



Bridging the gap between evidence based practice and practice based evidence

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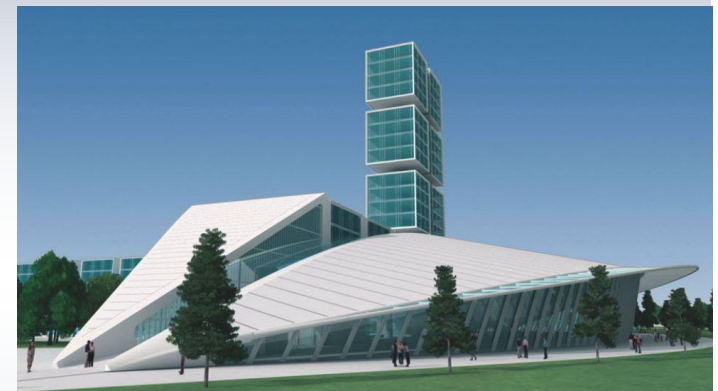
Caphri research School

Department of Epidemiology

Maastricht University

Contents

- n Historical development of guidelines
- n Problems with evidence
- n Problems with application/implementation
- n Electronic patient databases
- n Intermittent claudication





Definition of guidelines

- n systematically developed statements which assists clinicians and patients in making decisions about appropriate treatment for specific conditions (Mann, 1996)

History (in reality)

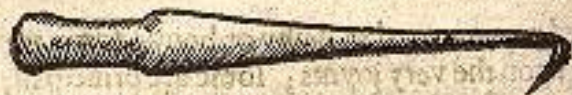
- n Formalized statement of daily practice
- n Organizational basis
- n Describes rather the context than the intervention





Ambroise Paré: treatment on the battlefield

A hooked Instrument fit for to draw forth strange bodies, as peices of Metal, or such other things as it can catch hold of, which may also bee used in wounds made by Gunshot.



But if by chance either
 rowes, Darts or Lances,
 winged head of any other
 pon, bee run through
 sticking in any part of the
 dy, as the Thigh, with
 on of the shaft or handle
 its peices, or broken off,
 is fit the Chirurgion
 cutting mullets frooke
 the end of the shaft or
 and then with his other
 lets plucke forth the
 you may see by this figure



n More recently, (clinical) guidelines have emerged

Consensus based

– Expert based

– Evidence based

Consensus based

- n Consensus may be largely influenced by group dynamics
- n Delphi method does not entirely solve this problem

Consensus = non-sensus

Consensus guidelines are **guidelies**

Expert based

- n Might be even worse than consensus
- n Expert bias
- n Centripetal bias
- n Opinion bias
- n Prejudice
- n External financing

Evidence based

- n Guideline recommendations are based on best available evidence
- n Deals with specific interventions for specific populations
- n Are based on a systematic approach

EBP is the VOODOO
of the 3rd millennium



Is the evidence ...

- n Good enough
- n Transparent
- n Credible
- n Available
- n Applied
- n Not 'muddled' by health care insurers

Some trials are never done!

