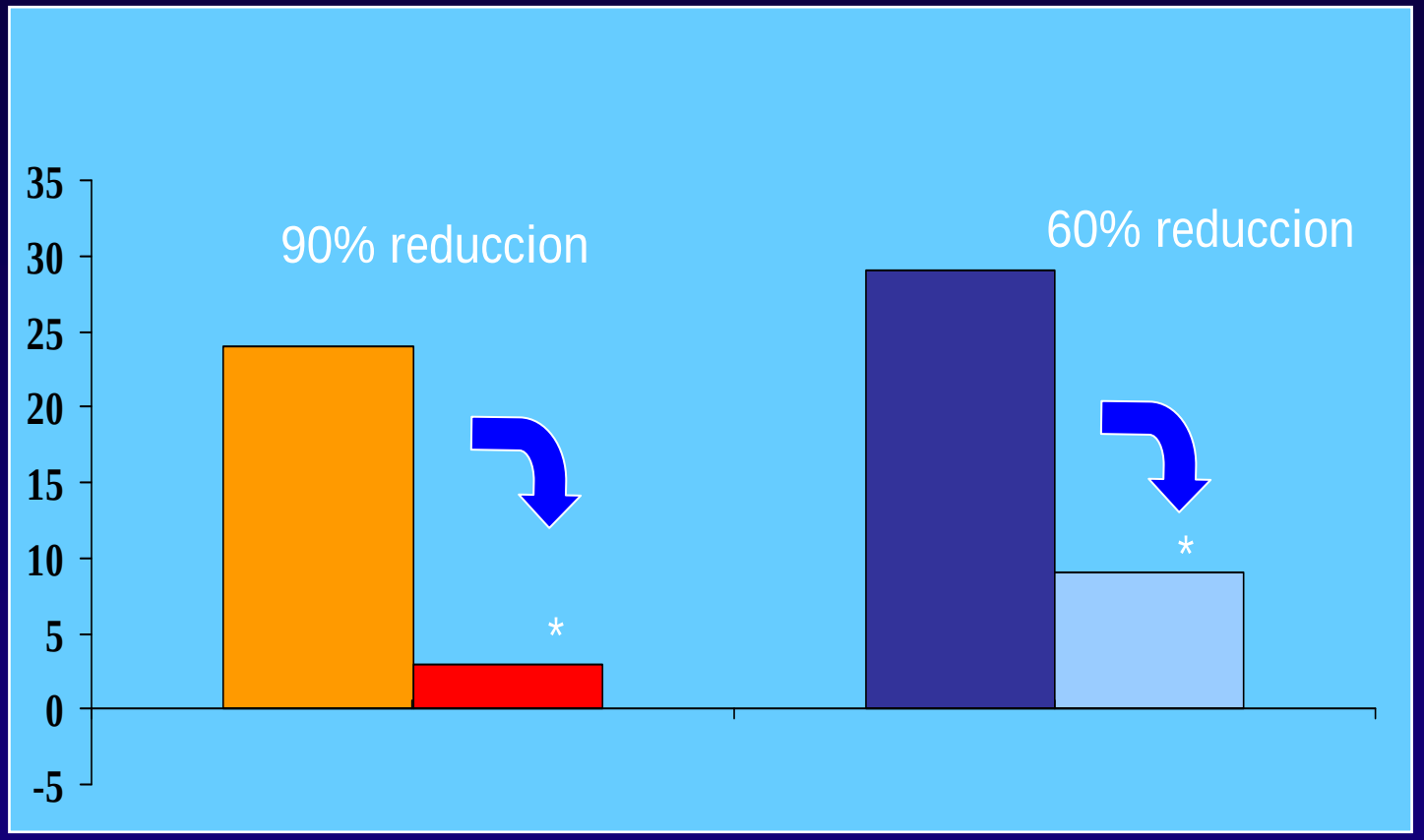

Rubins HB et al. *N Engl J Med.* 1999;341:410

# (CLAS): Cholesterol Lowering Atherosclerosis Study: Estab/ Regresion de la Aterosclerosis



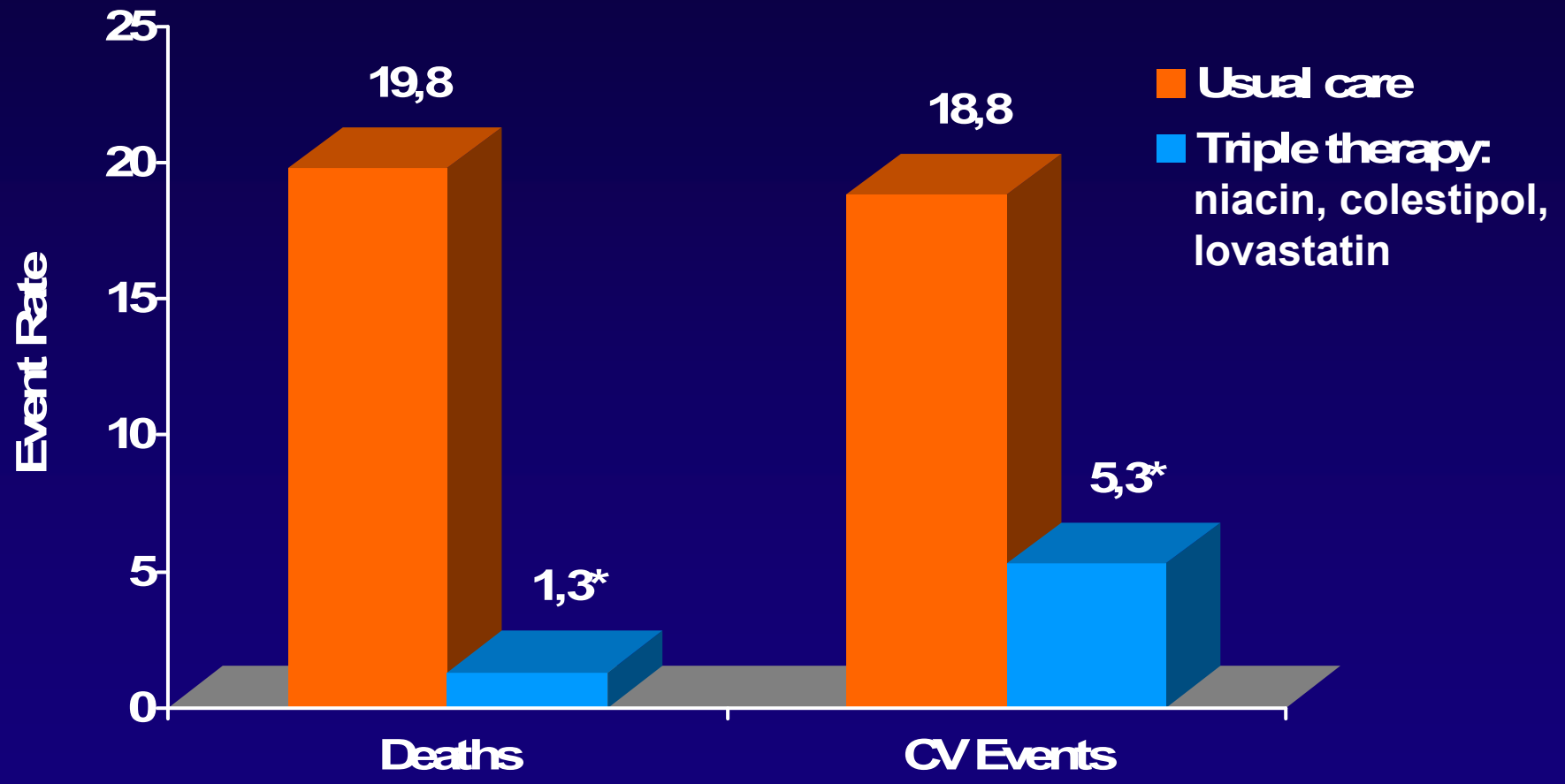

*Data adapted from Blankenhorn et al (1993)*[1]

# HDL Atherosclerosis Treatment Study
# o HATS: Eventos Coronarios Mayores




* p<0.01

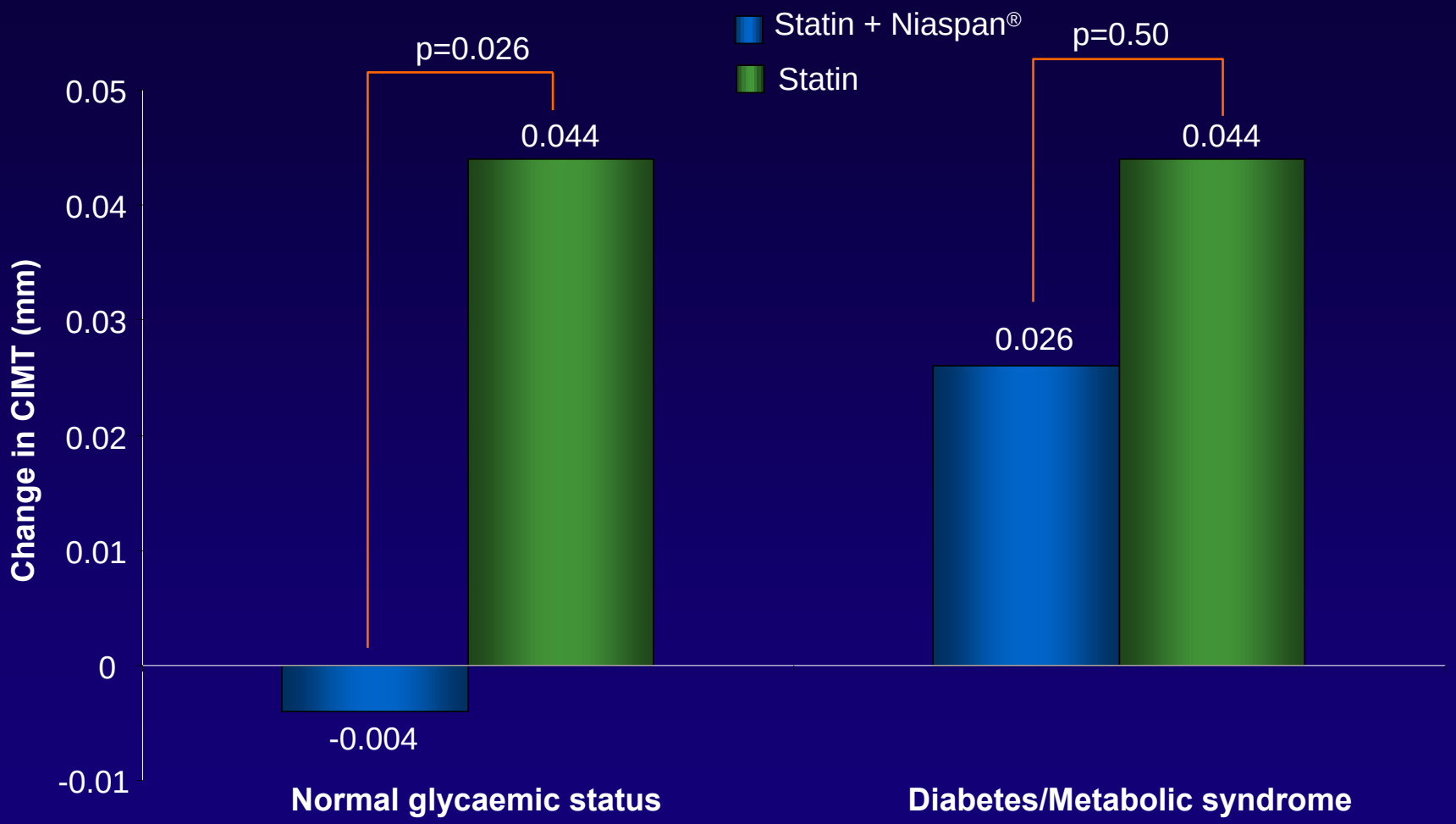
# FATS: Familial Atherosclerosis Treatment Study
# Resultados eventos a 10-a de seguimiento




