Hart- en bloedvat aandoeningen bij diabetes patiënten

Philippe Jr. Timmermans, MD MSc

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Belgian Working Group on Heart Failure

OVERZICHT

1. Cardiovasculair risico
2. Behandelingen
   - Diabetes controle
   - Lipidencontrole
   - Atherosclose met ernstige vernauwing
3. Lichaamsbeweging

1. Cardiovasculair risico

SCORE2 risk prediction algorithms

1. Model development

Sex-specific, competing risk-adjusted risk models derived in 45 prospective cohorts in 13 countries (~680,000 individuals, and ~30,000 CVD events)

↓

Recalibration to four risk regions in Europe using age-, sex-, and region-specific risk factor values and CVD incidence rates (derived using data on ~10.8 million individuals)

↓

2. Model validation

External validation in 25 prospective cohorts in 15 European countries (~1.1 million individuals, and ~43,000 CVD events)

↓

C-indices ranged from 0.67 (95% confidence interval [CI] 0.65-0.68) to 0.81 (95% CI 0.76-0.86)

SCORE2 risk prediction algorithms key features

- Sex-specific risk prediction models
- Estimate 10-year risk of fatal and non-fatal CVD
- Calibrated to the most contemporary and representative CVD rates
- Available for four distinct European risk regions
- Can be rapidly updated to reflect future CVD incidence and risk factor profiles

Individual example

Patient risk factors:
50 years old
Smoker
SBP: 140 mmHg
Cholesterol: 5.5 mmol/L
HDL-c: 1.3 mmol/L

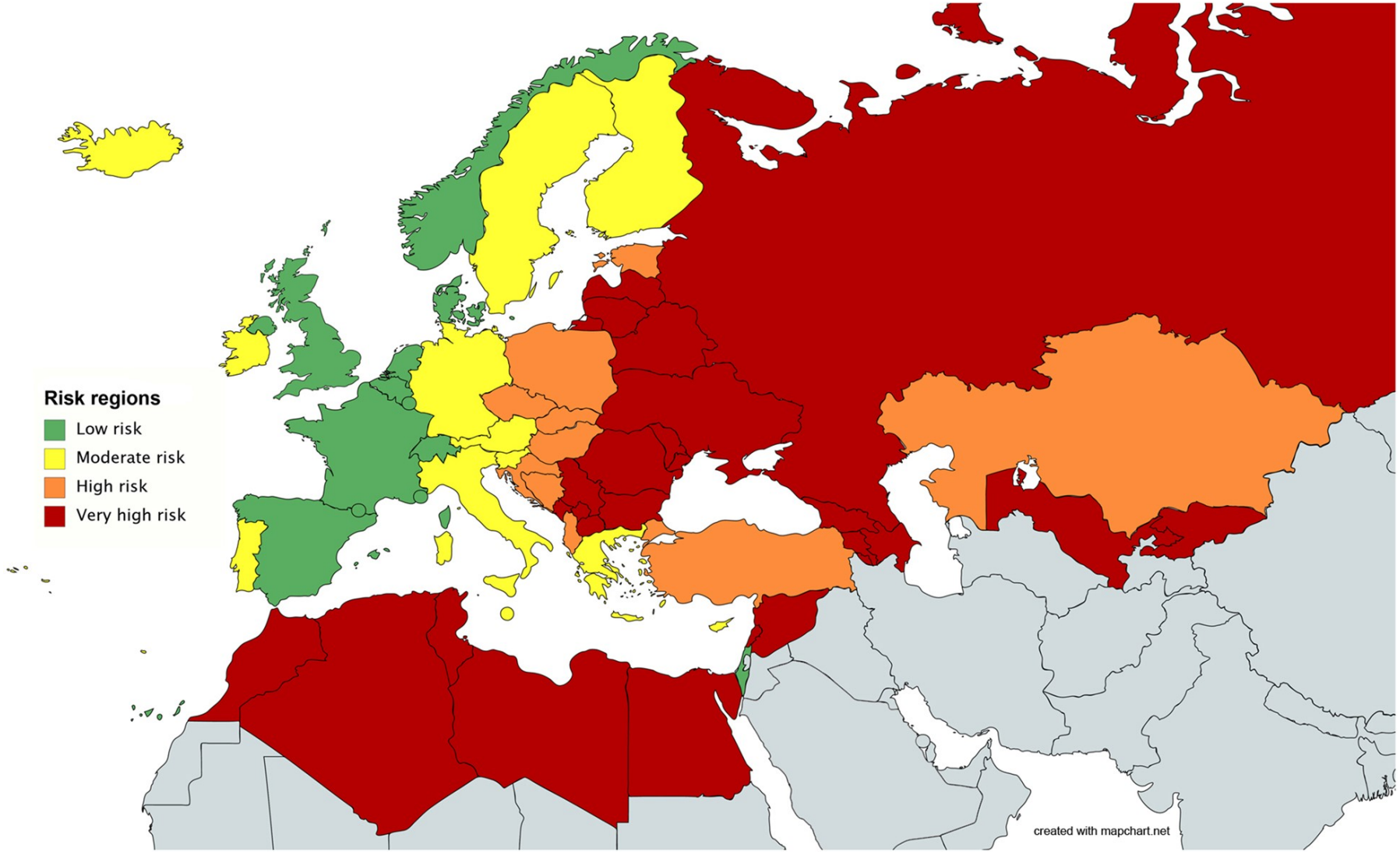
10-year risk depending on risk region

Low risk	Moderate risk	High risk	Very high risk	Low risk	Moderate risk	High risk	Very high risk
4.2%	5.1%	6.9%	13.7%	5.9%	7.5%	8.1%	14.0%

European Heart Journal, Volume 42, Issue 25, 1 July 2021, Pages 2439–2454 - https://doi.org/10.1093/eurheartj/ehab309