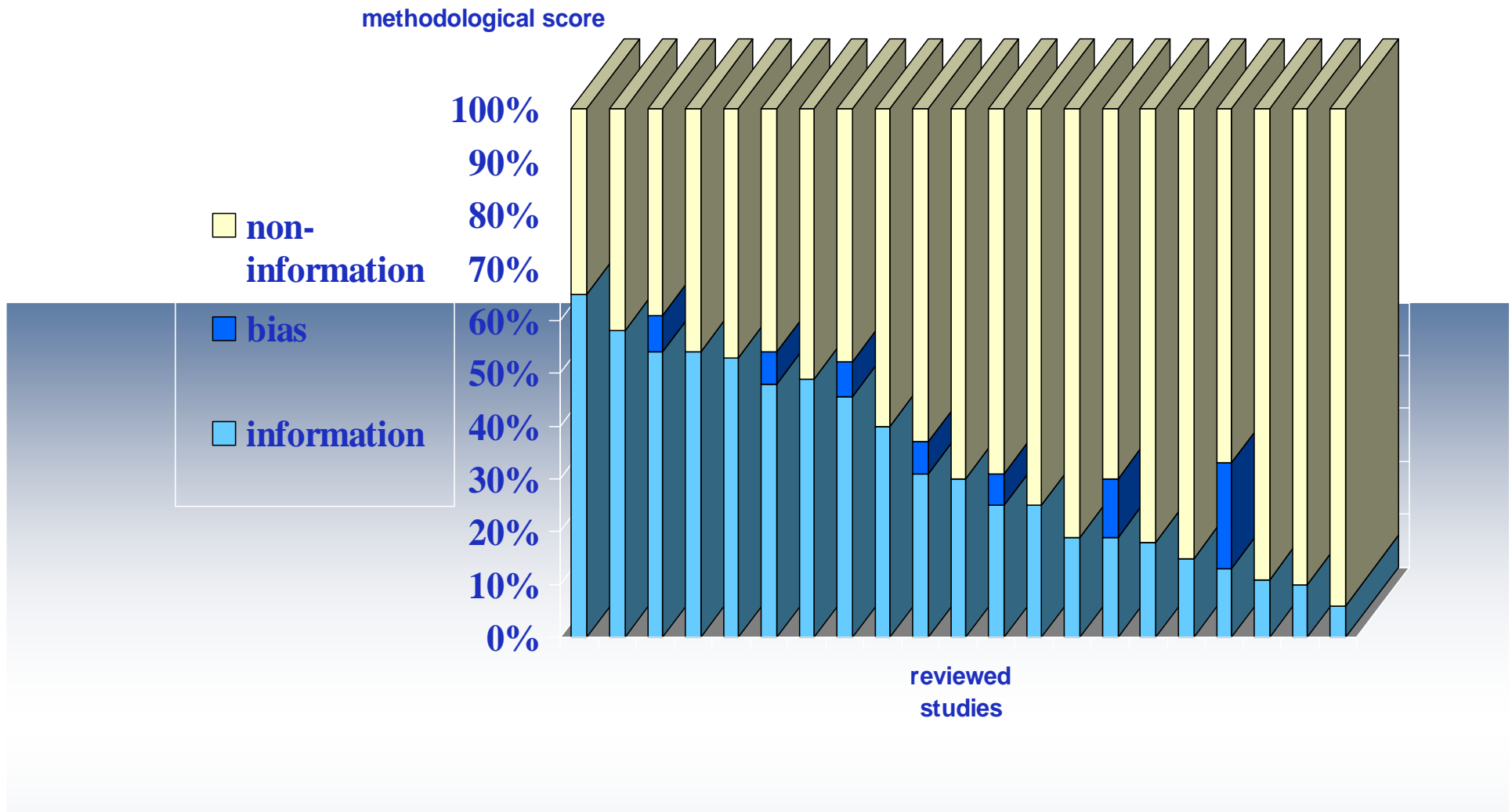


Risks of Downhill skiing studied in animal research

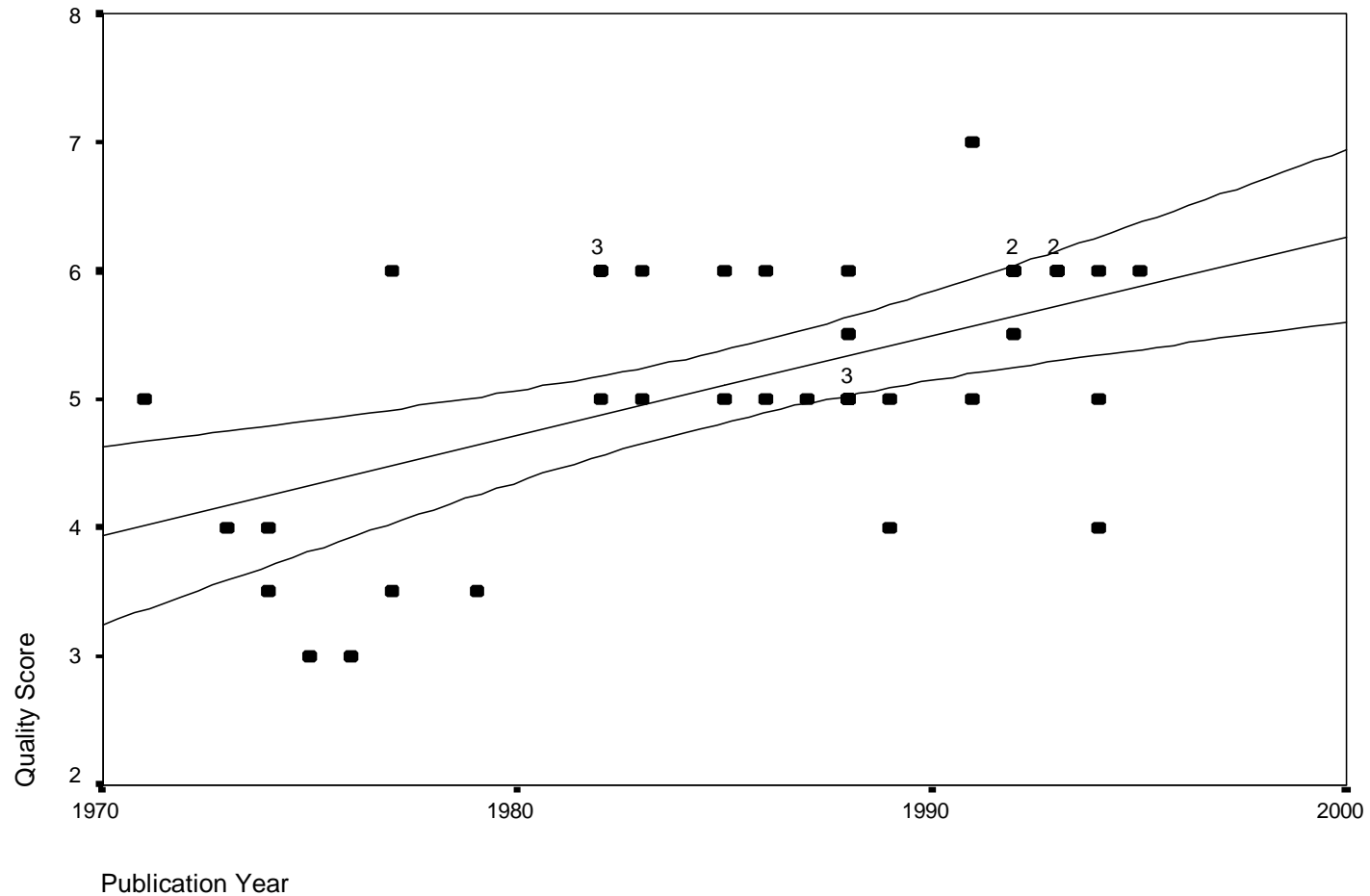


Risks of not wearing a parachute when jumping from an aeroplane

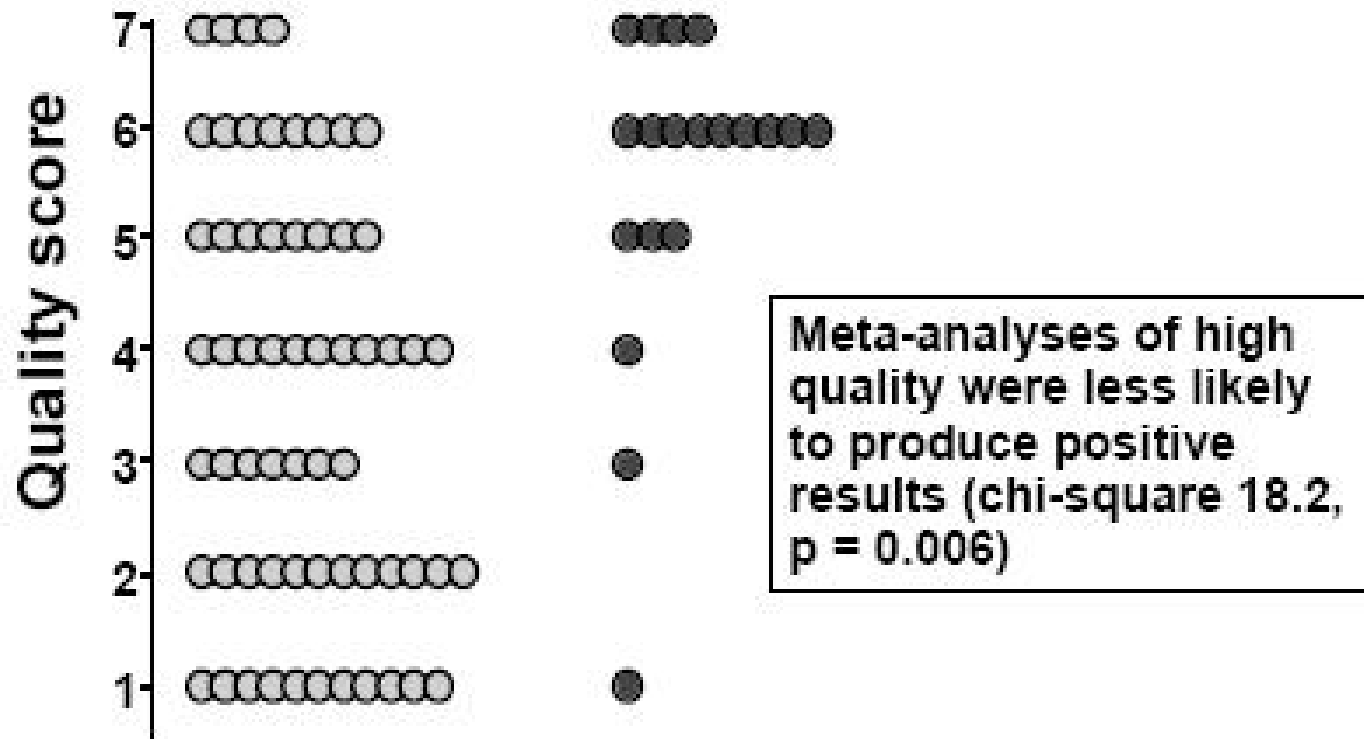
Informativeness: what you read is not what has been done



Quality of a trial versus publication year



Systematic reviews: quality and estimate of efficacy



Yes - works No - doesn't work

Efficacy as stated in original review

Good trials not always give good answers

Factor	Percentage overestimation of treatment effect
n Not randomised	40
n Not double-blind	17
n Including duplicate information	20
n Using only small trials	30
n Trials of poor reporting quality	25