*$P<0.05$ Usual Care N = 110 Vs Combination N = 75

Brown BG et al. *Circulation*. 1998;98(suppl I):I-635. Abstr 3341

# Niaspan®/statin therapy is less effective in patients with metabolic syndrome




1. Taylor AJ et al. *Circulation* 2004;110:3512-3517.

SPECIAL ARTICLE

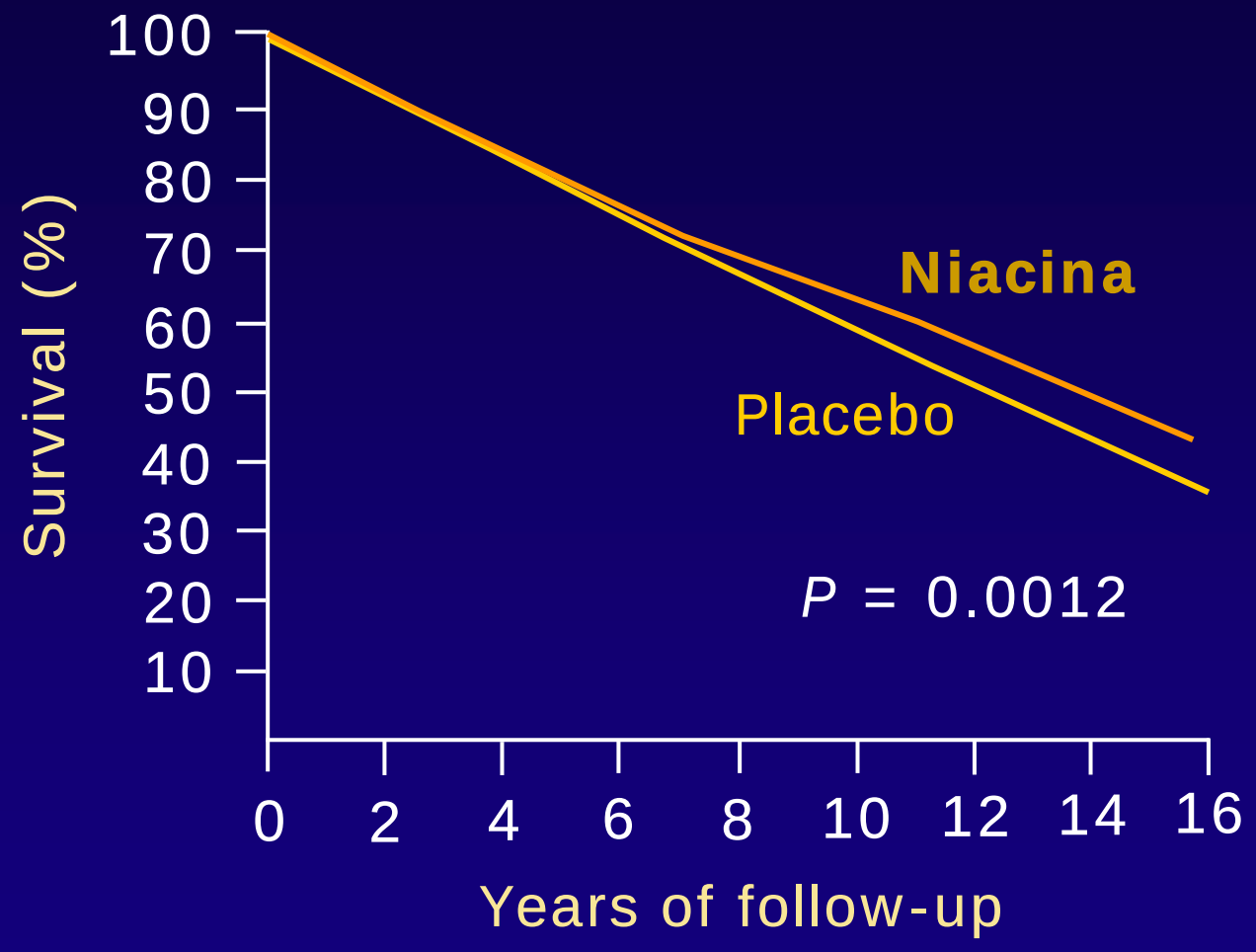
# 2009 Canadian Cardiovascular Society/Canadian guidelines for the diagnosis and treatment of dyslipidemia and prevention of cardiovascular disease in the adult – 2009 recommendations

Jacques Genest MD[1], Ruth McPherson MD PhD[2], Jiri Frohlich MD[3], Todd Anderson MD[4], Norm Campbell MD[4], André Carpentier MD[5], Patrick Couture MD[6], Robert Dufour MD[7], George Fodor MD[2], Gordon A Francis MD[3], Steven Grover MD[1], Milan Gupta MD[8], Robert A Hegele MD[9], David C Lau MD[10], Lawrence Leiter MD[11], Gary F Lewis MD[12], Eva Lonn MD[13], GB John Mancini MD[14], Dominic Ng MD PhD[11], Glen J Pearson PharmD[15], Allan Sniderman MD[16], James A Stone MD PhD[10], Ehud Ur MD[14]

# TARGETS OF THERAPY

| Risk level | Primary target: LDL-C | Class, level |
|---|---|---|
| High | <2 mmol/L | Class I, level A |
| CAD, PVD, atherosclerosis | or | |
| Most patients with diabetes | ≥50% ↓ LDL-C | |
| FRS ≥20% | apoB <0.80 g/L | |
| RRS ≥20% | | |
| Moderate | <2 mmol/L* | Class IIa, level A |
| FRS 10% to 19% | or | |
| LDL-C >3.5 mmol/L | ≥50% ↓ LDL-C | |
| TC/HDL-C >5.0 | apoB <0.80 g/L | |
| hs-CRP >2 mg/L in men >50 years and women >60 years of age | | |
| Family history and hs-CRP modulate risk | | |
| Low | ≥50% ↓ LDL-C | Class IIa, level A |
| FRS <10% | | |