https://www.heartscore.org/en_GB

1. Cardiovasculair risico



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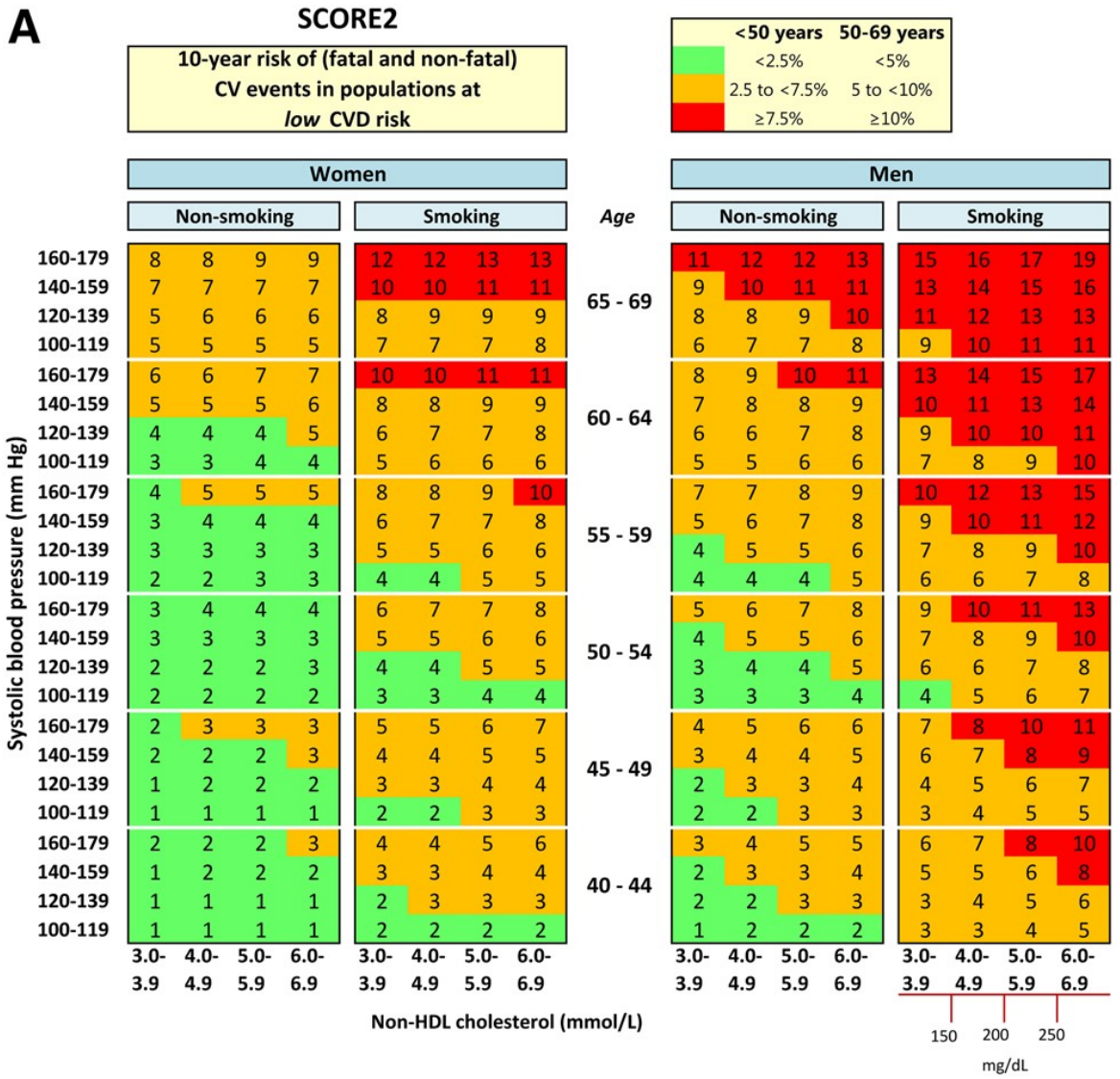

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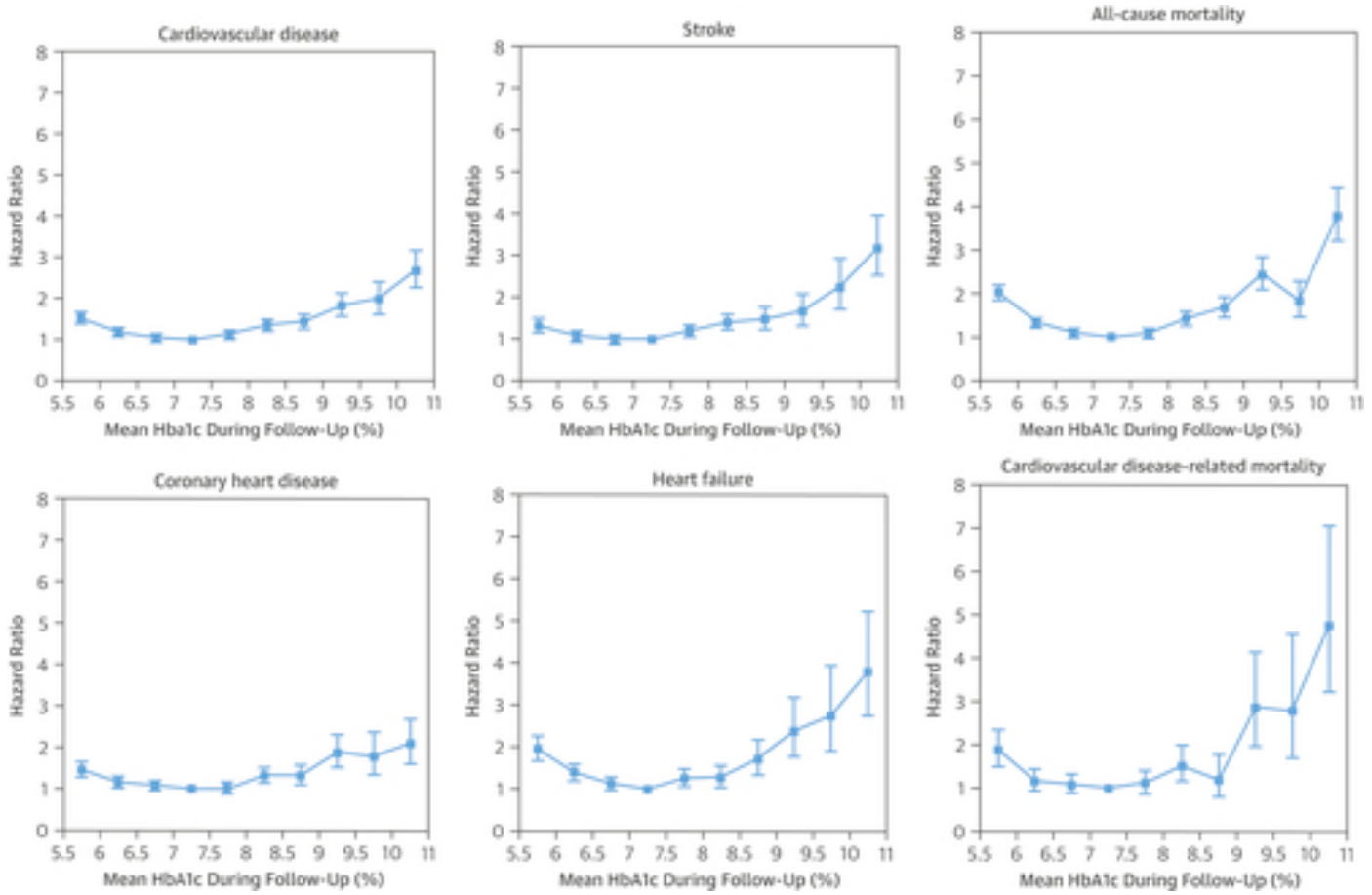
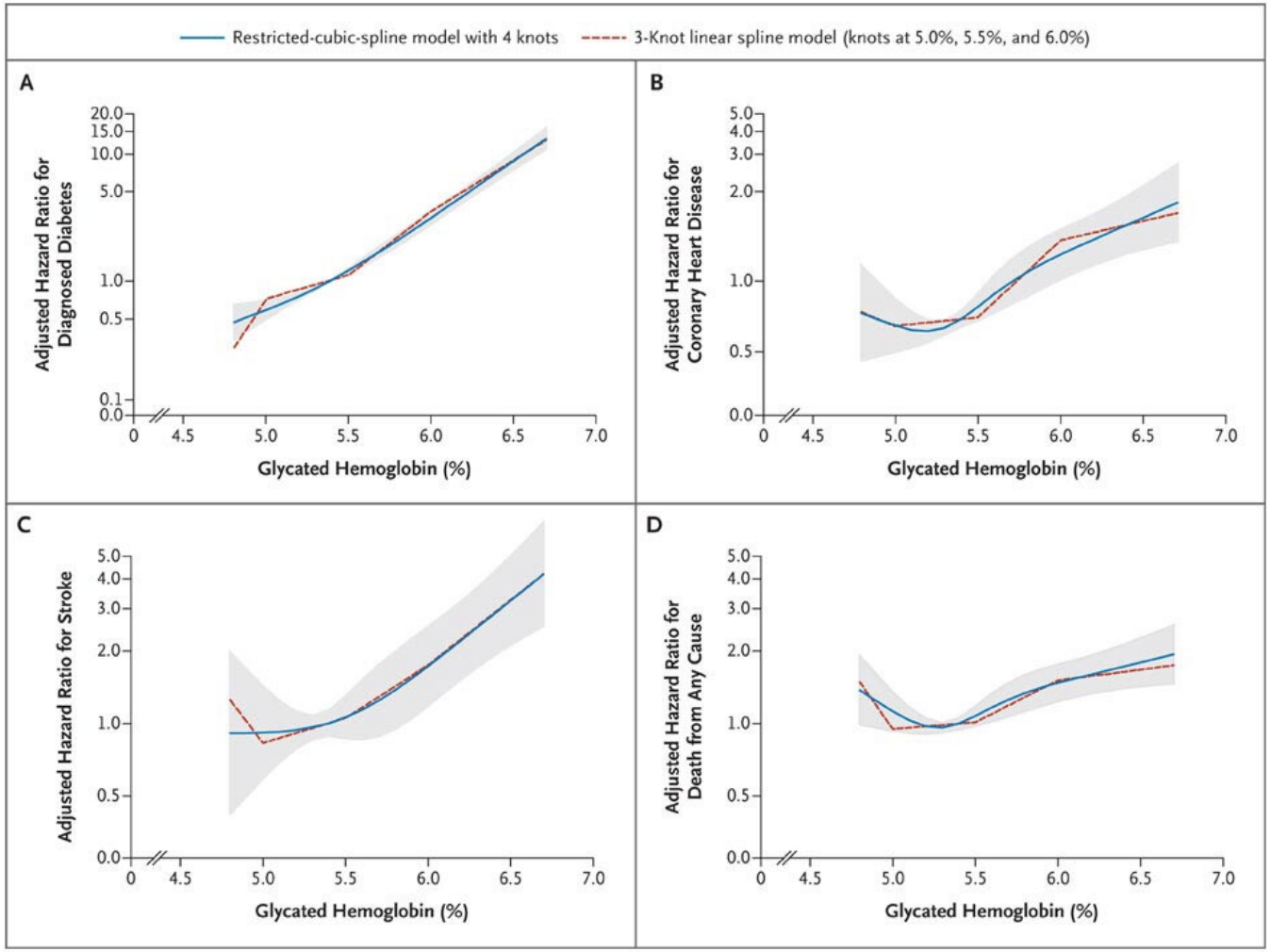
1. Cardiovasculair risico