Effect shrinkage

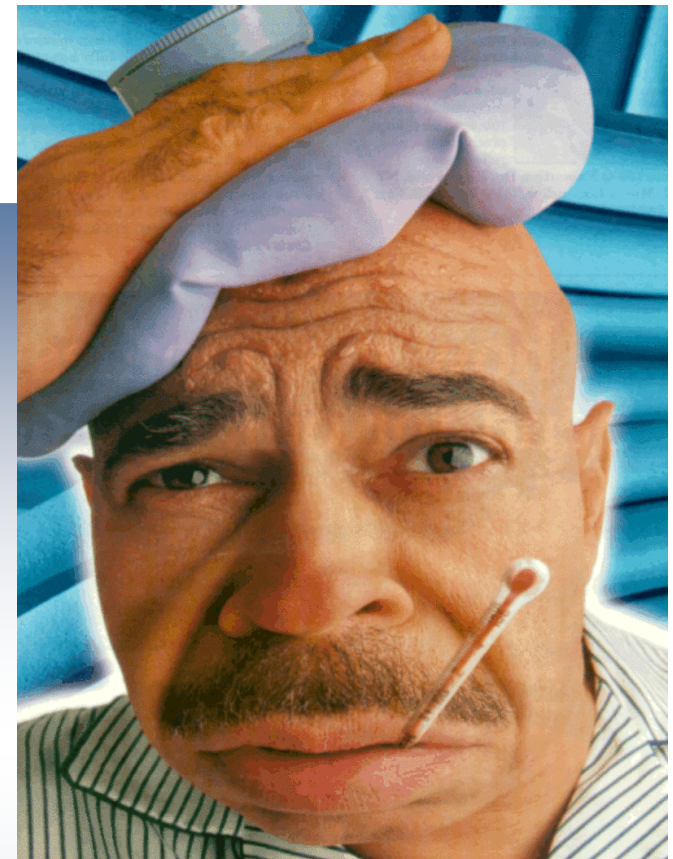
(Suttorp et al, 2006)

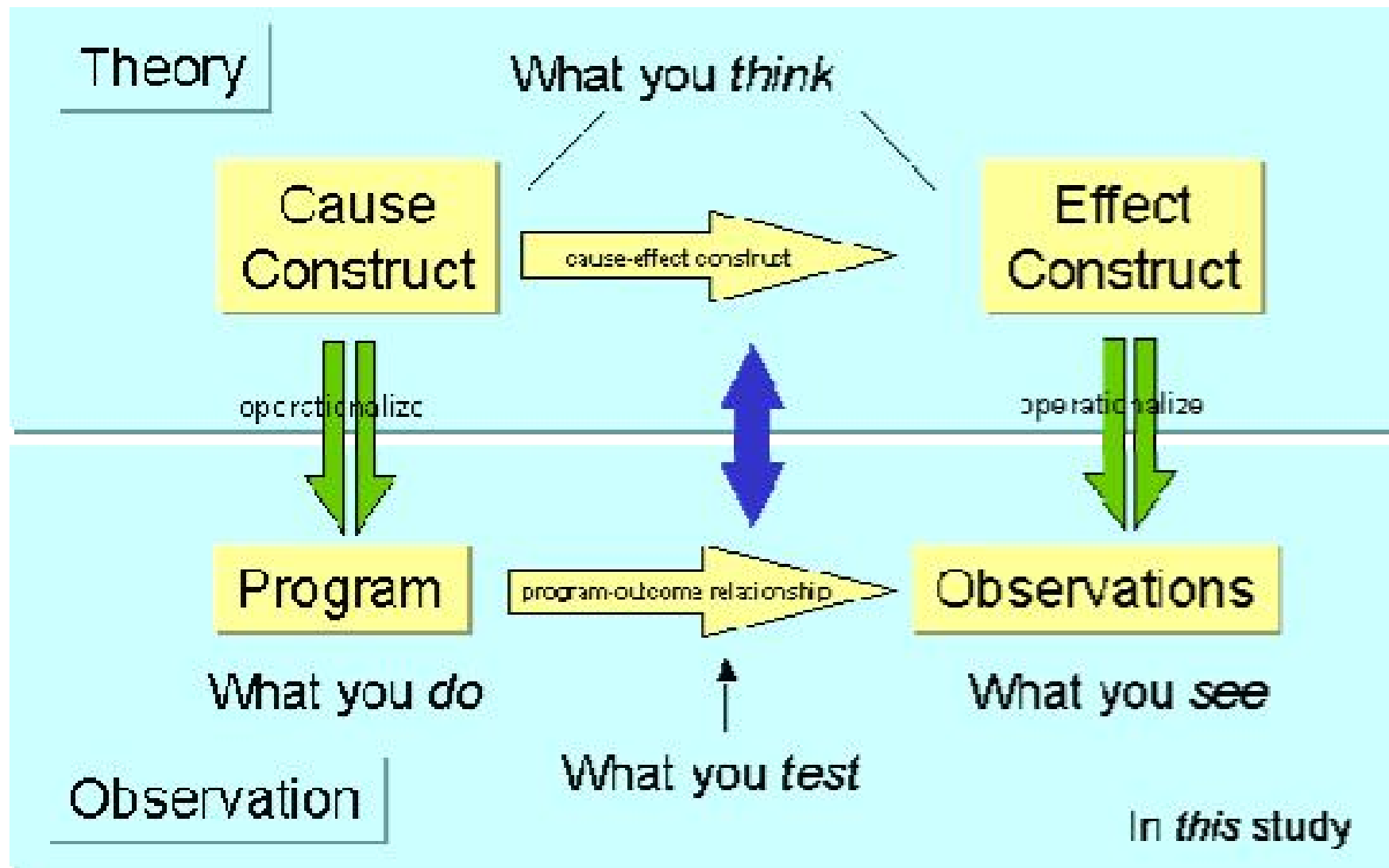
Quality items	ES ratio	95% CI
Sum score > 5	0.62	0.37 – 0.96
Sum score > 4	0.61	0.42 – 1.06

Methodological quality items are associated with bias and a sum score threshold of higher than five is significantly associated with bias.

The better the trial...

- n The less likely there will be a result
- n selection bias?
- n exclusion of co-morbidity?
- n ceiling and floor effects?