# Coronary Drug Project: Beneficio de Mortalidad a largo plazo de Niacina

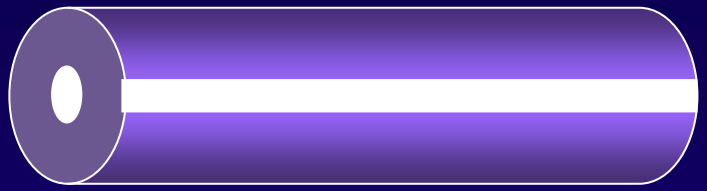


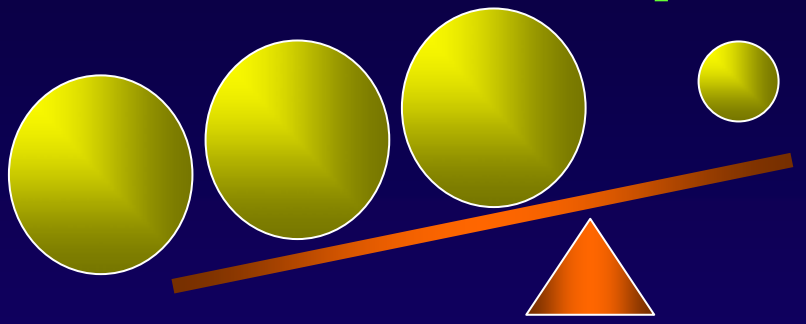

*Canner PL et al. J Am Coll Cardiol 1986;8:1245–1255*

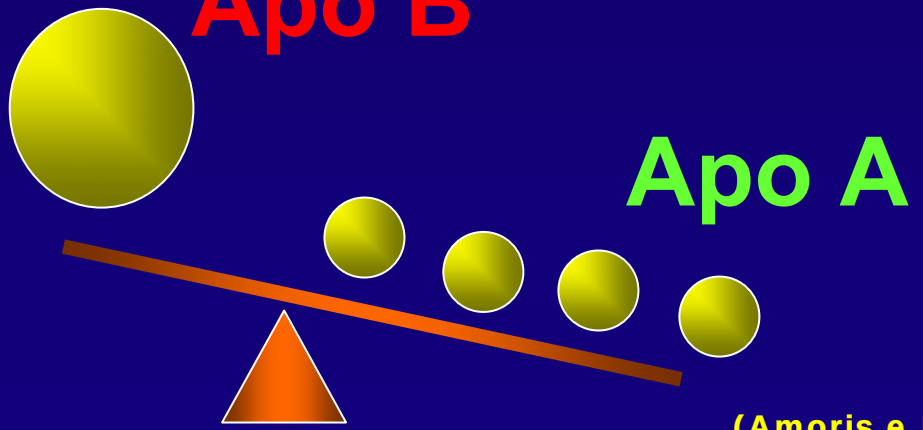
*source = www.lipidsonline.org*

# El Balance Aterogenico: Apo B / Apo A

Balance con predominio Aterogenico



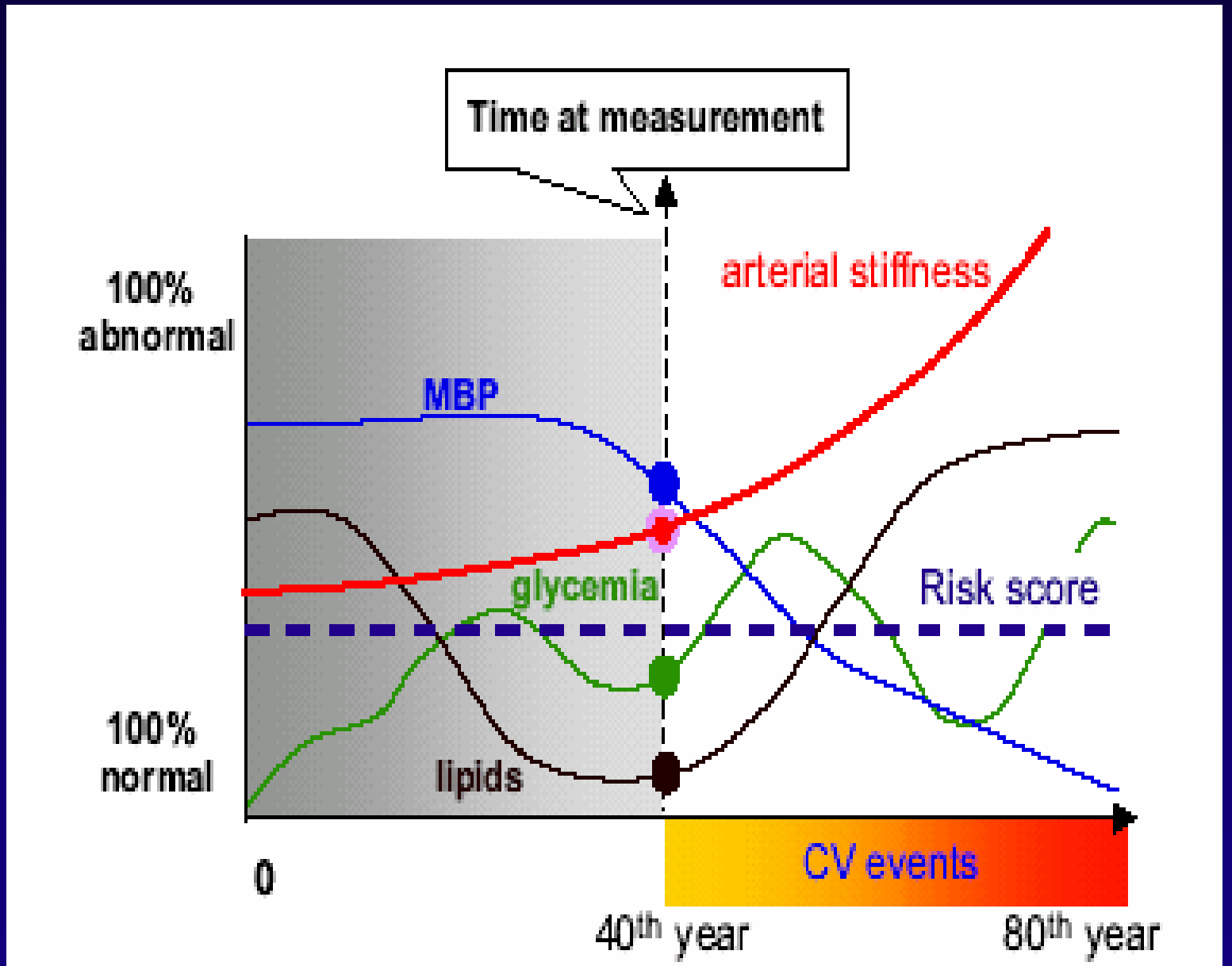


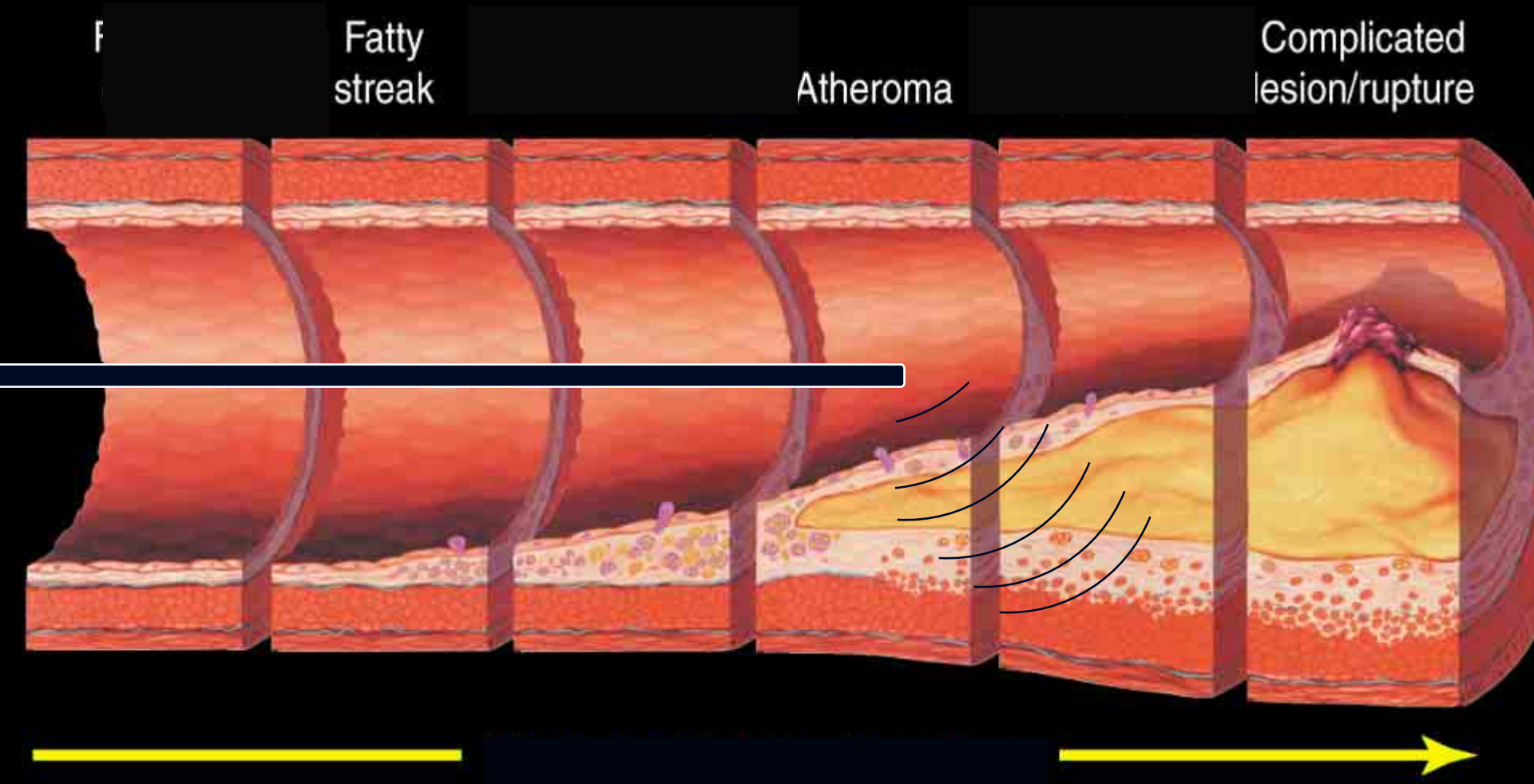




Balance con predominio de Regresion

(Amoris e Interheart)

# Exposicion a FR-CV: tiempo y consecuencias





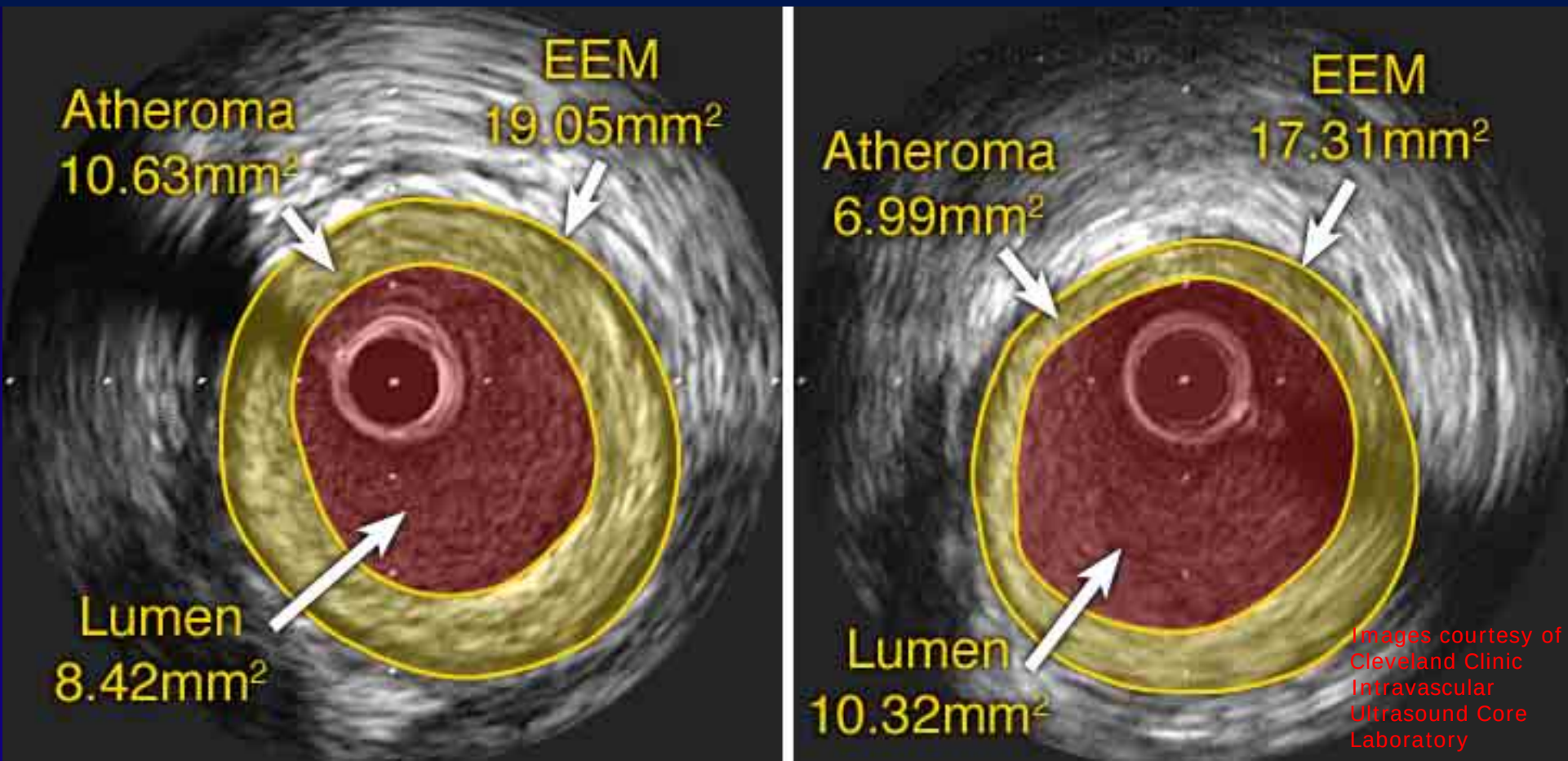

From first decade

From third decade

From fourth decade

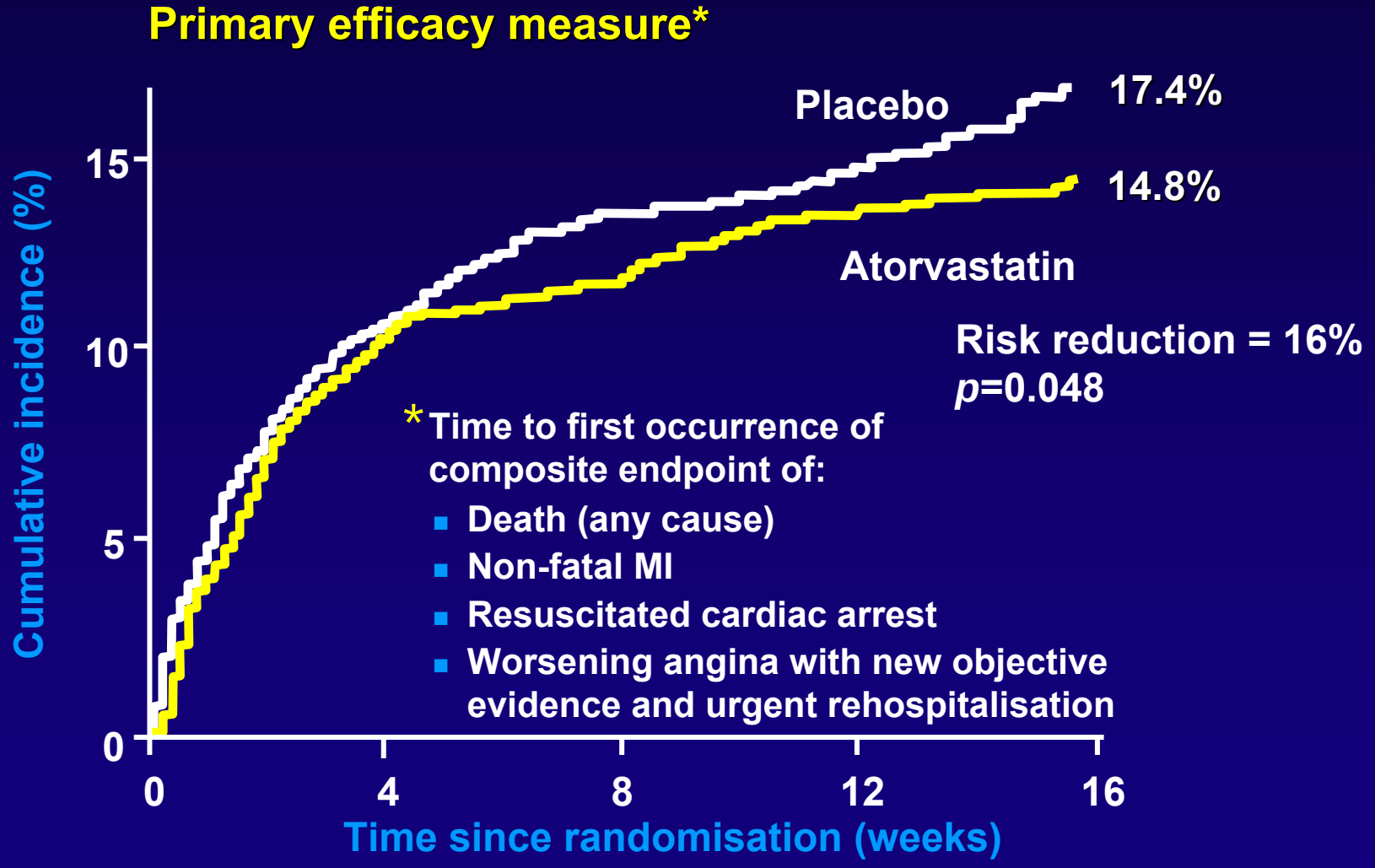
# Cambios en la Placa aterosclerotica en las imagenes por US-IV