2. Behandelingen



Eric Yuk Fai Wan et al. *JACC* 2016; 67:456-458.

2. Behandelingen



Selvin E et al. N Engl J Med 2010;362:800-811 -DOI: 10.1056/NEJMoa0908359

2. Behandelingen

2.1 diabetes

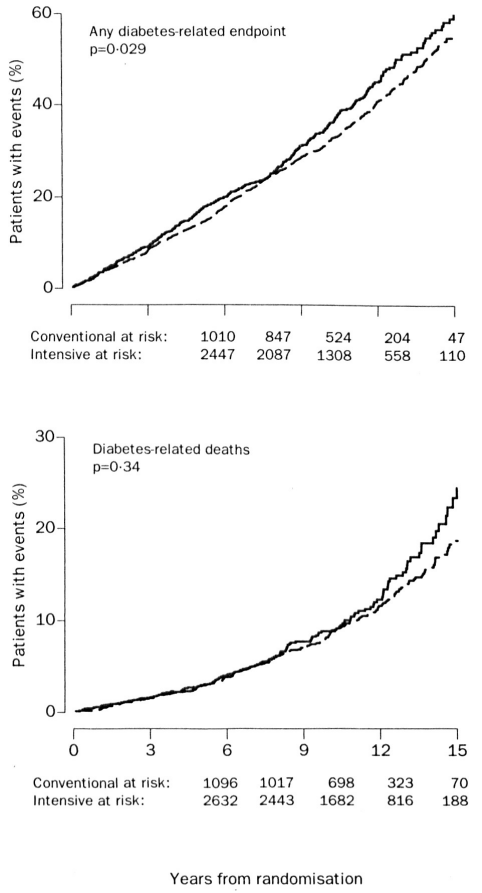
De UKPDS-studie (1998)

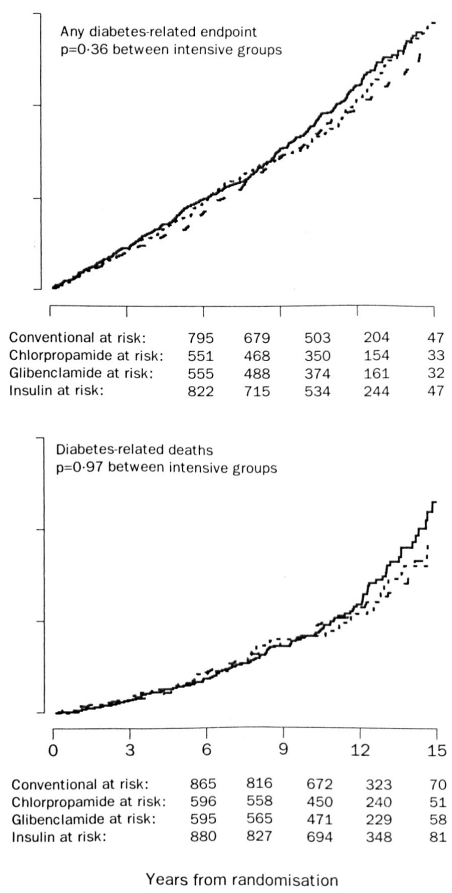
- UK Prospective Diabetes Study (UKPDS) Group
- Dubbel-blind gerandomiseerd onderzoek
- 3867 patienten patients
- Nieuwe diagnose type 2 diabetes
- Gemiddelde leeftijd 54 jaar
- Intensieve diabetesbehandeling met sulfonylurea of insuline vs alleen metformine & dieet
- Gemiddelde follow-up period was 10 jaar
- HbA1C in de intensieve groep bedroeg 7,0%, in de controlegroep 7,9%

2. Behandelingen

2.1 diabetes

Endpoint/clinical events	Risk reduction (%)	*p* value
Any diabetes-related endpoint	12	0.029
Microvascular endpoints	25	0.0099
Myocardial infarction	16	0.052
Cataract extraction	24	0.046
Retinopathy at 12 years	21	0.015
Albuminuria at 12 years	33	< 0.001