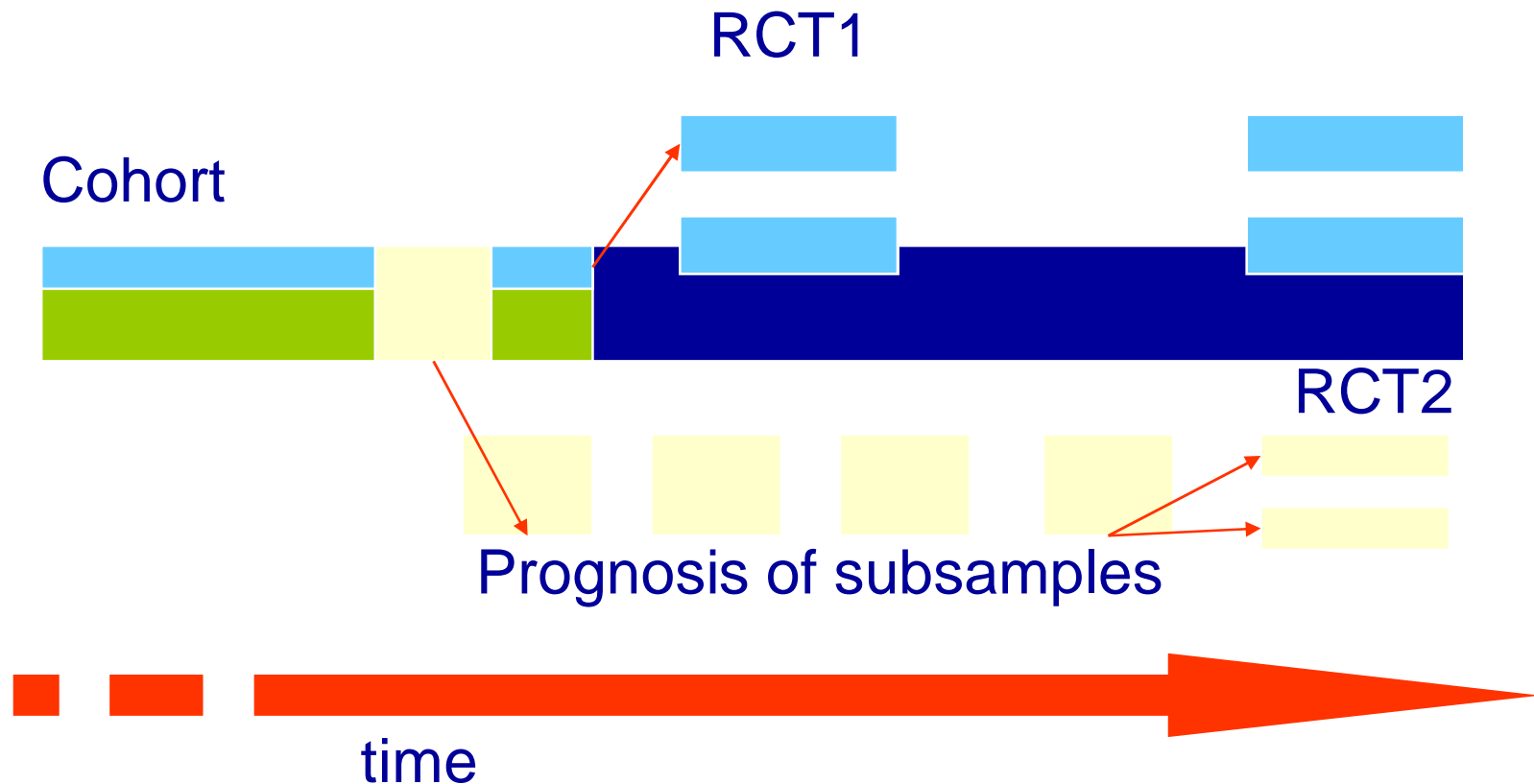


Getting new evidence is problematic and expensive

- n Physiotherapy is not heroic medicine
- n People do not (always) die from it
 - Lack of sexiness
- n Research funds demand implementation research (proven and effective therapies)
- n Trials and cohort studies 'eat' money
- n Yield limited evidence per euro/dollar

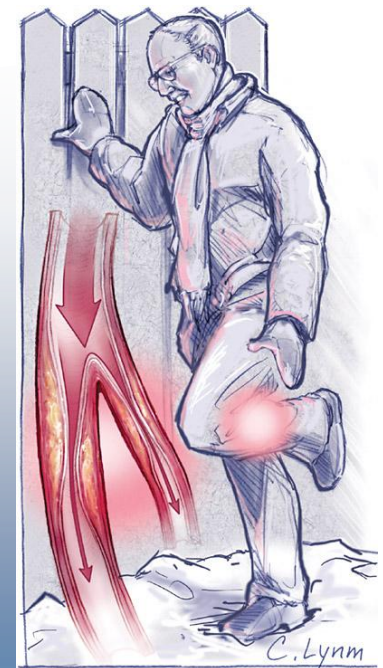
Methodological approach

Nested trial cohort studies



Intermittent Claudication or Peripheral Arterial Disease (PAD)

- Walking-induced pain in one / both legs
- Complaints disappear after rest
- Decreased ability to perform activities
- Rest or nocturnal pain
- Small wounds
- Calcification of nails
- Loss of hair
- Tissue loss



Epidemiological Data:

Prevalence:

1.6 % (Rutgers, 1998)

2.0 % (Kaiser, 1999)

Incidence:

2.8 per 1000 patients / yr

0.4‰ 25-44 year

10.6 ‰ > 75 year

(Lamberts 1994, Kaiser, 1999)



Natural Course

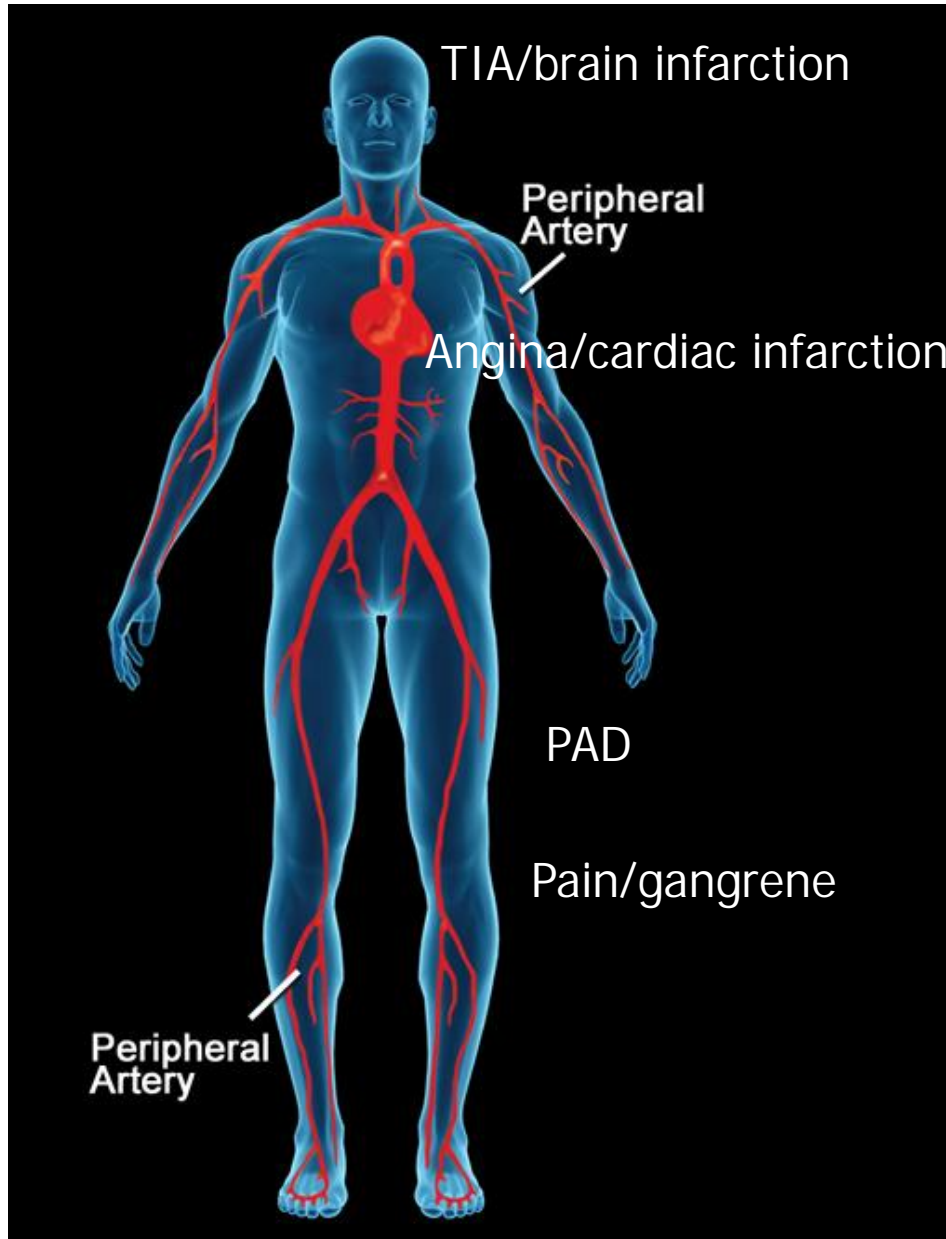
- n 75%: stable or minor improvement of symptoms
- n 25%: serious complaints in < 5 yr
- n 2-5%: amputation