# Inicial y los de 2 años de Intervencion

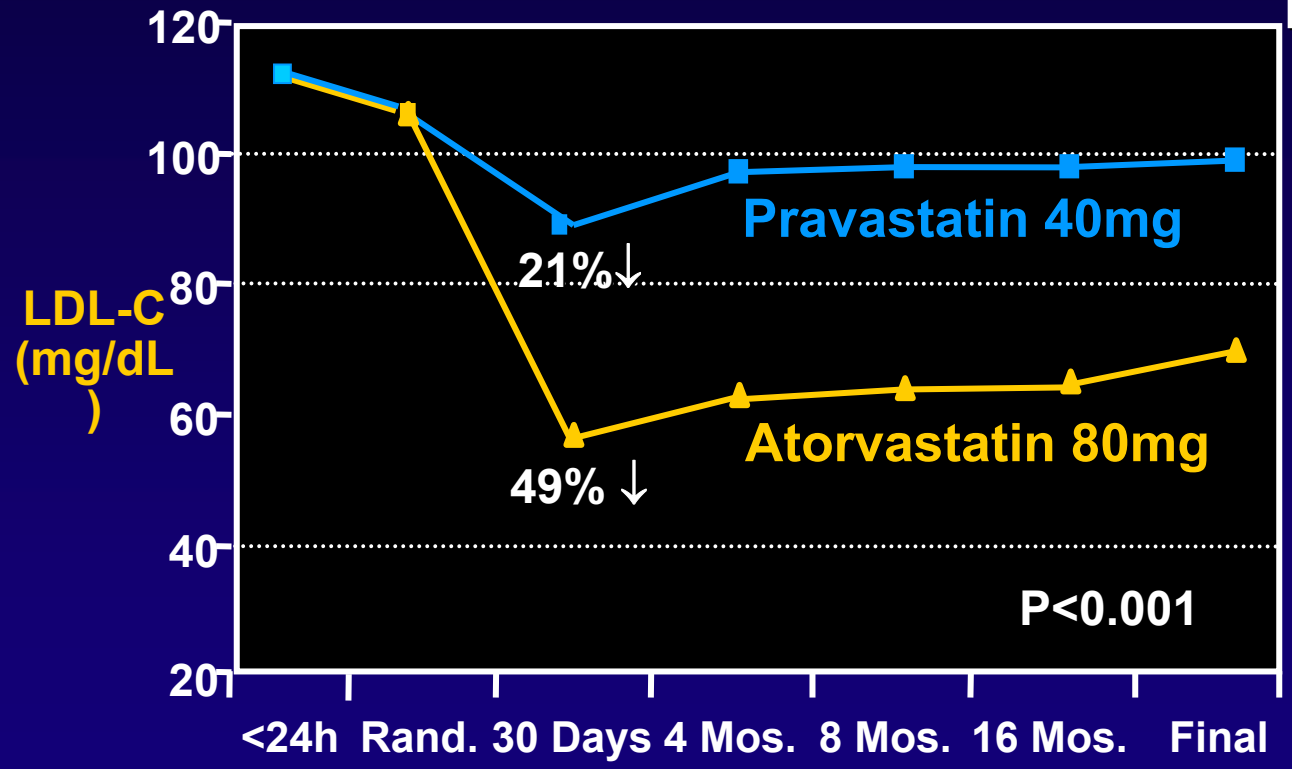


| Characteristic | WOSCOPS 1995[w9] | AFCAPS/ TexCAPS 1998[w8] | PROSPER* 2002[w6] | ALLHAT-LLT 2002[w7] | ASCOT-LLA 2003[w10] | HPS* 2003[w5] | CARDS 2004[w4] | ASPEN* 2006[w3] | MEGA 2006[w2] | JUPITER 2008[w1] |
|---|---|---|---|---|---|---|---|---|---|---|
| Target population | Men with hypercholesterolaemia (no history of myocardial infarction) | People with average or below average cholesterol levels (without atherosclerotic cardiovascular disease) | Elderly people with cardiovascular risk factors | People with hypertension, moderate hypercholesterolaemia, and at least one coronary heart disease risk factor | People with hypertension, average or lower cholesterol levels, and at least three other risk factors | People with diabetes | People with diabetes and low density lipoprotein cholesterol (no history of cardiovascular disease) | People with diabetes and low density lipoprotein cholesterol levels below guideline targets | People with hypercholesterolaemia and no history of coronary heart disease or stroke | People without vascular disease, low density lipoprotein cholesterol <130 mg/dl, and high sensitivity C reactive protein > 2.0 mg/l |
| Design | Randomised double blind placebo controlled trial | Randomised double blind placebo controlled trial | Randomised double blind placebo controlled trial | Randomised controlled trial (control=usual care) | Randomised double blind placebo controlled trial | Randomised double blind placebo controlled trial | Randomised double blind placebo controlled trial | Randomised double blind placebo controlled trial | Randomised double blind placebo controlled trial (control=diet) | Randomised double blind placebo controlled trial |
| No of participants (statin/control) | 6595 (3302/3293) | 6605 (3304/3301) | 3239 (1585/1654) | 10355 (5170/5185) | 10305 (5168/5137) | 2912 (1455/1457) | 2838 (1428/1410) | 1905 (959/946) | 7832 (3866/3966) | 17802 (8901/8901) |
| Mean follow-up (years) | 4.9 | 5.2 | 3.2 | 4.8 | 5.5† | 4.8 | 3.9† | 4.0† | 5.3 | 1.9† |

# MIRACL– uso temprano de una estatina



# Changes from (Post-ACS) Baseline in Median LDL-C

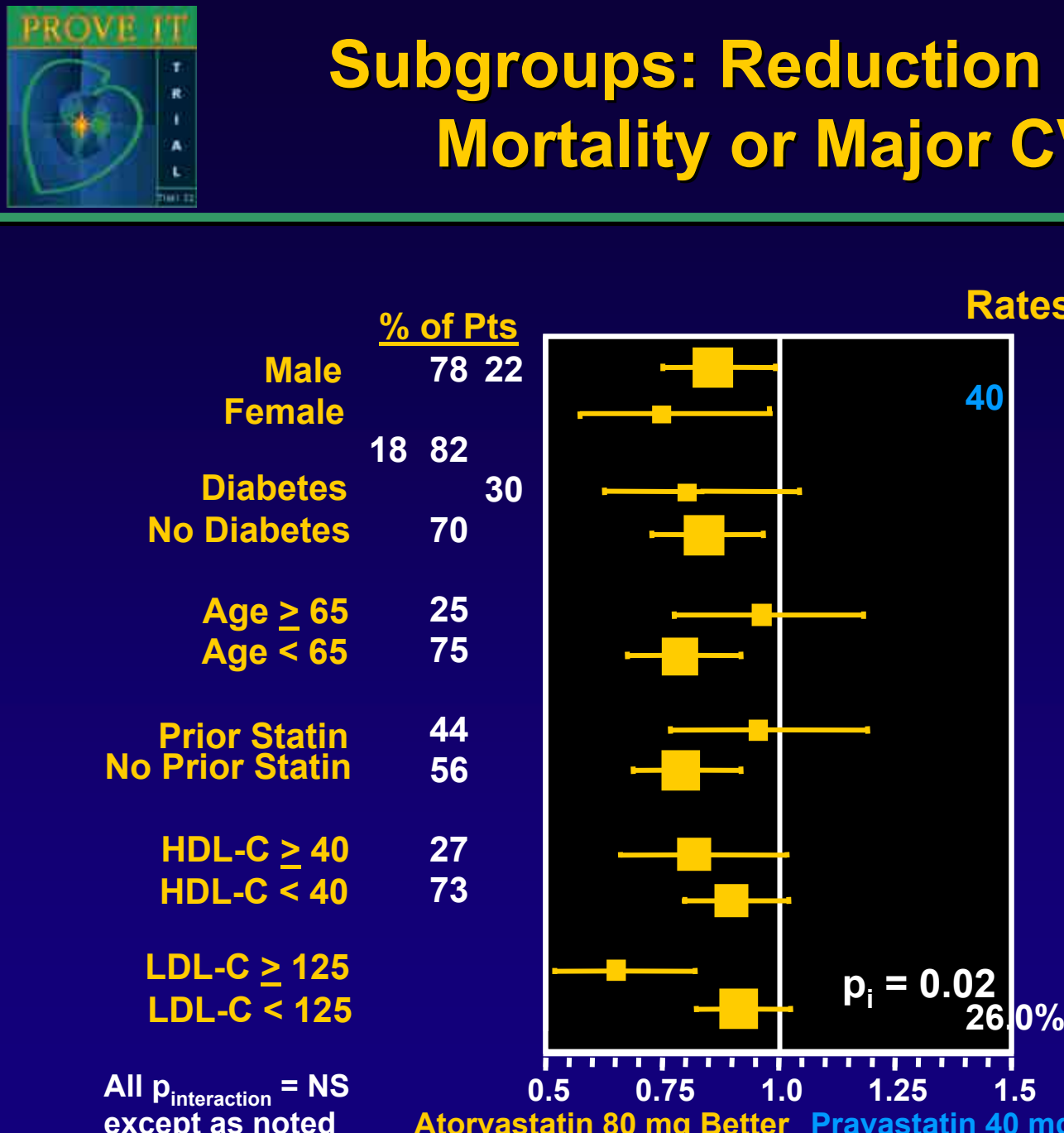



| Median LDL-C (Q1, Q3) |
|---|
| 95 (79, 113) |
| 62 (50, 79) |

Note: Changes in LDL-C may differ from prior trials:

- 25% of patients on statins prior to ACS event
- ACS response lowers LDL-C from true baseline

# Subgroups: Reduction in All-Cause Mortality or Major CV Events

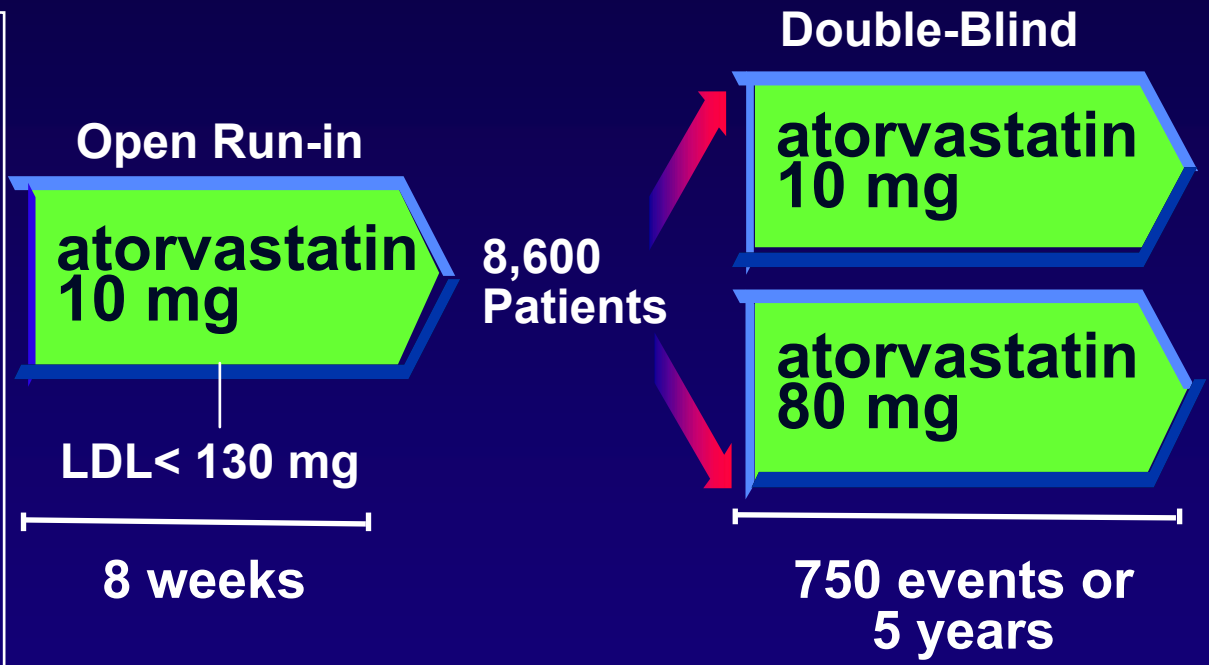



| | 2 Year Event Rates | |
|---|---|---|
| | Atorva 80 | Prava |
| Male | 23.0% | 26.2% |
| Female | 20.3% | 27.0% |
| Diabetes | 28.8% | 34.6% |
| No Diabetes | 21.0% | 24.6% |
| Age ≥ 65 | 28.1% | 29.5% |
| Age < 65 | 20.1% | 25.0% |
| Prior Statin | 27.5% | 28.9% |
| No Prior Statin | 20.6% | 25.5% |
| HDL-C ≥ 40 | 21.7% | 26.7% |
| HDL-C < 40 | 23.1% | |
| LDL-C ≥ 125 | 20.1% | 28.2% |
| LDL-C < 125 | 23.5% | 25.6% |