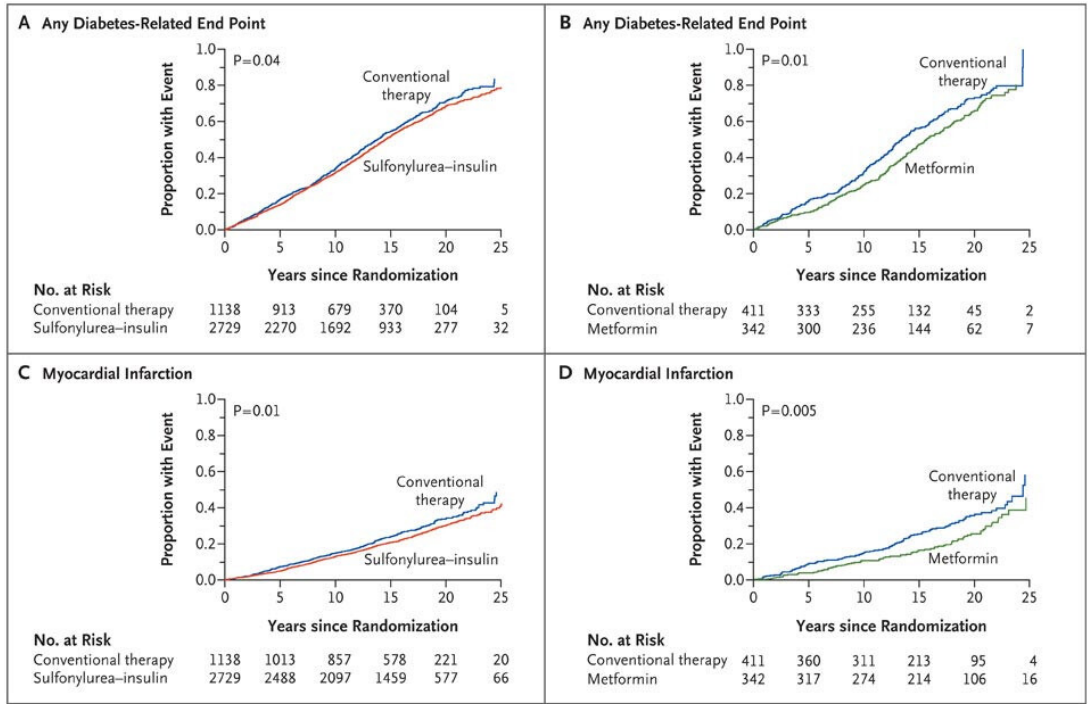




2. Behandelingen

2.1 diabetes

UKPDS: 25 jaar na de studie



2. Behandelingen

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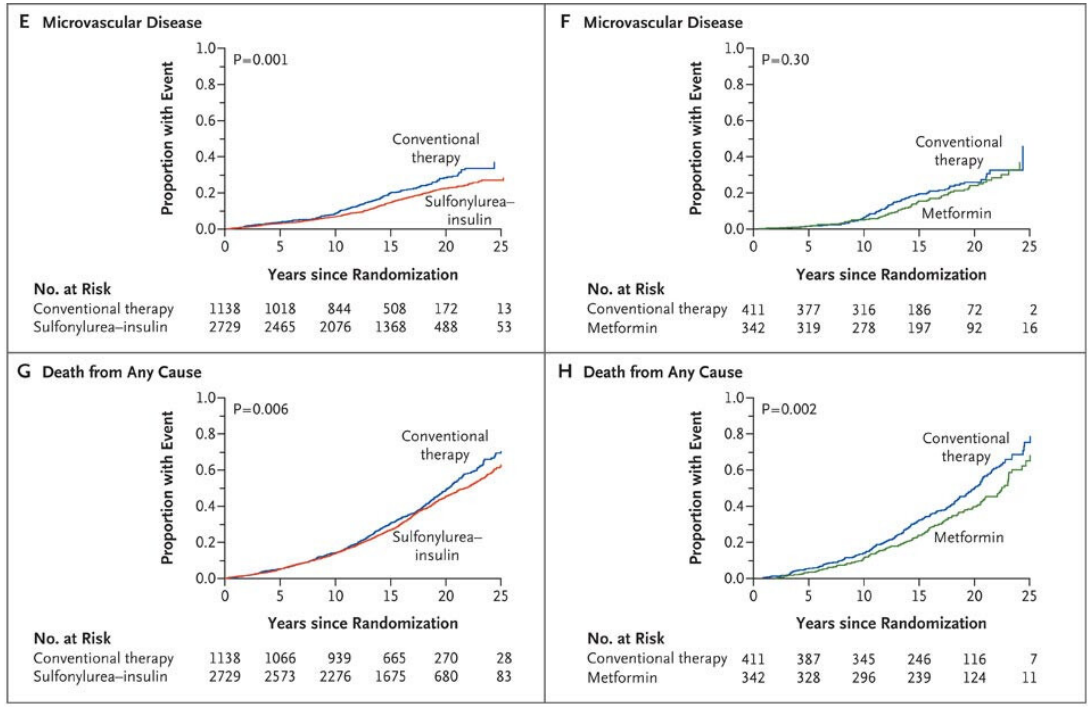


2. Behandelingen

2.2 lipiden

De WOSCOPS-studie (1995)

- West of Schotland Cardiovascular Outcomes Study
- Dubbel-blind gerandomiseerd onderzoek
- 6595 mannen
- 45 tot 64 jaar
- Gemiddelde (±SD) plasma cholesterol 272±23 mg per deciliter (7.0±0.6 mmol per liter)
- pravastatin (40 mg each evening) of placebo.
- Gemiddelde follow-up period was 4.9 jaar

Table 1. Base-Line Characteristics of the Randomized Subjects, According to Treatment Group.*

Characteristic	Placebo (N = 3293)	Pravastatin (N = 3302)
Continuous variables		
Age — yr	55.1±5.5	55.3±5.5
Body-mass index†	26.0±3.1	26.0±3.2
Blood pressure — mm Hg		
Systolic	136±17	135±18
Diastolic	84±10	84±11
Cholesterol — mg/dl		
Total	272±22	272±23
LDL	192±17	192±17
HDL	44±10	44±9
Triglycerides — mg/dl	164±68	162±70
Alcohol consumption — units/wk‡	11±13	12±14
Categorical variables — no. of subjects (%)		
Angina§	174 (5)	164 (5)
Intermittent claudication§	96 (3)	97 (3)
Diabetes	35 (1)	41 (1)
Hypertension (self-reported)	506 (15)	531 (16)
Minor ECG abnormality	259 (8)	275 (8)
Smoking status		
Never smoked	705 (21)	717 (22)
Exsmoker	1127 (34)	1138 (34)
Current smoker	1460 (44)	1445 (44)
Employment status		
Employed	2324 (71)	2330 (71)
Unemployed	459 (14)	430 (13)
Retired	338 (10)	330 (10)
Disabled	171 (5)	210 (6)

*Plus–minus values are means ± SD. To convert values for cholesterol to millimoles per liter, multiply by 0.026, and to convert values for triglycerides to millimoles per liter, multiply by 0.011.

†The weight in kilograms divided by the square of the height in meters.

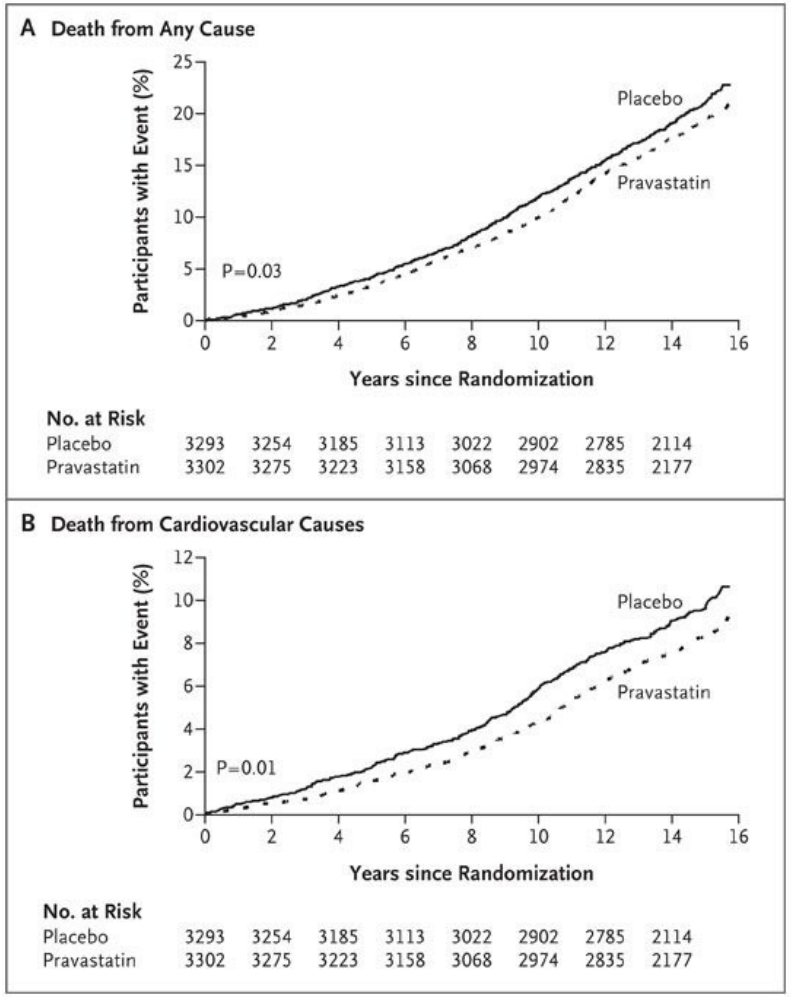
‡A unit was defined as 1 measure (60 ml) of liquor, 1 glass (170 ml) of wine, or a half pint (300 ml) of beer.