- n Within 10 year:
 - 21%: CVA
 - 43%: Coronary Heart diseases

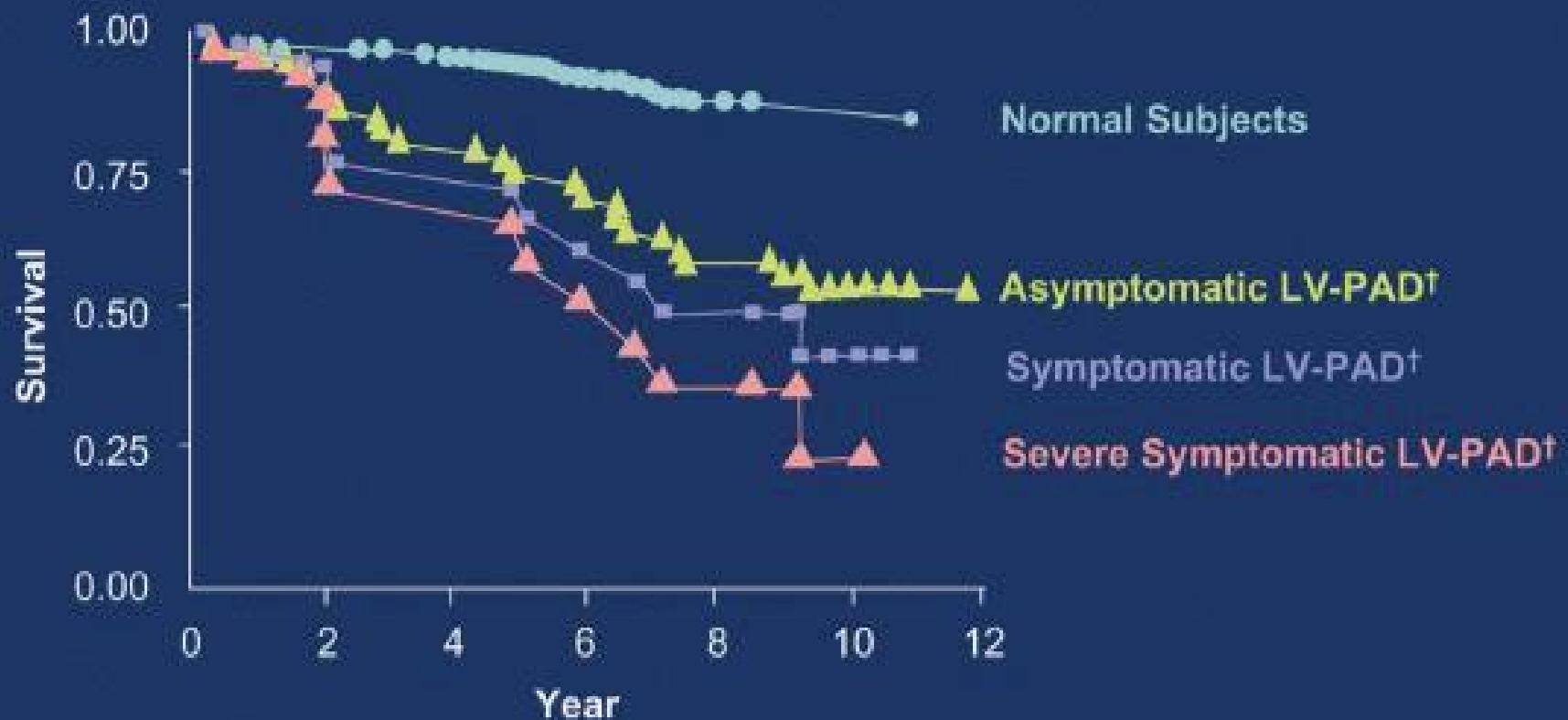
- n Life expectancy < 10 yr



PAD: Systemic atherosclerosis



Peripheral Arterial Disease (PAD) and All-Cause Mortality*¹

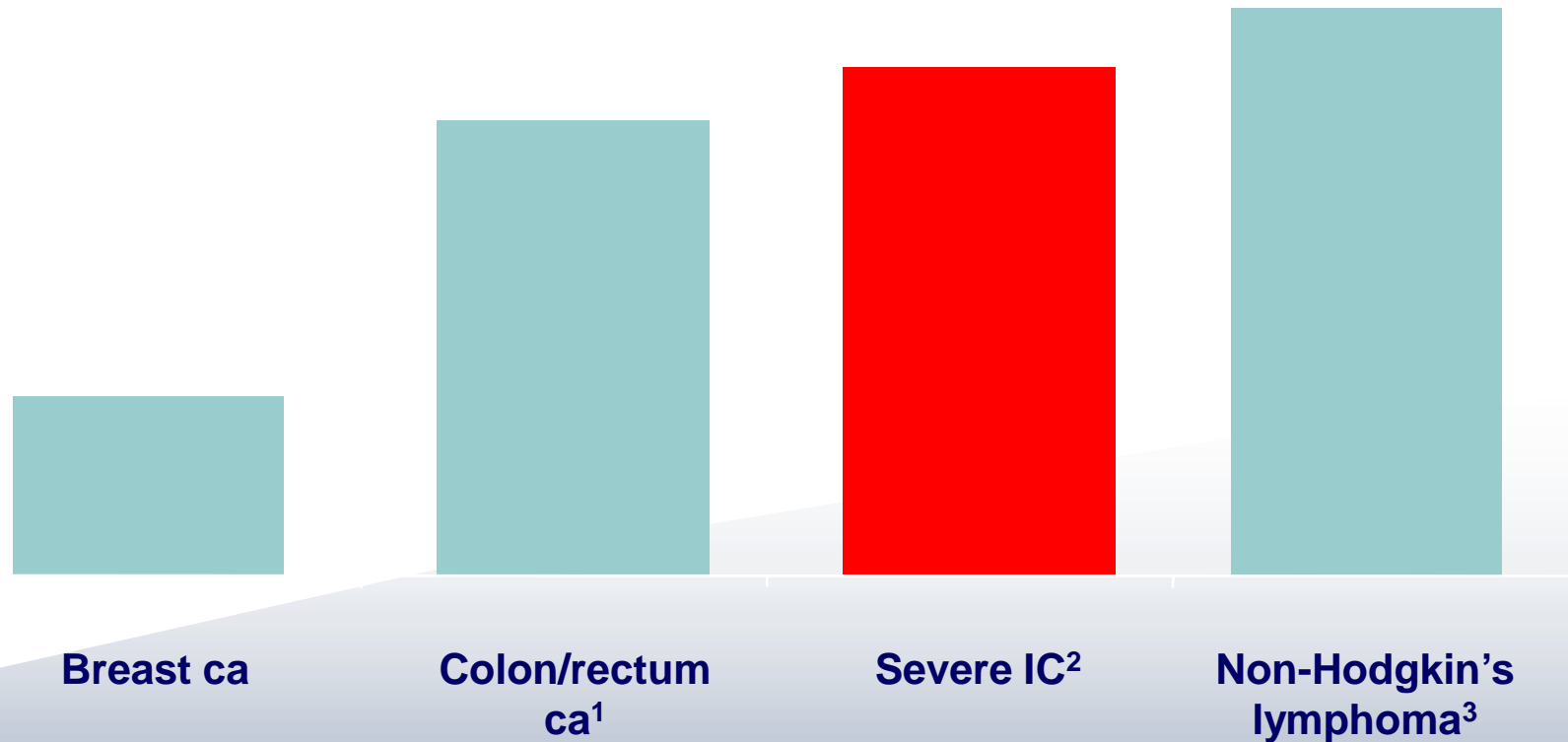


*Kaplan-Meier survival curves based on mortality from all-causes

[†]Large-vessel PAD

1. Criqui MH. *Vasc Med* 2001; 6(suppl 1): 3-7.

PAD mortality rates < 5 year



Criqui MH. Vasc Med 2001;6(suppl 1):3–7.; McKenna M et al. Atherosclerosis 1991;87:119–28. Ries LAG et al. SEER Cancer Statistics Review.