# TNT Study Design: Treating to New Targets

## Patient Population

- 35-75 y.o.
- Major coronary event in prior 5 years
- LDL 130-250 mg/dl
- TG <600 mg/dl
- 250 centers in 14 countries



# SPARCL Study Design: Stroke Prevention by Aggressive Reduction of Cholesterol Levels

## Patient Population

- Stroke/TIA 1-6 months prior
- LDL 100-190 mg/dl
- Exclusions:
  - Age <18 years
  - Hx of CAD
  - Endarterectomy in prior month
  - Subarachnoid hemorrhage
- Many Neurologists as investigators

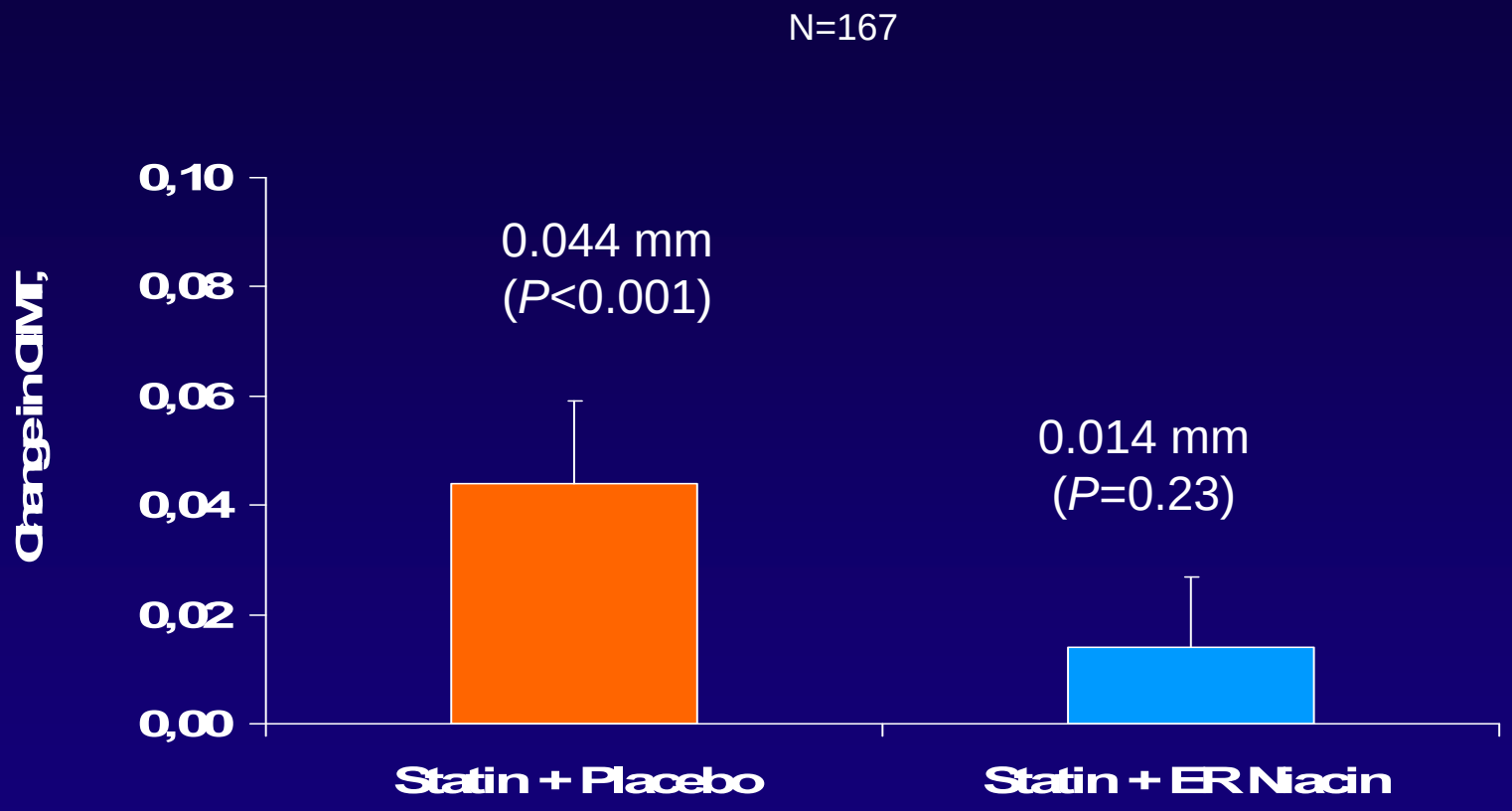

**Primary Endpoint**

- Time to first fatal or non-fatal stroke

# Evidencias Post ATP III:  Como seguimos ?

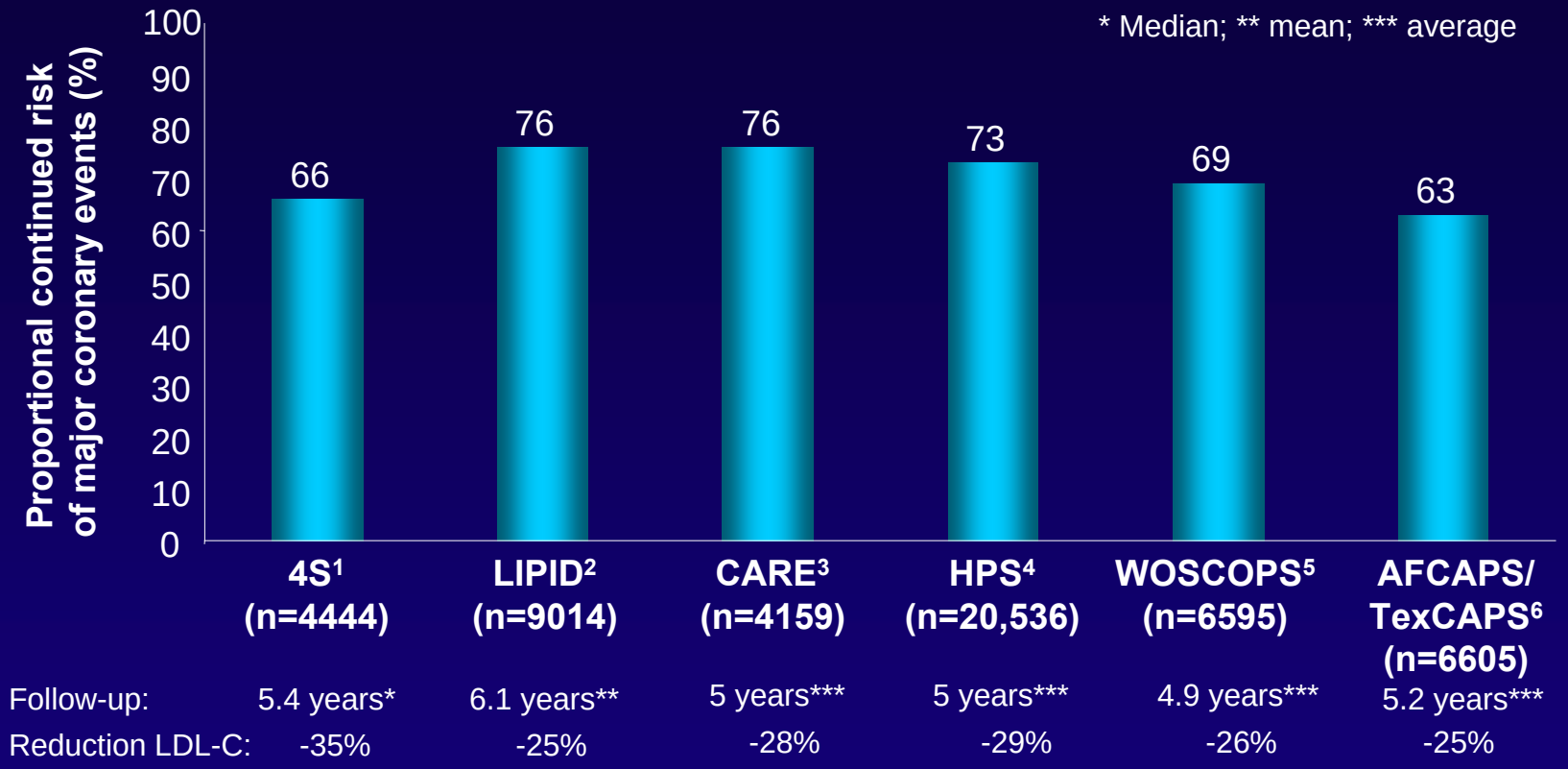
- Diabetes ?
- Fibratos ?

# ARBITER 2: Combinacion de Nicotinico con estatina fue superior a estatina sola en efecto sobre IMT




ARBITER 2=Arterial Biology for the Investigation of the Treatment Effects of Reducing Cholesterol; ER=extended release; CIMT=carotid intima-media thickness; SEM=standard error of mean

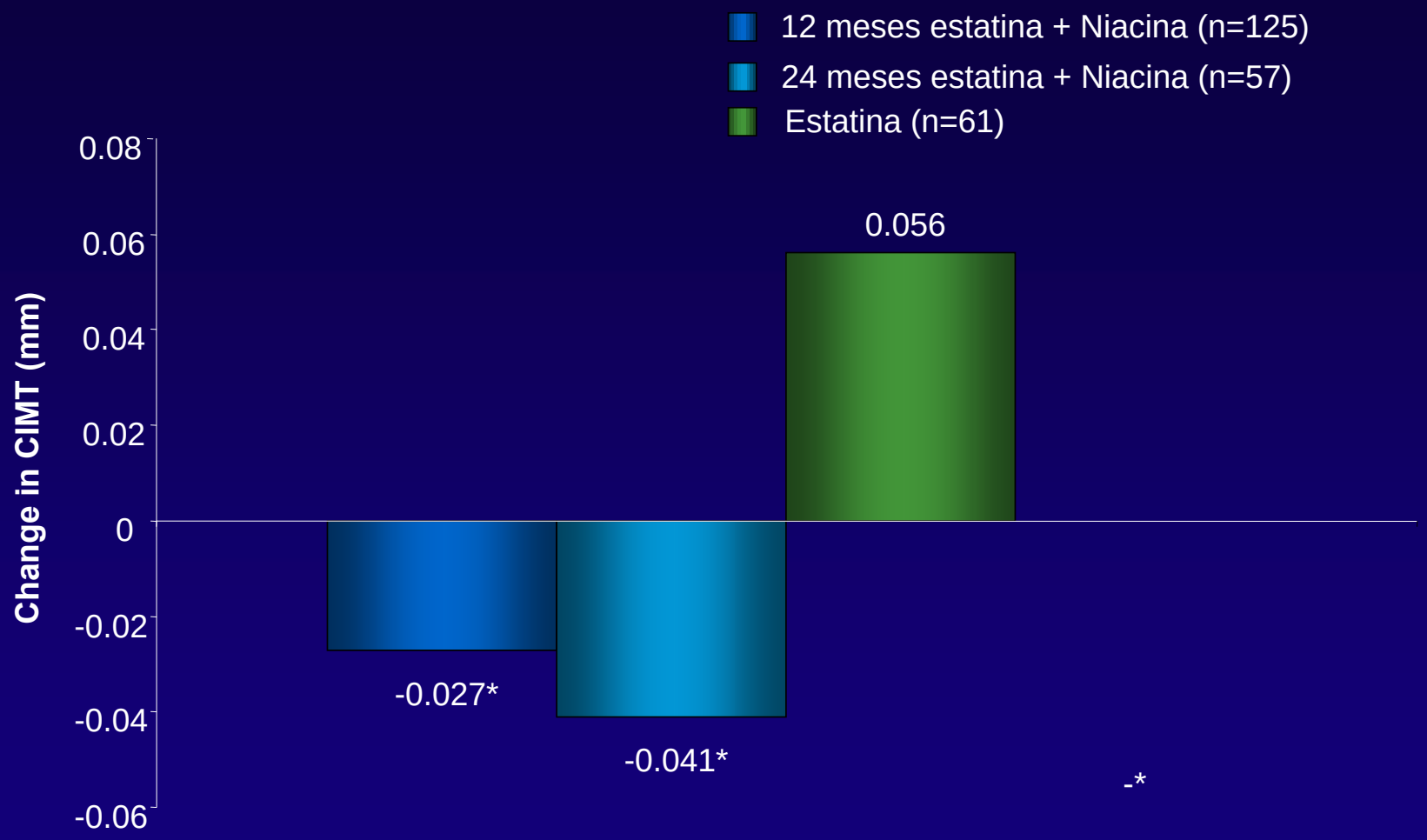
# 2/3 de los eventos CV continuan ocurriendo con estatinas





1. Scandinavian Simvastatin Survival Study Group. *Lancet* 1994;344:1383-1389.
2. LIPID Study Group. *N Engl J Med* 1998;339:1349-1357.
3. Sacks FM et al. *N Engl J Med* 1996;335:1001-1009.
4. MRC/BHF Heart Protection Study Collaborative Group. *Lancet* 2002;360:7-22.
5. Shepherd J et al. *N Engl J Med* 1995;333:1301-1307.
6. Downs JR et al. *JAMA* 1998;279:1615-1622.