§As indicated by positive responses on the Rose questionnaire.

Ford I. et al N Engl J Med 2007;357:1477-1486 DOI: 10.1056/NEJMoa065994

2. Behandelingen

2.2 lipiden



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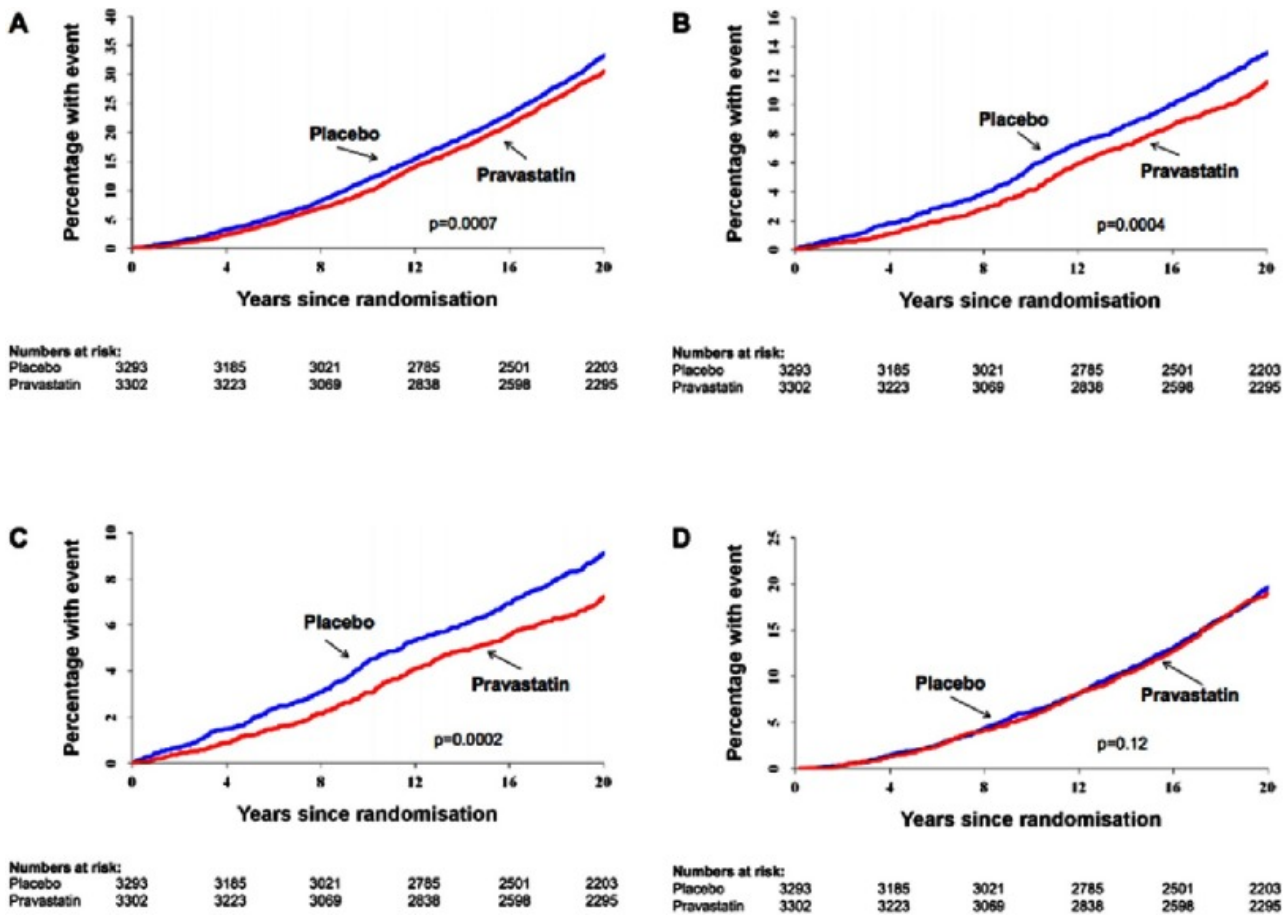
2. Behandelingen

2.2 lipiden

WOSCOPS: 20 jaar na de studie



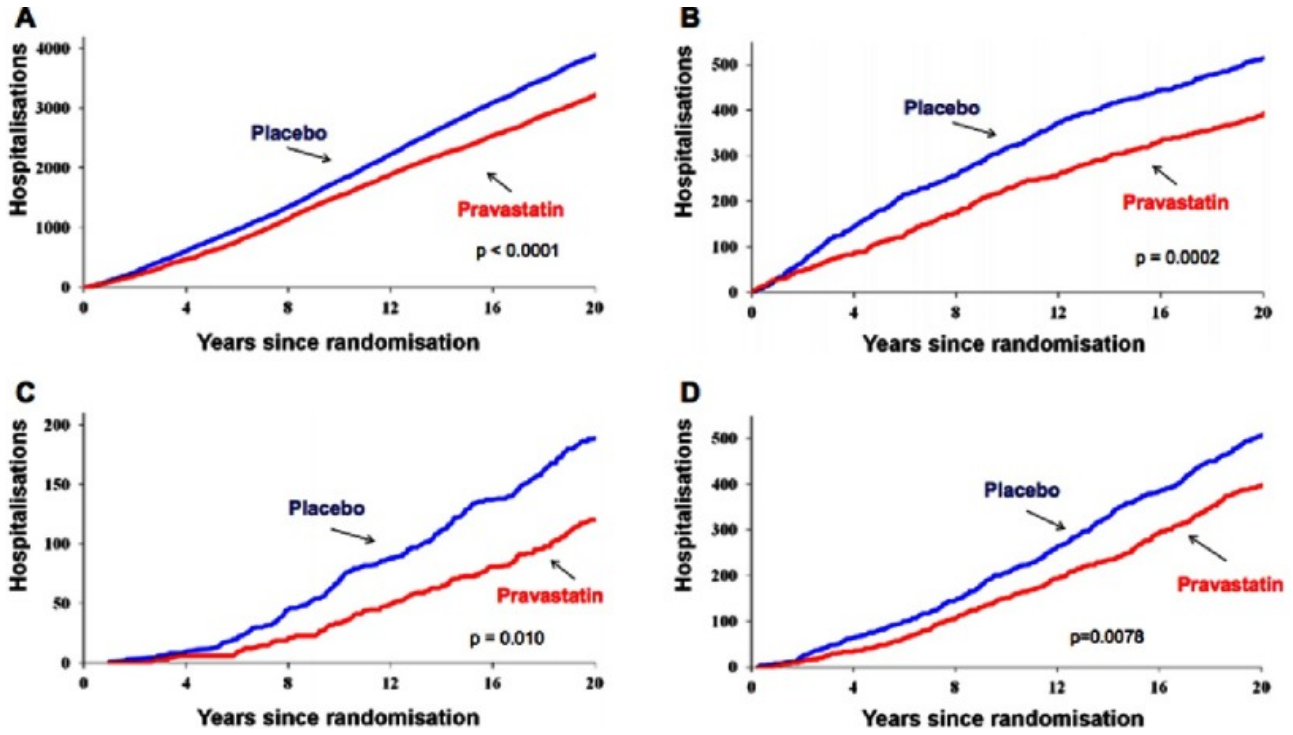
Cumulative mortality from
(A) all causes
(B) cardiovascular disease,
(C) coronary heart disease,
(D) non-cardiovascular disease.