Riskfactors

Genetic

Infection?

Gender

Age

...

Smoking

Diet

Physical
inactivity

Obesity

Diabetes type-2

Hypertriglyceridemia

Hypertension

Metabolic syndrome

Interventions for PAD

- * Riskfactor management

- Medication

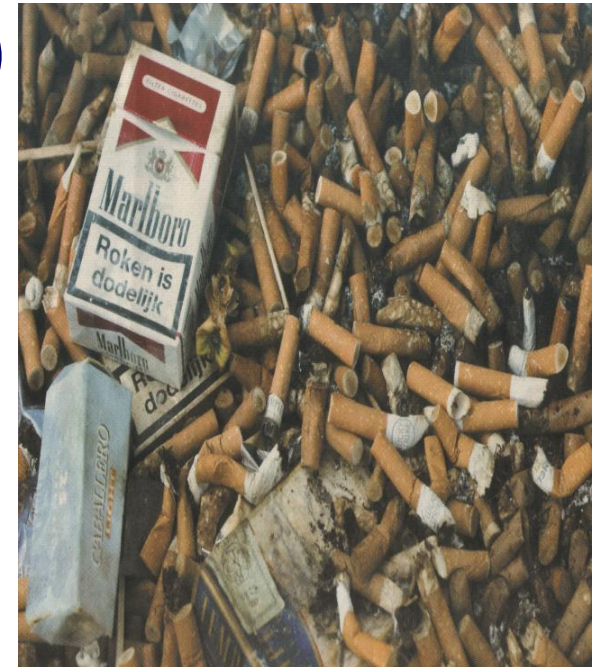
- Behavioral – life style changes

Stop smoking (no. ONE target)

- Exercise training / increase walking ability

- Co-morbidity need targeted interventions
(e.g. COPD, diabetes, heart diseases)

- Vascular surgery



Etalagebenen

Home | Patiënten | Professionals | Netwerken | Richtlijn | Links | Contact



INLOGGEN

gebruikersnaam

wachtwoord

LOGIN >>

[wachtwoord vergeten?](#)
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PARTNERS



WELKOM OP DE SITE

Deze interactieve claudicatio intermittens website is bedoeld voor fysiotherapeuten, artsen, nurse practitioners en patiënten. Professionals kunnen via deze website het elektronische dossier van hun patiënten invullen en bijhouden. Het Elektronische Patiënten Dossier (EPD) vervangt het papieren dossier en bevordert de onderlinge communicatie. De patiënt kan het eigen dossier inzien en onderdelen zoals bijvoorbeeld vragenlijsten zelf invullen.

Wat zijn etalagebenen precies?

Claudicatio Intermittens (CI) wordt in de volksmond ook wel etalagebenen genoemd en wordt in meer dan 90% van de gevallen veroorzaakt door slagaderverkalking (atherosclerose). CI is een uiting van perifere arterieel vaatlijden (PAV), waarbij sprake is van atherosclerose van of naar de slagaders van de benen. Van PAV hoeft een patiënt geen klachten te ervaren. Wanneer de patiënt met PAV klachten ervaart van pijn in één of beide benen tijdens inspanning die vervolgens verdwijnt na het nemen van enige minuten rust spreken we van claudicatio intermittens (CI).

Wat kunt u zelf doen?

De klachten zijn vervelend, maar hoeven geen ernstige gevolgen te hebben. Het is vooral belangrijk om tijdige actie te ondernemen. Een belangrijk deel van de behandeling heeft u in eigen hand. Stoppen met roken, de juiste hoeveelheid beweging en eventueel afvallen zijn de belangrijkste aandachtspunten. Verder is een goede voetverzorging belangrijk om te voorkomen dat de



Rob de Bie Enkeltsetel CEBP - Windows Internet Explorer

http://www.enkeltsetel.nl/portal/?FFID=6900

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Basis Tools CRM Sitemanager Webmed

Patienten Groepen

zoek A B C D E F G H I J K L M N O P Q R S T U V W X Y Z *

Voornaam	Tussenvoegsel	Achternaam	Telefoonnummer	E-mail	Edit	E-mail pt	Brief pt
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Richard		Andersen	06-42578274	geen email			
Miriam	van	Beem	0487-518453	-			
Sandra		Beenkens		sandrabeenkens@home.nl			
Hans	van	Beers	06-46042628	Geen patient!			
Wendy		Blijleven	06-28245613	wblijleven@quicknet.nl			
Peter		Bluemink		www			
Mark w.	Van den	Boogaard	015-3107734	mark_song113@hotmail.com			
Frank	van de	Boomen	040-2547270	f_vd_boomen@hotmail.com			

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http://www.enkeltsetel.nl/portal/?FFID=6905&PATIENT=169