# ARBITER, la combinacion estatina + niacina : Regresion de aterosclerosis versus estatina




1. Taylor AJ et al. *Curr Med Res Opin* 2006;22:2243-2250.

*p<0.001 versus statin monotherapy

Table 1 | Characteristics of included trials

| Characteristic | WOSCOPS 1995[9] | AFCAPS/ TexCAPS 1998[8] | PROSPER* 2002[6] | ALLHAT-LLT 2002[7] | ASCOT-LLA 2003[10] | HPS* 2003[5] | CARDS 2004[11] | ASPEN* 2006[12] | MEGA 2006[13] | JUPITER 2008[14] |
|---|---|---|---|---|---|---|---|---|---|---|
| Target population | Men with hypercholesterolaemia (no history of myocardial infarction) | People with average or below average cholesterol levels (without atherosclerotic cardiovascular disease) | Elderly people with cardiovascular risk factors | People with hypertension, moderate hypercholesterolaemia, and at least one coronary heart disease risk factor | People with hypertension, average or lower cholesterol levels, and at least three other risk factors | People with diabetes | People with diabetes and low density lipoprotein cholesterol (no history of cardiovascular disease) | People with diabetes and low density lipoprotein cholesterol levels below guideline targets | People with hypercholesterolaemia and no history of coronary heart disease or stroke | People without vascular disease, low density lipoprotein cholesterol <130 mg/dl, and high sensitivity C reactive protein > 2.0 mg/l |
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| Mean follow up (years) | 4.9 | 5.2 | 3.2 | 4.8 | 5.5† | 4.8 | 3.9† | 4.0† | 5.3 | 1.9† |
| Drug | Pravastatin | Lovastatin | Pravastatin | Pravastatin | Atorvastatin | Simvastatin | Atorvastatin | Atorvastatin | Pravastatin | Rosuvastatin |
| Dose (mg/day) | 40 | 20-40 | 40 | 20-40 | 10 | 40 | 10 | 10 | 10 20 | 20 |
| Mean age (range) (years) | 55.3 (45-64) | 58 (45-73) | 75 (70-82) | 66.4 (51-81) | 63.1 (40-79) | NA (40-80) | 61.5 (40-75) | 60.5 (40-75) | 58.3 (40-70) | 66† (60-71) |
| Women (%) | 0 | 15 | 58‡ | 49 | 18.9 | NA | 32 | 38 | 68.4 | 37.9 |
| With diabetes (%) | 1 | 3.8 | 12.2‡ | 34.4 | 24.3 | 100 | 100 | 100 | 21 | 0 |
| Current smoker (%) | 44 | 13 | 33.4‡ | 23.3 | 33.2 | NA | 22 | 12 | 21 | 16 |
| Hypertension (%) | 16 | 22 | 71.6‡ | 89.9 | 80.3 | NA | 84 | 52 | 42 | 0 |
| Mean body mass index | 26 | 26.8 | 27‡ | 29.9 | 28.6 | NA | 28.7 | 28.9 | 23.8 | 28.4† |
| Mean systolic blood pressure (mm Hg) | 136 | 138 | 156.6‡ | 145 | 164.2 | NA | 144 | 133 | 132 | 134† |
| Mean diastolic blood pressure (mm Hg) | 84 | 78 | 85.2‡ | 84 | 95 | NA | 83 | 77.1 | 78.4 | 80† |
| Baseline lipid levels (mmol/l) (% change): | | | | | | | | | | |
| Total cholesterol | 7.0 (−20.0) | 5.7 (−19.3) | 5.7 (NA) | 5.9 (−9.6) | 5.5 (−18.2) | NA | 5.4 (−21.8) | 5.0 (−19.8) | 6.3 (−11.0) | 4.8 (NA) |
| Low density lipoprotein cholesterol | 5.0 (−26.0) | 3.9 (−26.5) | 3.8 (NA) | 3.8 (−16.7) | 3.4 (−27.6) | NA | 3.0 (−33.9) | 3.0 (−30.5) | 4.0 (−18.0) | 2.8 (NA) |
| High density lipoprotein cholesterol | 1.1 (5.0) | 1.0 (4.8) | 1.3 (NA) | 1.2 (0.9) | 1.3 (1.5) | NA | 1.4 (4.0) | 1.2 (1.9) | 1.5 (5.0) | 1.3 (NA) |
| Triglycerides | 1.8 (−12.0) | 1.7 (−12.7) | 1.5 (NA) | 1.7 (0.0) | 1.7 (−12.6) | NA | 2.0 (−15.9) | 1.6 (−4.7) | 1.4 (−7.0) | 1.3 (NA) |

# Estrategias Actuales en Prevencion Primaria

BMJ

RESEARCH

## The benefits of statins in people without established cardiovascular disease but with cardiovascular risk factors: meta-analysis of randomised controlled trials

J J Brugts, doctor,[1] T Yetgin, doctor,[1] S E Hoeks, epidemiologist,[1] A M Gotto, professor, doctor,[2] J Shepherd, professor, doctor,[3] R G J Westendorp, professor, doctor,[4] A J M de Craen, epidemiologist,[4] R H Knopp, professor, doctor,[5] H Nakamura, professor, doctor,[6] P Ridker, professor, doctor,[7] R van Domburg, epidemiologist,[1] J W Deckers, doctor[1]

**All cause mortality**

| Study | No of patients/No of events: Statin group | Control group | Odds ratio (95% CI) | Odds ratio (95% CI) |
|---|---|---|---|---|
| WOSCOPS[w9] | 3302/106 | 3293/135 | | 0.78 (0.60 to 1.01) |
| AFCAPS/TexCaps[w8] | 3304/80 | 3301/77 | | 1.04 (0.76 to 1.43) |
| PROSPER[w6] | 1585/163* | 1654/174* | | 0.98 (0.79 to 1.21) |
| ALLHAT-LLT[w7] | 5170/631 | 5185/641 | | 0.99 (0.88 to 1.11) |
| ASCOT-LLA[w10] | 5168/387 | 5137/449 | | 0.85 (0.73 to 0.97) |
| CARDS[w4] | 1428/61 | 1410/82 | | 0.72 (0.51 to 1.02) |
| ASPEN[w3] | 959/44 | 946/41 | | 1.06 (0.69 to 1.64) |
| MEGA[w2] | 3866/55 | 3966/79 | | 0.71 (0.50 to 1.00) |
| JUPITER[w1] | 8901/198 | 8901/247 | | 0.80 (0.66 to 0.96) |
| Total | 33 683/1725 | 33 793/1925 | | 0.88 (0.81 to 0.96) |
| Q statistic P=0.20, $I^2$=27.0%* | | | 0.5 1 2 | |
| | | | Favours statin / Favours control | |

**Major coronary events**

| Study | No of patients/No of events: Statin group | Control group | Odds ratio (95% CI) | Odds ratio (95% CI) |
|---|---|---|---|---|
| WOSCOPS[w9] | 3302/174 | 3293/248 | | 0.68 (0.56 to 0.83) |
| AFCAPS/TexCaps[w8] | 3304/57* | 3301/95* | | 0.61 (0.45 to 0.83) |
| PROSPER[w6] | 1585/126 | 1654/145 | | 0.90 (0.70 to 1.15) |
| ALLHAT-LLT[w7] | 5170/380 | 5185/421 | | 0.90 (0.78 to 1.04) |
| ASCOT-LLA[w10] | 5168/163 | 5137/249 | | 0.64 (0.52 to 0.78) |
| HPS[w5] | 1455/NA | 1457/NA | | 0.57 (0.41 to 0.79) |
| CARDS[w4] | 1428/43 | 1410/65 | | 0.65 (0.44 to 0.97) |
| MEGA[w2] | 3866/23† | 3966/43† | | 0.55 (0.33 to 0.91) |
| Total | 23 823/966 | 23 946/1266 | | 0.70 (0.61 to 0.81) |
| Q statistic P=0.02, $I^2$=60.0%* | | | 0.25 0.5 1 2 | |
| | | | Favours statin / Favours control | |

**Major cerebrovascular events**

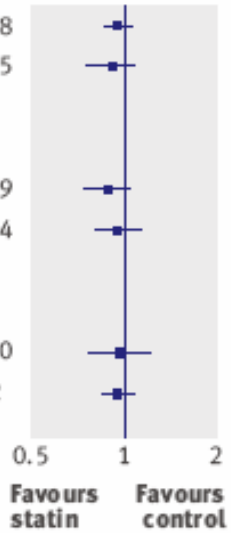
| Study | No of patients/No of events: Statin group | Control group | Odds ratio (95% CI) | Odds ratio (95% CI) |
|---|---|---|---|---|
| WOSCOPS[w9] | 3302/46 | 3293/51 | | 0.90 (0.60 to 1.34) |
| AFCAPS/TexCaps[w8] | 3304/14 | 3301/17 | | 0.82 (0.40 to 1.67) |
| PROSPER[w6] | 1585/61 | 1654/62 | | 1.03 (0.72 to 1.47) |
| ALLHAT-LLT[w7] | 5170/209 | 5185/231 | | 0.90 (0.75 to 1.09) |
| ASCOT-LLA[w10] | 5168/166 | 5137/212 | | 0.77 (0.63 to 0.95) |
| CARDS[w4] | 1428/21 | 1410/39 | | 0.52 (0.31 to 0.90) |
| ASPEN[w3] | 959/27 | 946/29 | | 0.92 (0.54 to 1.56) |
| MEGA[w2] | 3866/50 | 3966/62 | | 0.83 (0.57 to 1.20) |
| JUPITER[w1] | 8901/33 | 8901/64 | | 0.51 (0.34 to 0.78) |
| Total | 33 683/627 | 33 793/767 | | 0.81 (0.71 to 0.93) |
| Q statistic P=0.23, $I^2$=24.0%* | | | 0.25 0.5 1 2 | |
| | | | Favours statin / Favours control | |

**Cancer**

| Study | No of patients/No of events: Statin group | Control group | Odds ratio (95% CI) | Odds ratio (95% CI) |
|---|---|---|---|---|
| WOSCOPS[w9] | 3302/44 | 3293/49 | | 1.09 (0.84 to 1.43) |
| AFCAPS/TexCaps[w8] | 3304/252 | 3301/259 | | 0.97 (0.81 to 1.16) |
| ALLHAT-LLT[w7] | 5170/378 | 5185/369 | | 1.03 (0.89 to 1.19) |
| CARDS[w4] | 1428/20 | 1410/30 | | 0.65 (0.37 to 1.16) |
| MEGA[w2] | 3866/119 | 3966/126 | | 0.97 (0.75 to 1.25) |
| JUPITER[w1] | 8901/333 | 8901/372 | | 0.89 (0.77 to 1.04) |
| Total | 25 971/1146 | 26 056/1205 | | 0.97 (0.89 to 1.05) |
| Q statistic P=0.61, $I^2$=0%* | | | 0.25 0.5 1 2 | |
| | | | Favours statin / Favours control | |