Glob Cardiol Sci Pract. 2016 Dec 30;2016(4):e201635.
doi: 10.21542/gcsp.2016.35

2. Behandelingen

2.2 lipiden

WOSCOPS: 20 jaar na de studie



Hospital admission risk
(A) cardiovascular interventions
(B) Recurrente coronaire pathologie,
(C) hartfinfarct
(D) Heart failure

Glob Cardiol Sci Pract. 2016 Dec 30;2016(4):e201635.
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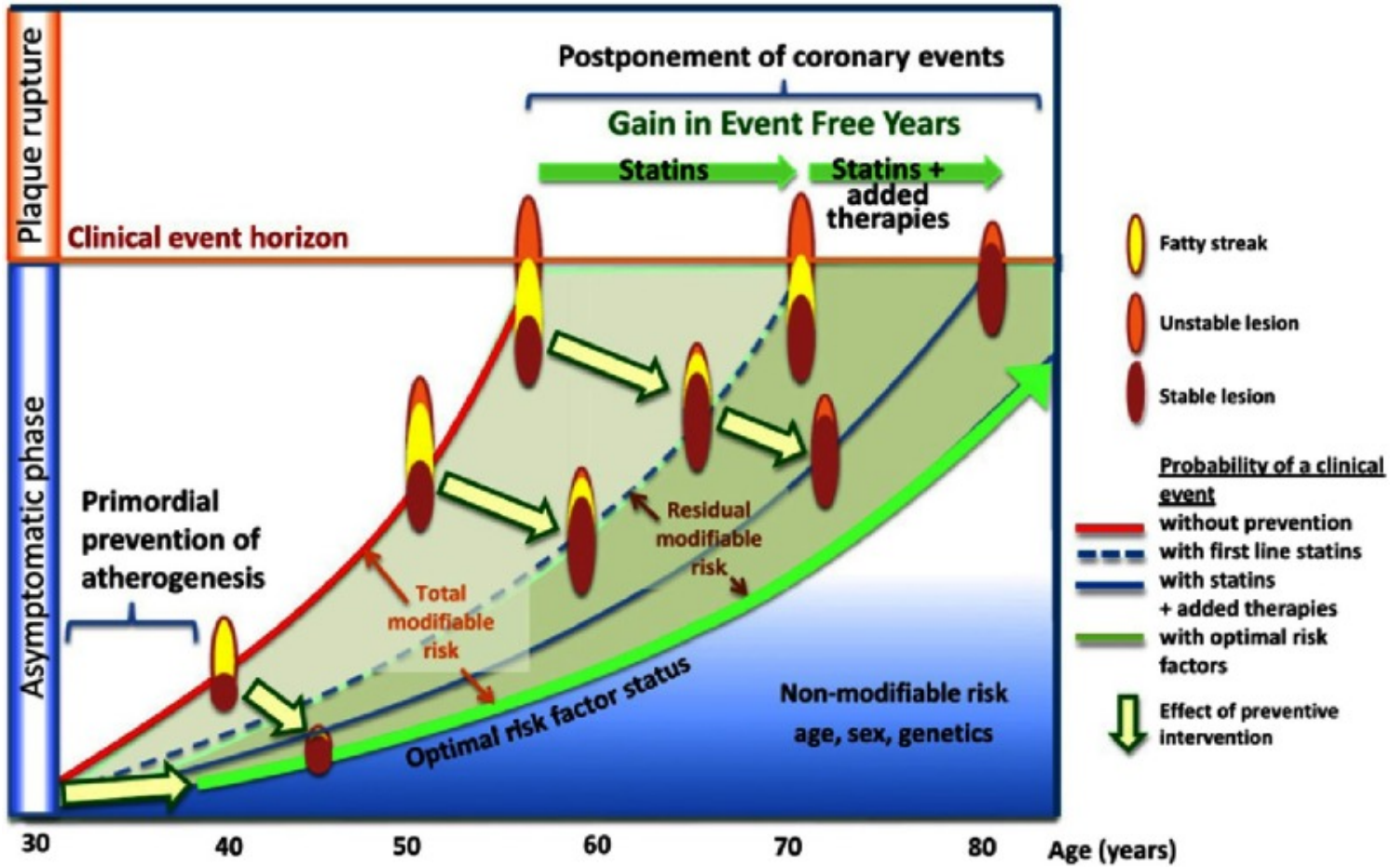
2. Behandelingen

“legacy” effect van behandeling van risicofactoren



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2. Behandelingen

2.3 ernstige coronaire stenoses/hartinfarct

2. Behandelingen

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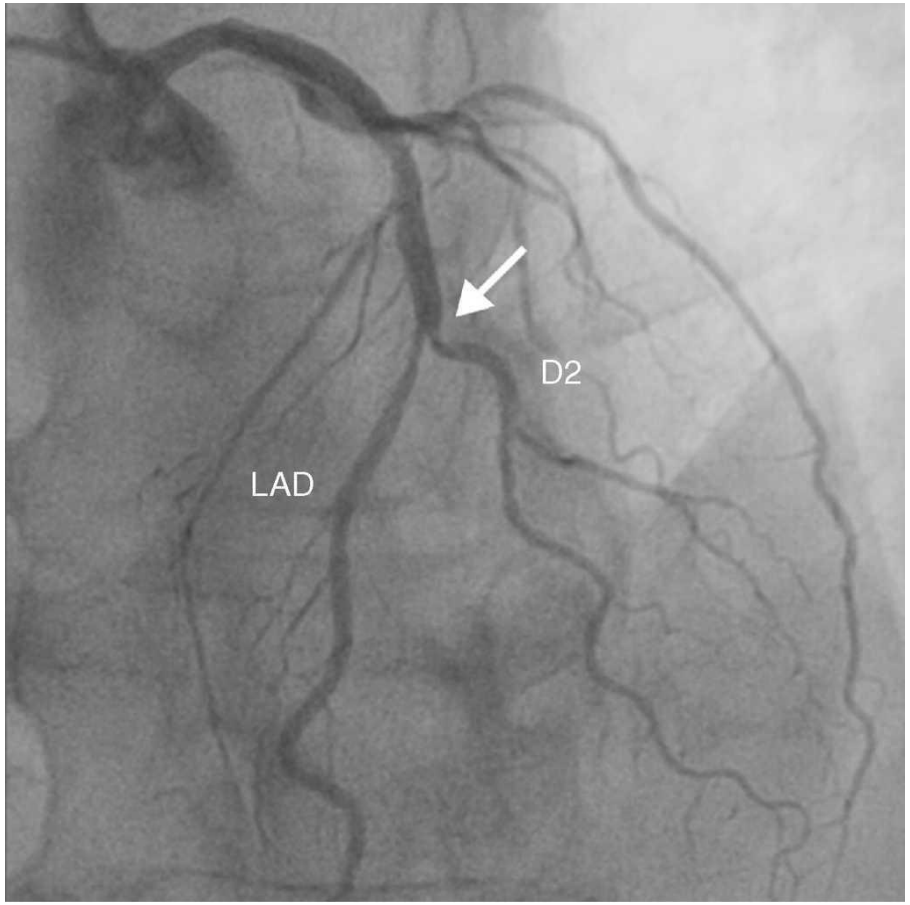
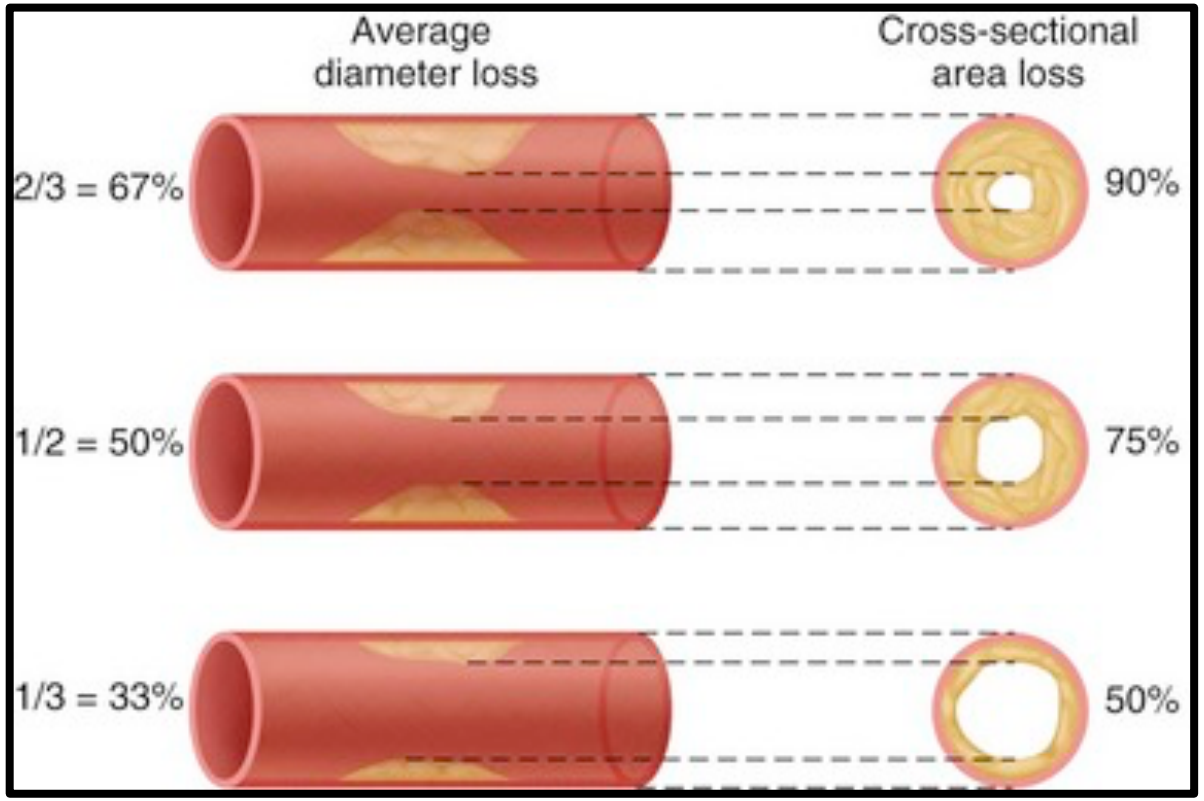