Internet 100%

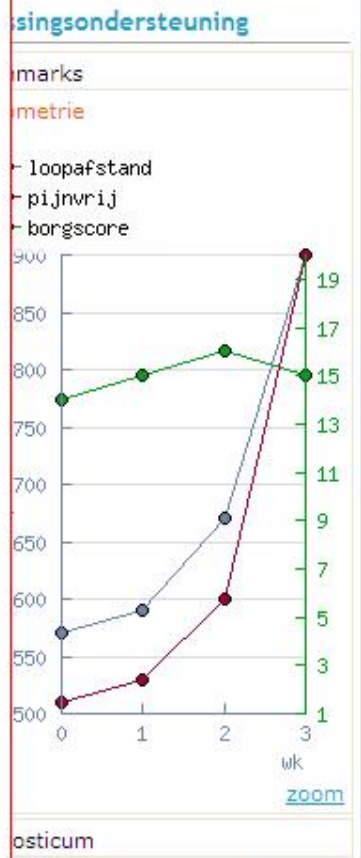
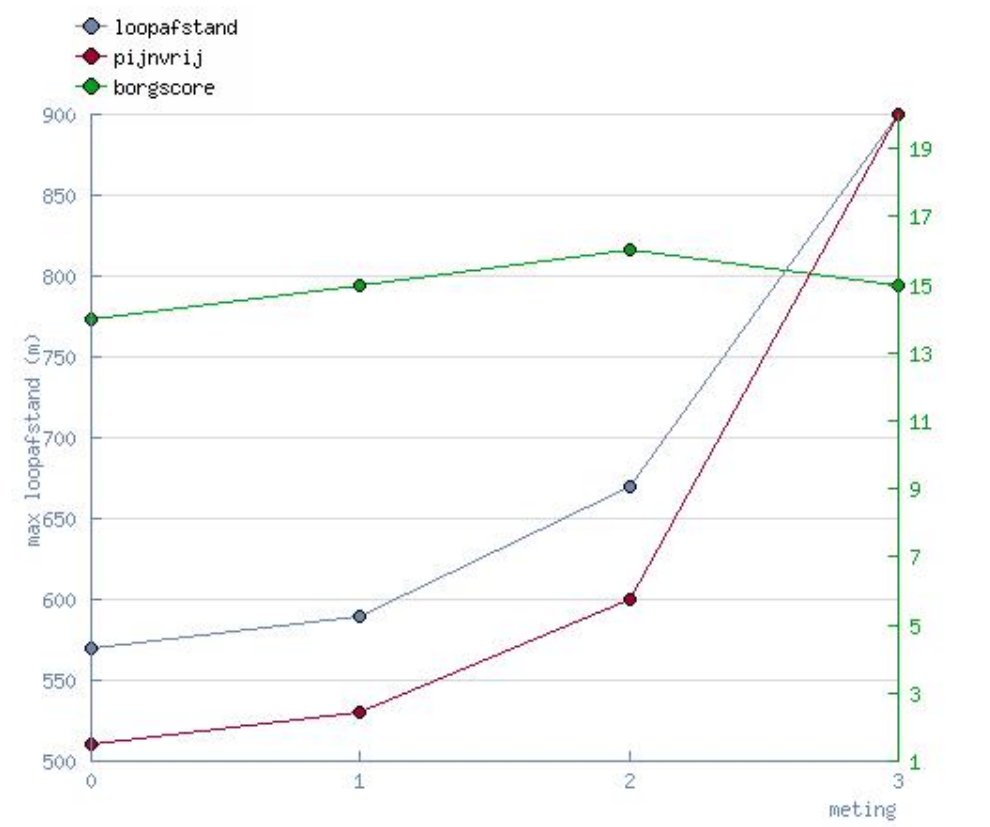
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(m,1939-11-17,67)

dossier Claudicatio Intermittens 4. Dinsdag 14-11-2006 12:40:11

Verwijsgegevens Screening Anamnese Onderzoek Analyse Behandelplan Behandeling Evaluatie Afsluiting Meetinstrument

- Inspanningstesten/CardioPulmonale
- Is de meting vandaag verricht?
- Datum van meting
- Maximale loopafstand pijnvrij
- Opmerking pijnvrije loopafstand
- Maximale loopafstand
- Opmerking maximale loopafstand
- Reden van stoppen met lopen
- Lokalisatie van de pijn
- ACSM score
- Opmerkingen ACSM score
- Borgscore
- Opmerkingen borgscore
- logboek meting



Rob de Bie Claudicatio Intermittens CEBP - Windows Internet Explorer

https://claudicatio.cebp.nl/portal/?FFID=6904&PATIENT=502&TRAJECT=4&ONDERWERP=54&KOPPEL=78

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Rob de Bie Claudicatio Intermittens CEBP

Basis Tools CRM Sitemanager Rapportage Webmed

(m,1939-11-17,67)

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Opmerking pijnvrije loopafstand

Maximale loopafstand

Opmerking maximale loopafstand

Reden van stoppen met lopen

Lokalisatie van de pijn

ACSM score

Opmerkingen ACSM score

Borgscore

Opmerkingen borgscore

logboek meting

Patient progression versus matched group

loopafstand
pijn vrij
borgscore

Meting	Loopafstand (m)	Pijn vrij (m)	Borgscore
0	570	510	13
1	590	530	14
2	670	600	15
3	860	800	15

max loopafstand (m)

meting

ingsondersteuning

marks

metrie

loopafstand
pijn vrij
borgscore

Meting	Loopafstand (m)	Pijn vrij (m)	Borgscore
0	570	510	13
1	590	530	14
2	670	600	15
3	860	800	15

wk

zoom

osticum

Done

Internet 100%

start Inbox - Mi... Microsoft ... 2 Windo... 2 Micros... Rob de Bie... 09:44

Onderstaande gegevens zijn gebaseerd op alle patiënten die een loopafstand hebben afgelegd ongeacht de metingssoort

Patient Statistieken

Type	Aantal	Percentage
innen	107	100
ouwen	0	0
abetici	25	23.4
DPD	28	26.2
idig Roker	0	0
eft Gerookt	107	100
oit Gerookt	0	0
eftijd Bereik	70-80	
emiddelde leeftijd	74.7	