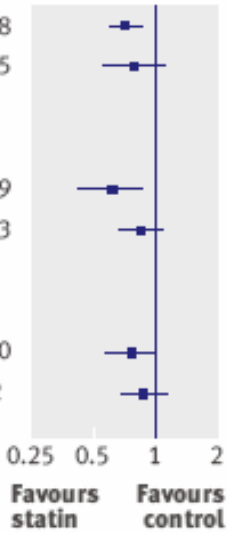
**All cause mortality**

| Subgroup | No of patients: Statin group | No of patients: Control group | Odds ratio (95% CI) | Odds ratio (95% CI) |
|---|---|---|---|---|
| Sex | | | | |
| Men | 13 413 | 13 508 | | 0.95 (0.86 to 1.06) |
| Women | 10 372 | 10 445 | | 0.91 (0.76 to 1.08) |
| P for heterogeneity = 0.62 | | | | |
| Age | | | | |
| <65 | 12 889 | 13 129 | | 0.89 (0.74 to 1.04) |
| >65 | 10 896 | 10 824 | | 0.95 (0.80 to 1.12) |
| P for heterogeneity = 0.57 | | | | |
| Diabetes mellitus | | | | |
| No | 16 672 | 16 890 | | 0.96 (0.76 to 1.21) |
| Yes | 3809 | 3762 | | 0.95 (0.84 to 1.07) |
| P for heterogeneity = 0.94 | | | | |




**Major coronary events**

| Subgroup | No of patients: Statin group | No of patients: Control group | Odds ratio (95% CI) | Odds ratio (95% CI) |
|---|---|---|---|---|
| Sex | | | | |
| Men | 13 413 | 13 508 | | 0.72 (0.61 to 0.86) |
| Women | 10 372 | 10 445 | | 0.79 (0.56 to 1.13) |
| P for heterogeneity = 0.65 | | | | |
| Age | | | | |
| <65 | 10 300 | 10 529 | | 0.62 (0.42 to 0.87) |
| >65 | 10 181 | 10 123 | | 0.86 (0.67 to 1.09) |
| P for heterogeneity = 0.11 | | | | |
| Diabetes mellitus | | | | |
| No | 16 672 | 16 890 | | 0.76 (0.57 to 1.01) |
| Yes | 3809 | 3762 | | 0.88 (0.69 to 1.13) |
| P for heterogeneity = 0.45 | | | | |




**Major cerebrovascular events**

| Subgroup | No of patients: Statin group | No of patients: Control group | Odds ratio (95% CI) | Odds ratio (95% CI) |
|---|---|---|---|---|
| Sex | | | | |
| Men | 7949 | 8060 | | 0.77 (0.44 to 1.36) |
| Women | 7362 | 7407 | | 0.74 (0.54 to 1.00) |
| P for heterogeneity = 0.90 | | | | |
| Age | | | | |
| <65 | 7989 | 8192 | | 0.62 (0.42 to 0.89) |
| >65 | 7322 | 7275 | | 0.79 (0.53 to 1.18) |
| P for heterogeneity = 0.37 | | | | |
| Diabetes mellitus | | | | |
| No | 13 357 | 13 488 | | 0.71 (0.48 to 1.04) |
| Yes | 1954 | 1979 | | 0.88 (0.60 to 1.28) |
| P for heterogeneity = 0.43 | | | | |


**Cancer**

| Subgroup | No of patients: Statin group | No of patients: Control group | Odds ratio (95% CI) | Odds ratio (95% CI) |
|---|---|---|---|---|
| Sex | | | | |
| Men | 10 754 | 10 863 | | 0.95 (0.84 to 1.08) |
| Women | 7861 | 7905 | | 1.09 (0.91 to 1.30) |
| P for heterogeneity = 0.22 | | | | |
| Age | | | | |
| <65 | 10 578 | 10 792 | | 0.92 (0.78 to 1.07) |
| >65 | 8037 | 7976 | | 1.05 (0.87 to 1.28) |
| P for heterogeneity = 0.30 | | | | |
| Diabetes mellitus | | | | |
| No | 13 357 | 13 488 | | 0.99 (0.81 to 1.22) |
| Yes | 1954 | 1979 | | 1.34 (0.85 to 2.13) |
| P for heterogeneity = 0.24 | | | | |

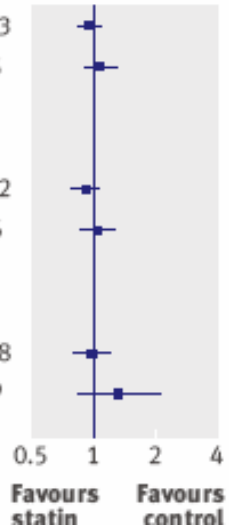
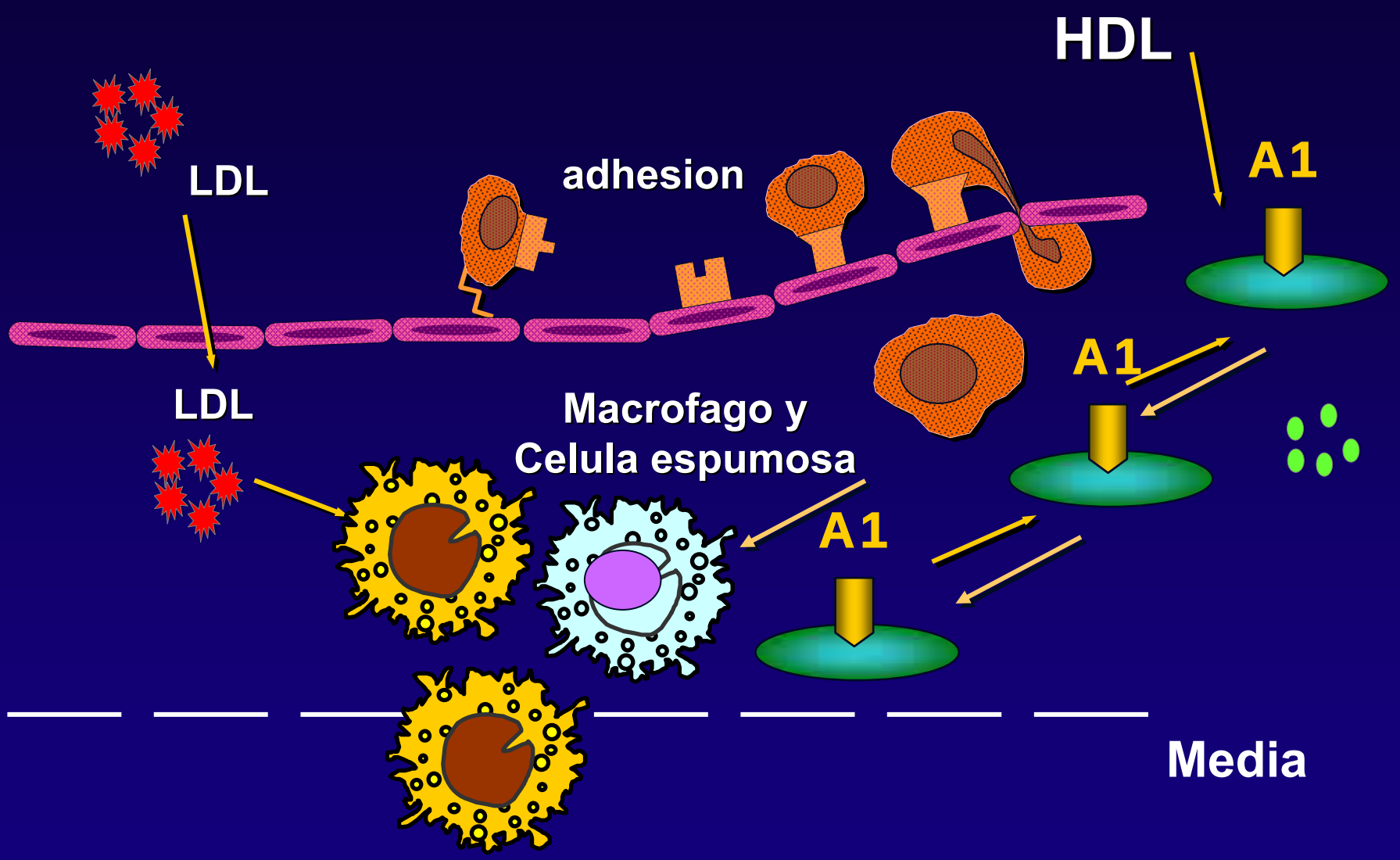


**Table 2. Clinical Features of the Patients According to Risk Category**

| | All Patients | Low Risk | Moderate Risk | High Risk/CHD |
|---|---|---|---|---|
| Patients, n | 9955 | 2066 | 1959 | 5930 |
| Age, y | 62±12 | 57±14 | 61±11 | 64±11 |
| Women, n (%) | 4513 (46) | 1254 (62) | 905 (46) | 2354 (40) |
| BMI, kg/m$^2$ | 28.6±6.9 | 27.3±10.2 | 28.9±5.4 | 28.9±5.8 |
| Waist circumference, cm | 96.8±16.8 | 91.8±16.4 | 97.0±15.7 | 98.5±16.9 |
| Risk factors, n (%) | | | | |
| Age >45 y for men, >55 y for women | 8830 (89) | 1434 (69) | 1833 (94) | 5563 (94) |
| Diabetes mellitus | 3088 (31) | 0 | 0 | 3088 (52) |
| Hypertension | 6349 (64) | 584 (28) | 1541 (79) | 4224 (71) |
| Current smokers | 1358 (14) | 134 (7) | 411 (21) | 813 (14) |
| Low HDL-C | 790 (8) | 18 (1) | 201 (10) | 571 (10) |
| No. of risk factors | 2.1±1.2 | 0.6±0.6 | 2.4±0.6 | 2.5±1.1 |
| Metabolic syndrome, n (%) | 4274 (43) | 492 (24) | 917 (47) | 2865 (48) |
| Lipid lowering therapy, n (%) | | | | |
| Statin | 7450 (75) | 1225 (60) | 1368 (70) | 4857 (82) |
| Other | 835 (8) | 193 (10) | 180 (9) | 462 (8) |
| Dietary counseling, n (%) | 6569 (68) | 1535 (78) | 1341 (70) | 3693 (64) |
| Lipid measurements, mg/dL | | | | |
| LDL-C | 100±37 | 119±37 | 109±37 | 91±33 |
| HDL-C | 53±15 | 62±16 | 49±12 | 50±14 |
| Non–HDL-C | 130±41 | 146±41 | 142±41 | 121±38 |
| Triglycerides | 152±86 | 136±79 | 167±95 | 152±84 |
| Triglycerides/HDL-C | 3.3±2.8 | 2.5±2.0 | 3.8±3.3 | 3.4±2.7 |
| hs-CRP, mg/L | 1.5 (0.7–3.3) | 1.3 (0.6–2.8) | 1.6 (0.8–3.6) | 1.6 (0.8–3.4) |
| Fasting blood glucose, mg/dL | 115±39 | 99±22 | 103±19 | 125±45 |

# Aterosclerosis: Evolucion de las Lesiones




Kinlay et al. *J Cardiovasc Pharmacol*. 1998;32(suppl 3)S62-S66. Newby et al. *J Cardiovasc Res*. 1999:345-360.