Rev Port Cardiol. 2015;34:217–8

2. Behandelingen

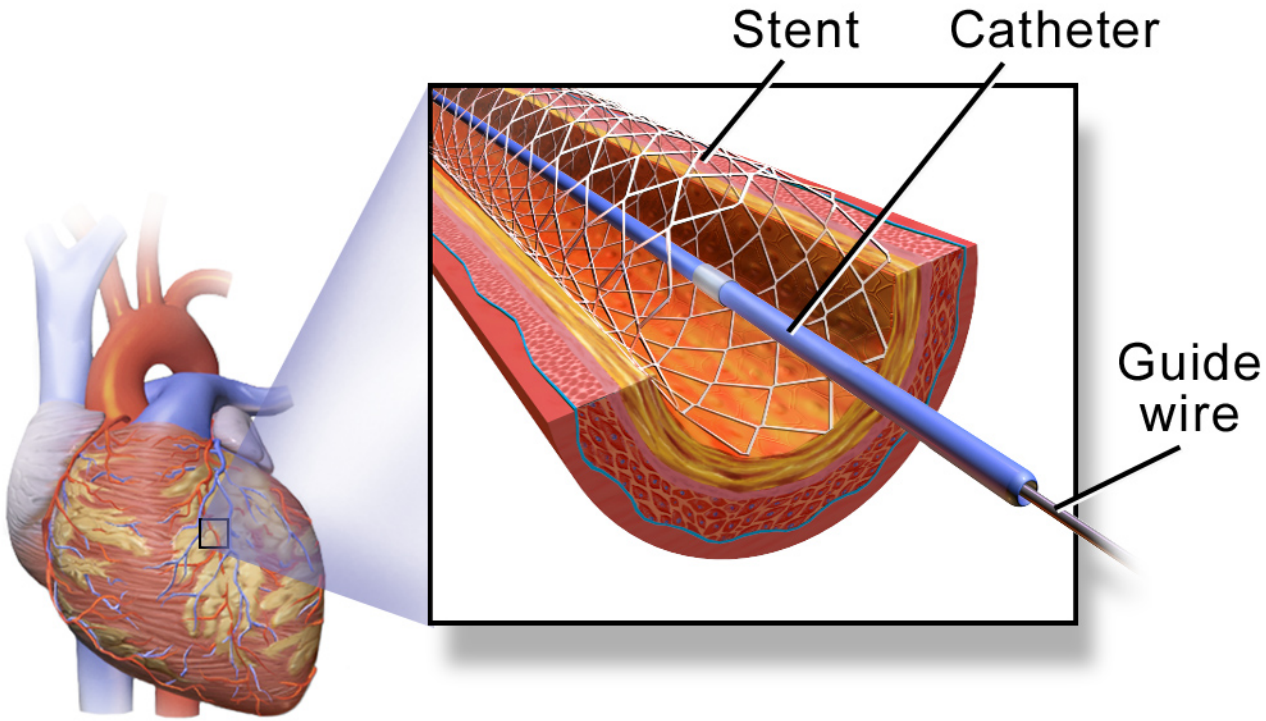
2.3 ernstige coronaire stenoses/hartinfarct



- Lichte stenoses zijn toch een teken van belangrijke onderliggende plaque-belasting
- Vanaf 50% stenose kan de vernauwing hemodynamisch relevant worden

2. Behandelingen

2.3 ernstige coronaire stenoses/hartinfarct



- Passeren letsel met draad (“wire”)
- Dilateren van stenose met ballon
- Kans op langdurig openhouden bloedvat door plaatsen stent
- Tijdens procedure: **heparine** (risico katheter trombose)
- Na plaatsen stent: **antitrombotica** (risico stent trombose)

3. Lichaamsbeweging

ESC European Society of Cardiology

European Heart Journal (2025) **46**, 890–903
https://doi.org/10.1093/eurheartj/ehae927

STATE OF THE ART REVIEW
Epidemiology, prevention, and health care policies

Coronary atherosclerosis in athletes: emerging concepts and preventive strategies

Guido Claessen [1,2,3,*†], Thijs M.H. Eijsvogels [4,†], Christine M. Albert[5], Aaron L. Baggish[6], Benjamin D. Levine[7,8], Eloi Marijon[9,10], Erin D. Michos[11], and Andre La Gerche [12,13,14]

[1]Faculty of Medicine and Life Sciences, Biomedical Research Institute, LCRC, UHasselt, Hasselt, Belgium; [2]Hartcentrum Hasselt, Jessa Ziekenhuis, Stadsomvaart 11, 3500 Hasselt, Belgium; [3]Department of Cardiovascular Diseases, KU Leuven, Herestraat 49, 3000 Leuven, Belgium; [4]Department of Medical Biosciences, Exercise Physiology Research Group, Radboud University Medical Centre, Nijmegen, The Netherlands; [5]Department of Cardiology, Smidt Heart Institute, Cedars-Sinai Medical Center, Los Angeles, CA, USA; [6]Division of Cardiology, Lausanne University Hospital, Lausanne, Vaud, Switzerland; [7]Division of Cardiology, Department of Internal Medicine, University of Texas Southwestern Medical Center, 5323 Harry Hines Blvd., Dallas, TX 75390, USA; [8]Institute for Exercise and Environmental Medicine, Texas Health Presbyterian Hospital Dallas, 7232 Greenville Ave, Dallas, TX 75231, USA; [9]Paris Cardiovascular Research Center, Université Paris Cité, Inserm U970, Paris, France; [10]Division of Cardiology, European Georges Pompidou Hospital, Paris, France; [11]Division of Cardiology, Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD, USA; [12]Heart, Exercise and Research Trials (HEART) Lab, St. Vincent's Institute of Medical Research, Melbourne, Australia; [13]Department of Cardiology, St. Vincent's Hospital Melbourne, Fitzroy, Australia; and [14]HEART Lab, Victor Chang Cardiovascular Research Institute, Darlinghurst, NSW 2010, Australia