## Target lipid levels

| Risk level | Initiate treatment if: | Primary targets | |
|---|---|---|---|
| | | LDL-C | Alternate |
| High<br>CAD, PVD, atherosclerosis*<br>Most patients with diabetes<br>FRS ≥20%<br>RRS ≥20% | Consider treatment in all patients | <2 mmol/L or ≥50% ↓ LDL-C<br>Class I, level A | apoB <0.80 g/L<br>Class I, level A |
| Moderate<br>FRS 10%—19% | LDL-C >3.5 mmol/L<br>TC/HDL-C >5.0<br>hs-CRP >2 mg/L<br>Men >50 years<br>Women >60 years<br>Family history and hs-CRP modulates risk (RRS) | <2 mmol/L or ≥50% ↓ LDL-C<br>Class IIa, level A | apoB <0.80 g/L<br>Class IIa, level A |
| Low<br>FRS <10% | LDL-C ≥5.0 mmol/L | ≥50% ↓ LDL-C<br>Class IIa, level A | |

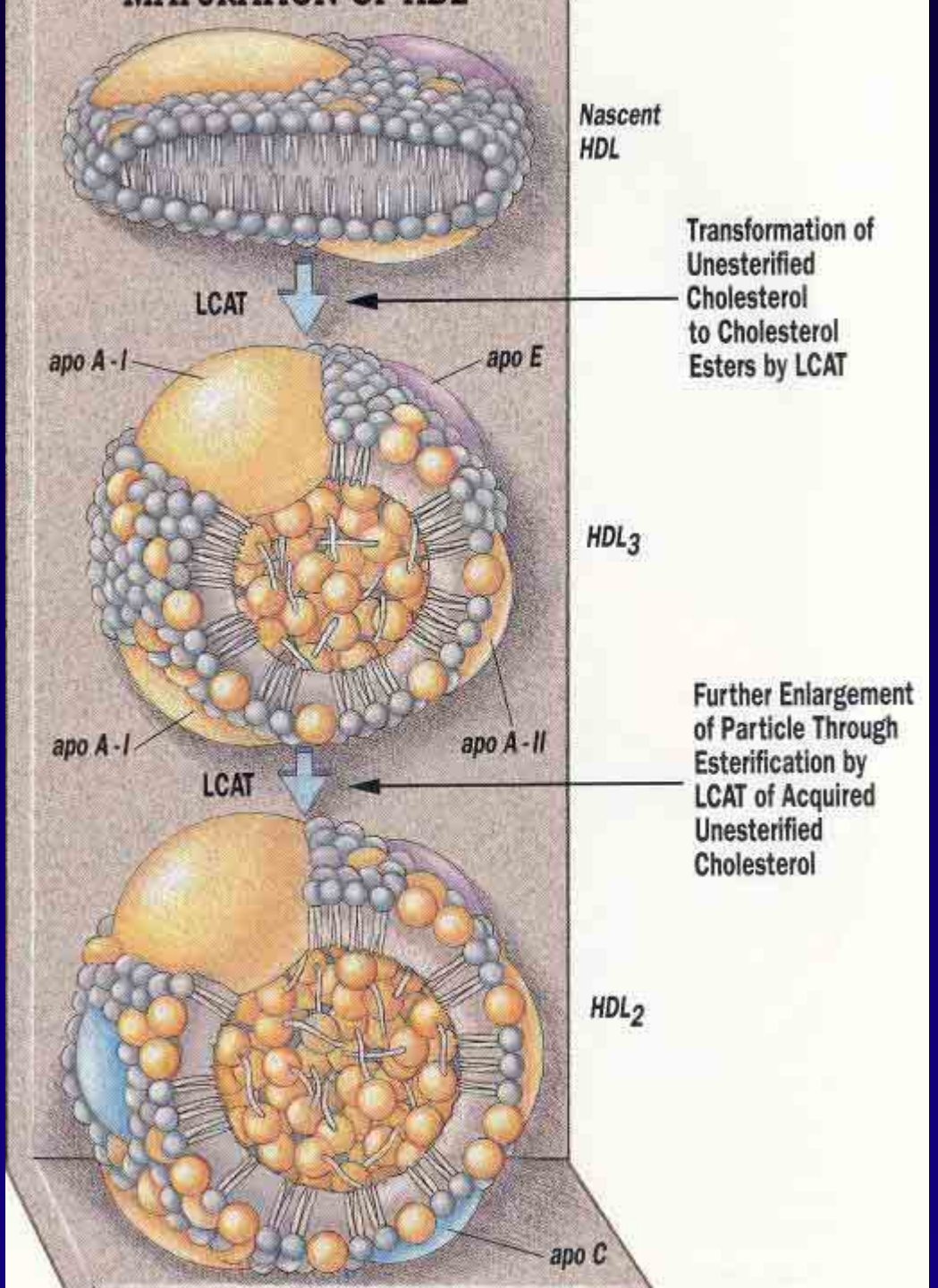
**Table 1. Clinical Features of the Patients in Each of the 9 Countries**

| | All Patients | United States | Canada | France | Netherlands | Spain | Brazil | Mexico | Korea | Taiwan |
|---|---|---|---|---|---|---|---|---|---|---|
| Patients, n | 9955 | 3049 | 1021 | 961 | 957 | 991 | 391 | 611 | 983 | 966 |
| Age, y | 62±12 | 62±12 | 63±11 | 63±12 | 62±11 | 61±12 | 61±12 | 58±12 | 61±10 | 62±12 |
| Women, n (%) | 4513 (46) | 1407 (46) | 335 (33) | 403 (42) | 387 (40) | 487 (49) | 237 (62) | 294 (49) | 497 (51) | 464 (48) |
| BMI, kg/m$^2$ | 28.6±6.9 | 30.4±6.5 | 29.8±13.9 | 27.2±4.7 | 28.7±5.1 | 28.7±4.7 | 28.0±4.7 | 28.6±4.4 | 25.3±3.4 | 26.3±3.8 |
| Waist circumference, cm | 96.8±16.8 | 100.6±17.3 | 100.1±15.8 | 95.3±18.5 | 101.1±20.2 | 96.1±15.4 | 96.6±11.6 | 96.5±13.2 | 88.0±9.8 | 88.7±14.5 |
| Known CHD, n (%) | 2993 (30) | 928 (30) | 368 (36) | 192 (20) | 241 (25) | 140 (14) | 124 (32) | 186 (30) | 531 (54) | 283 (29) |
| Risk factors, n (%) | | | | | | | | | | |
| Age >45 y for men, >55 y for women | 8830 (89) | 2677 (88) | 938 (92) | 848 (88) | 874 (91) | 853 (86) | 349 (89) | 493 (81) | 913 (93) | 875 (91) |
| Diabetes mellitus | 3088 (31) | 972 (32) | 300 (29) | 212 (22) | 318 (33) | 274 (28) | 115 (29) | 198 (32) | 200 (20) | 495 (51) |
| Hypertension | 6349 (64) | 2026 (66) | 626 (61) | 533 (56) | 511 (53) | 550 (56) | 325 (83) | 404 (66) | 675 (69) | 694 (72) |
| Current smokers | 1358 (14) | 362 (12) | 160 (16) | 137 (14) | 210 (22) | 155 (16) | 18 (5) | 60 (10) | 122 (12) | 132 (14) |
| Low HDL-C | 790 (8) | 327 (11) | 120 (12) | 24 (3) | 62 (7) | 36 (4) | 12 (3) | 43 (7) | 84 (9) | 79 (8) |
| No. of risk factors | 2.1±1.2 | 2.3±1.2 | 2.3±1.2 | 1.6±1.2 | 2.3±1.2 | 1.7±1.2 | 2.1±1.0 | 1.9±1.1 | 2.0±0.9 | 2.3±1.2 |
| Metabolic syndrome, (%) | 4274 (43) | 1405 (46) | 514 (50) | 311 (32) | 515 (53) | 416 (41) | 145 (37) | 269 (44) | 308 (31) | 391 (40) |
| Lipid-lowering therapy, (%) | | | | | | | | | | |
| Statins | 7450 (75) | 2297 (75) | 839 (82) | 325 (34) | 773 (81) | 753 (76) | 223 (58) | 465 (77) | 966 (98) | 803 (83) |
| Other | 835 (8) | 314 (10) | 61 (6) | 170 (18) | 69 (7) | 70 (7) | 9 (2) | 39 (7) | 16 (2) | 85 (9) |
| Dietary counseling, (%) | 6569 (68) | 2178 (74) | 709 (71) | 814 (89) | 545 (58) | 950 (98) | 344 (90) | 534 (89) | 8 (1) | 481 (50) |
| Risk category, (%) | | | | | | | | | | |
| Low | 2066 (21) | 595 (20) | 157 (15) | 349 (36) | 133 (14) | 374 (38) | 82 (21) | 163 (27) | 111 (11) | 102 (11) |
| Moderate | 1959 (20) | 681 (22) | 207 (20) | 162 (17) | 177 (18) | 215 (21) | 100 (26) | 110 (18) | 205 (21) | 102 (11) |
| High/CHD | 5930 (59) | 1773 (58) | 657 (65) | 453 (47) | 655 (68) | 416 (41) | 209 (53) | 338 (55) | 667 (68) | 762 (78) |
| Lipid measurements, mg/dL | | | | | | | | | | |
| LDL-C | 100±37 | 98±36 | 94±34 | 113±37 | 97±33 | 119±38 | 113±46 | 98±40 | 84±27 | 98±31 |
| HDL-C | 53±15 | 51±15 | 49±13 | 60±16 | 52±15 | 57±15 | 54±14 | 51±13 | 50±12 | 52±14 |
| Non–HDL-C | 130±41 | 129±42 | 124±39 | 140±41 | 126±36 | 146±40 | 142±49 | 136±47 | 111±29 | 127±35 |
| Triglycerides | 152±86 | 158±101 | 154±96 | 138±71 | 149±69 | 138±67 | 145±67 | 189±106 | 139±61 | 148±71 |
| Triglycerides/HDL-C | 3.3±2.8 | 3.6±3.3 | 3.6±3.4 | 2.6±1.9 | 3.2±2.0 | 2.7±1.9 | 3.0±1.9 | 4.2±3.0 | 3.1±2.5 | 3.2±2.1 |
| hs-CRP, mg/L | 1.5 (0.7–3.3) | 1.9 (0.9–4.2) | 1.6 (0.8–3.4) | 1.7 (0.8–3.5) | 1.6 (0.8–3.2) | 1.7 (0.8–3.6) | 1.6 (0.8–3.4) | NA | 0.7 (0.4–0.14) | 1.2 (0.7–2.6) |
| Fasting blood glucose, mg/dL | 115±39 | 115±40 | 116±32 | 107±31 | 122±42 | 116±38 | 110±41 | 114±50 | 106±27 | 124±45 |

# HDL y su metabolismo

HDL secretado es discoidal

Adquiere colesterol de, madura a forma esferica)




Cholesterol and Atherosclerosis, Grundy)

## All cause mortality

| Study | No of patients/No of events: Statin group | Control group | Odds ratio (95% CI) | Odds ratio (95% CI) |
|---|---|---|---|---|
| WOSCOPS[W9] | 3302/106 | 3293/135 | | 0.78 (0.60 to 1.01) |
| AFCAPS/TexCaps[W8] | 3304/80 | 3301/77 | | 1.04 (0.76 to 1.43) |
| PROSPER[W6] | 1585/163* | 1654/174* | | 0.98 (0.79 to 1.21) |
| ALLHAT-LLT[W7] | 5170/631 | 5185/641 | | 0.99 (0.88 to 1.11) |
| ASCOT-LLA[W10] | 5168/387 | 5137/449 | | 0.85 (0.73 to 0.97) |
| CARDS[W4] | 1428/61 | 1410/82 | | 0.72 (0.51 to 1.02) |
| ASPEN[W3] | 959/44 | 946/41 | | 1.06 (0.69 to 1.64) |
| MEGA[W2] | 3866/55 | 3966/79 | | 0.71 (0.50 to 1.00) |
| JUPITER[W1] | 8901/198 | 8901/247 | | 0.80 (0.66 to 0.96) |
| Total | 33 683/1725 | 33 793/1925 | | 0.88 (0.81 to 0.96) |

Q statistic P=0.20, $I^2$=27.0%*

0.5 1 2

Favours statin Favours control

## Major coronary events

| Study | No of patients/No of events: Statin group | Control group | Odds ratio (95% CI) |
|---|---|---|---|
| WOSCOPS[W9] | 3302/174 | 3293/248 | |
| AFCAPS/TexCaps[W8] | 3304/57* | 3301/95* | |
| PROSPER[W6] | 1585/126 | 1654/145 | |
| ALLHAT-LLT[W7] | 5170/380 | 5185/421 | |
| ASCOT-LLA[W10] | 5168/163 | 5137/249 | |
| HPS[W5] | 1455/NA | 1457/NA | |
| CARDS[W4] | 1428/43 | 1410/65 | |
| MEGA[W2] | 3866/23† | 3966/43† | |
| Total | 23 823/966 | 23 946/1266 | |

Q statistic P=0.02, $I^2$=60.0%*

0.25 0.5 1 2

Favours statin Favours control

# Evidencias Post ATP III: Como seguimos ?

- ATP III: Riesgo x Framingham
- Tratamiento dirigido a todos los FR-CV ?
- Aterosclerosis Subclinica y marcadores ?
- Costos, genericos ?
- Nuevos scores de riesgo
- Casos especiales, HDL
- Regresion en carotidas
- Nuevos FRCV