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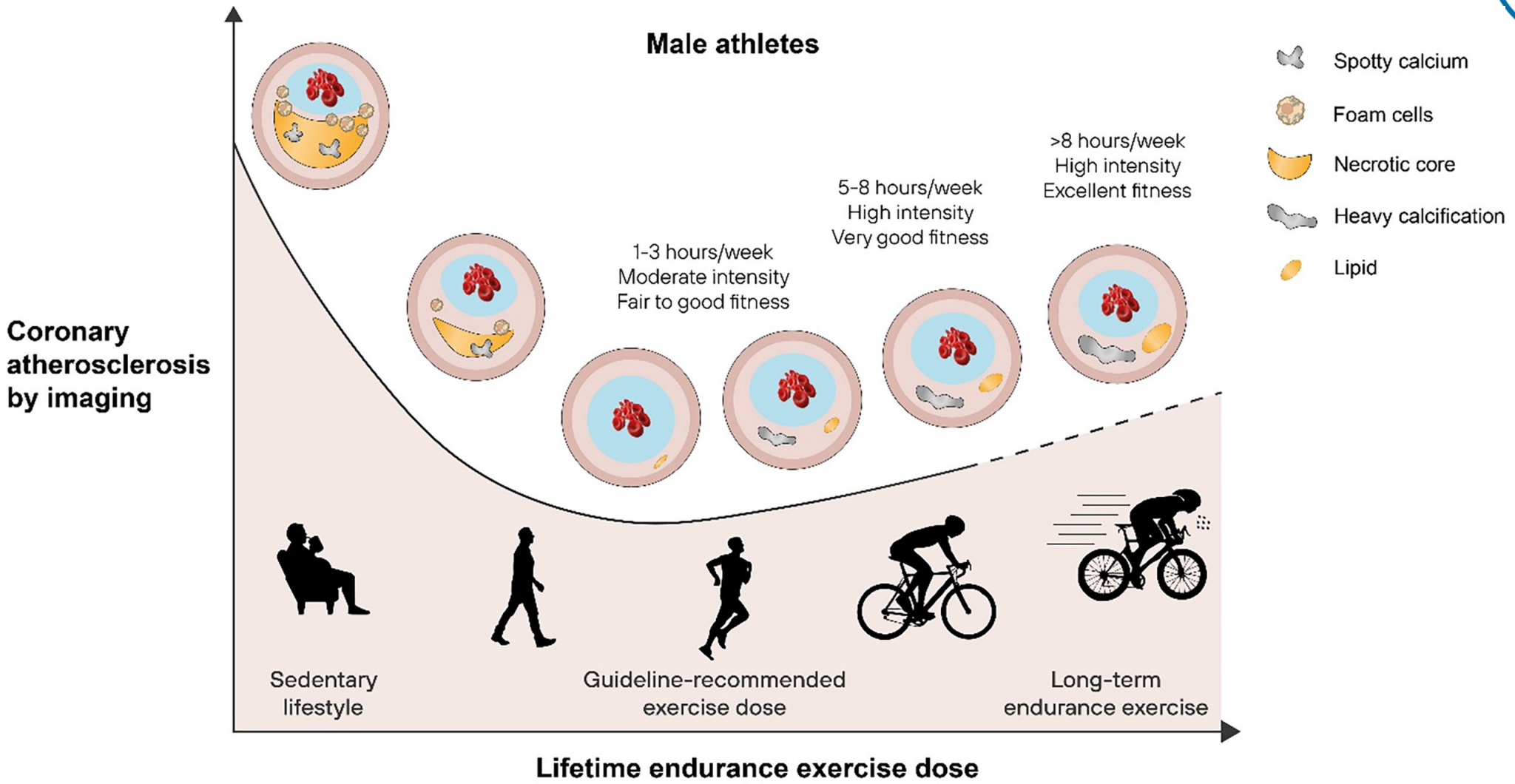
3. Lichaamsbeweging



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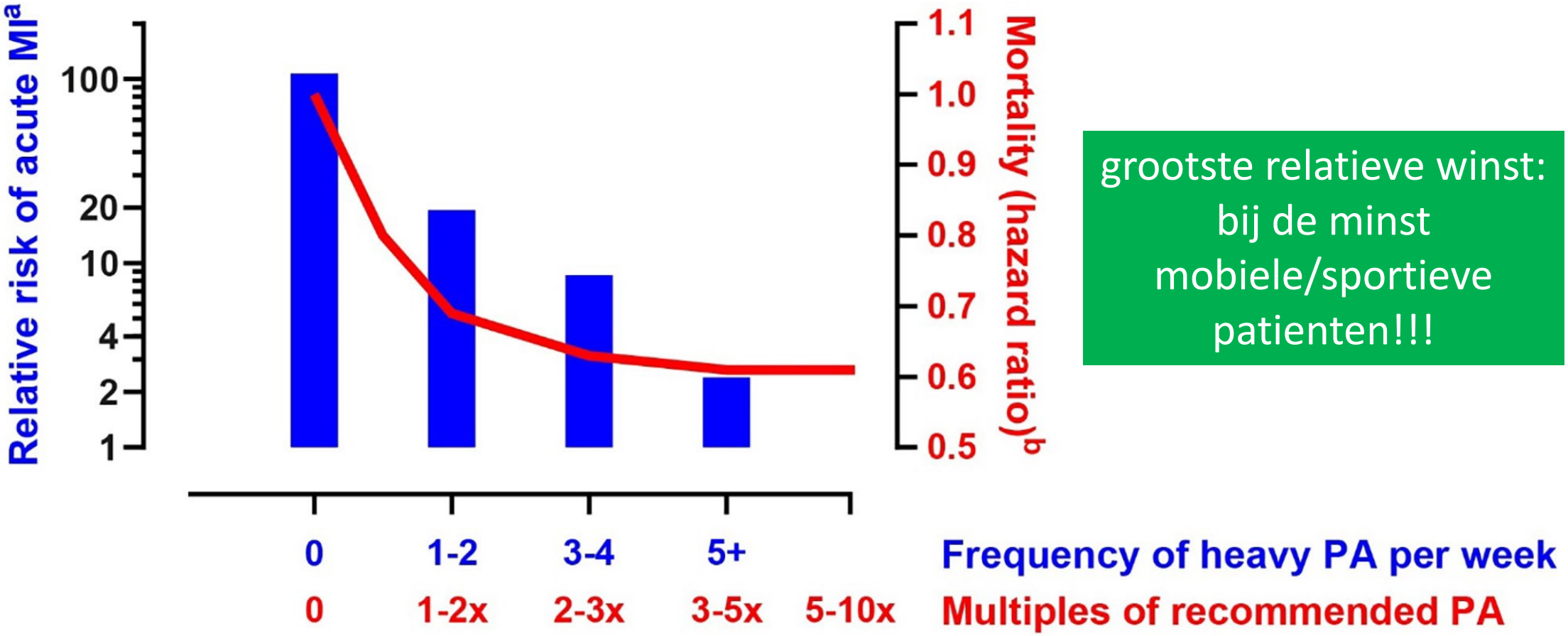

grootste relatieve winst:
bij de minst
mobiele/sportieve
patienten!!!


Hartcentrum
Hasselt