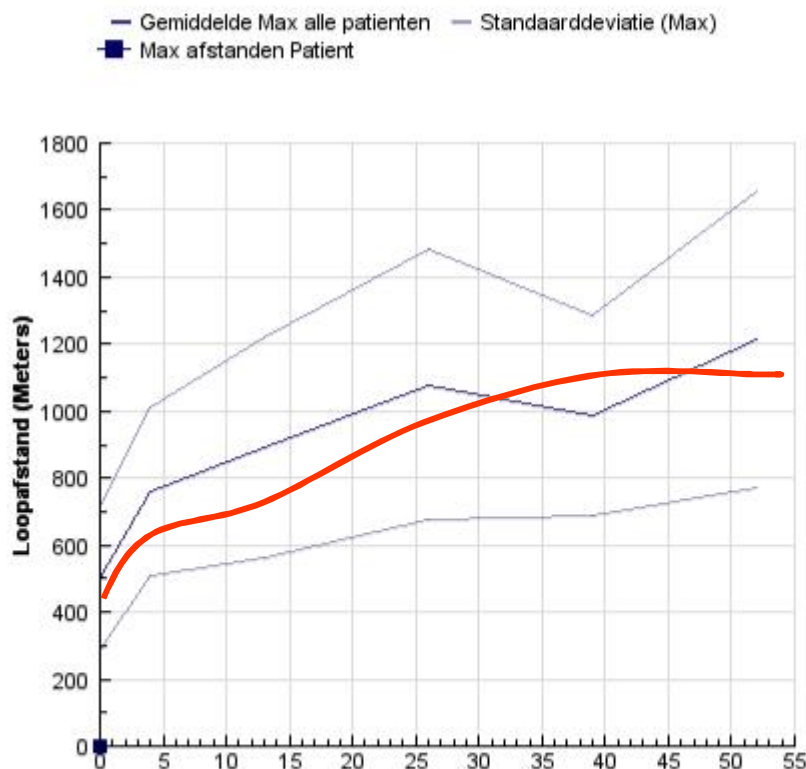
taal aantal patiënten: 107

Grafiek Statistieken

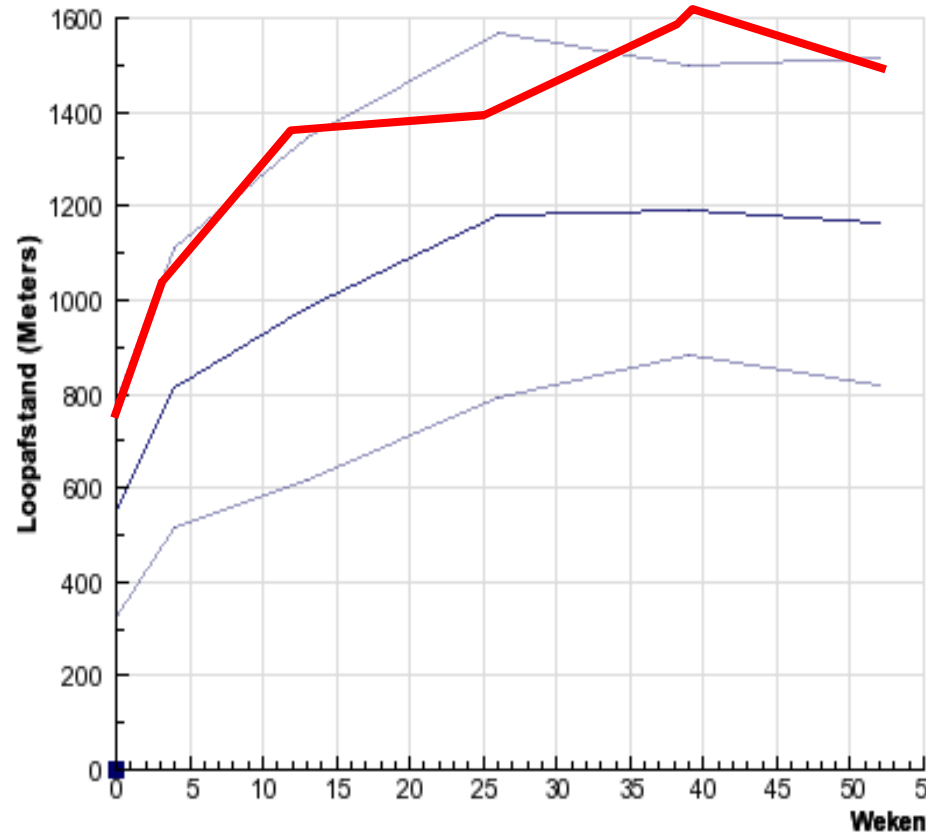
Meting	Aantal	Percentage
iseline	107	100
Maand	54	50.5
Maand	52	48.6
Maand	39	36.4
Maand	9	8.4
Maand	21	19.6

taal aantal patiënten: 107

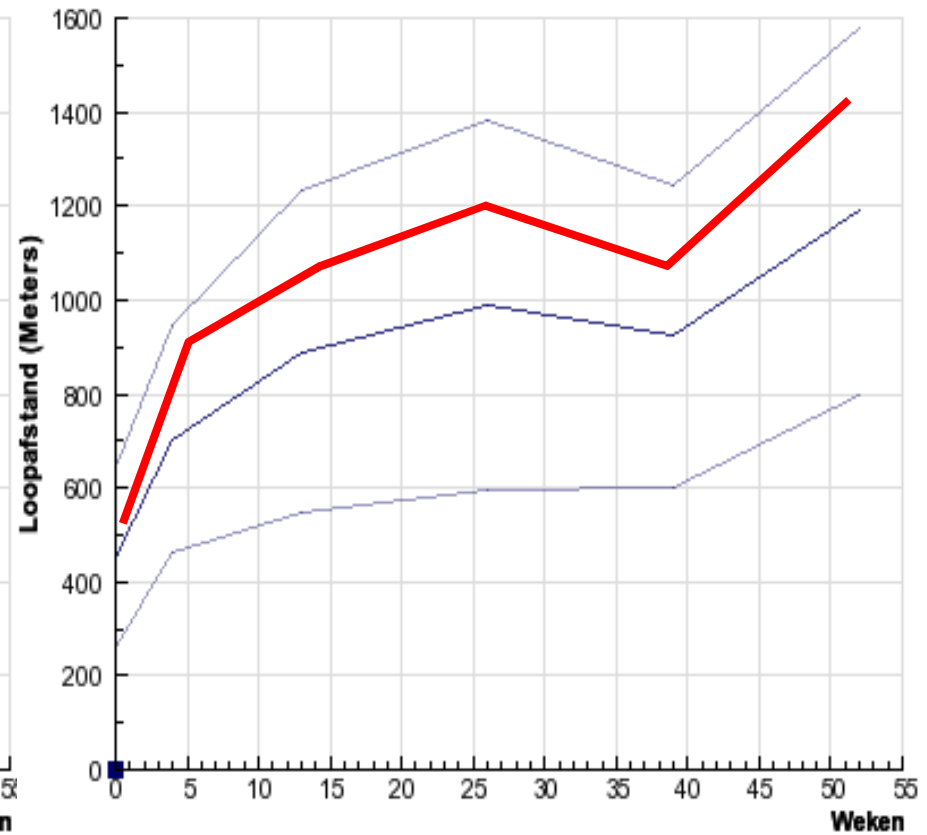
Max PV
 Man Vrouw
 Diabetici
 COPD
 Huidig Roker
 Heeft Gerookt
 Nooit Gerookt
 Niet Filteren
 Leeftijd
 Van Tot



Average maximal walking distance
(+ 95% CI) men (n=698)

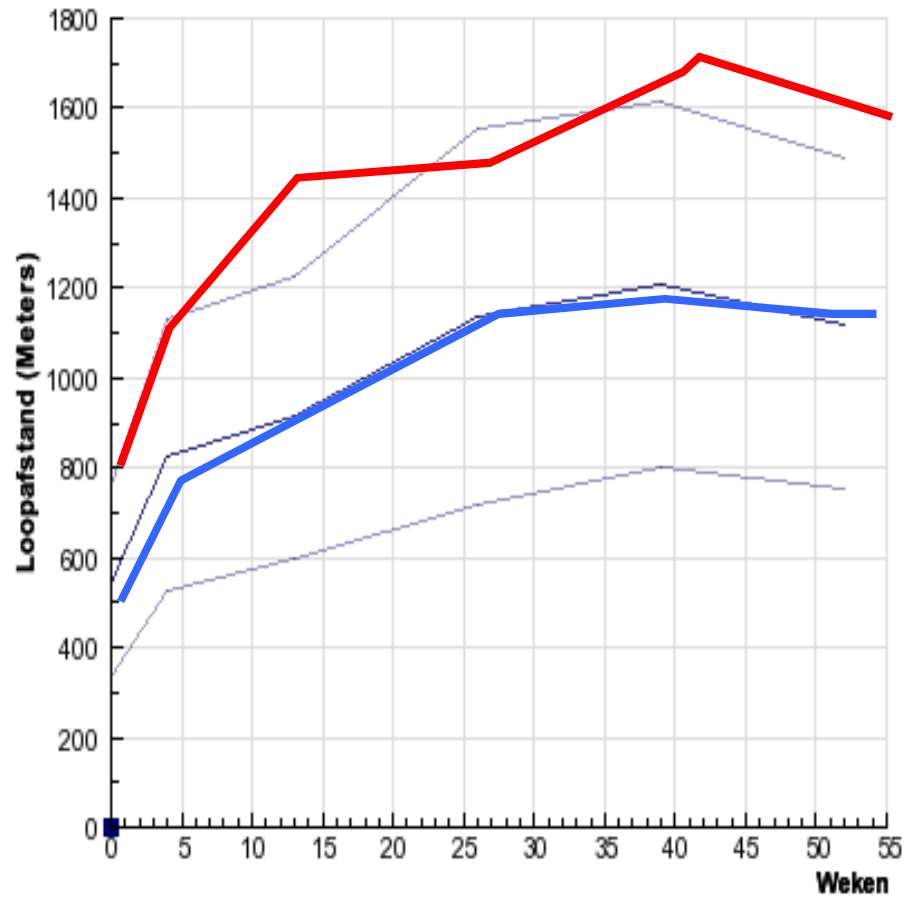


Average maximal walking distance
(+ 95% CI) women (n=408)

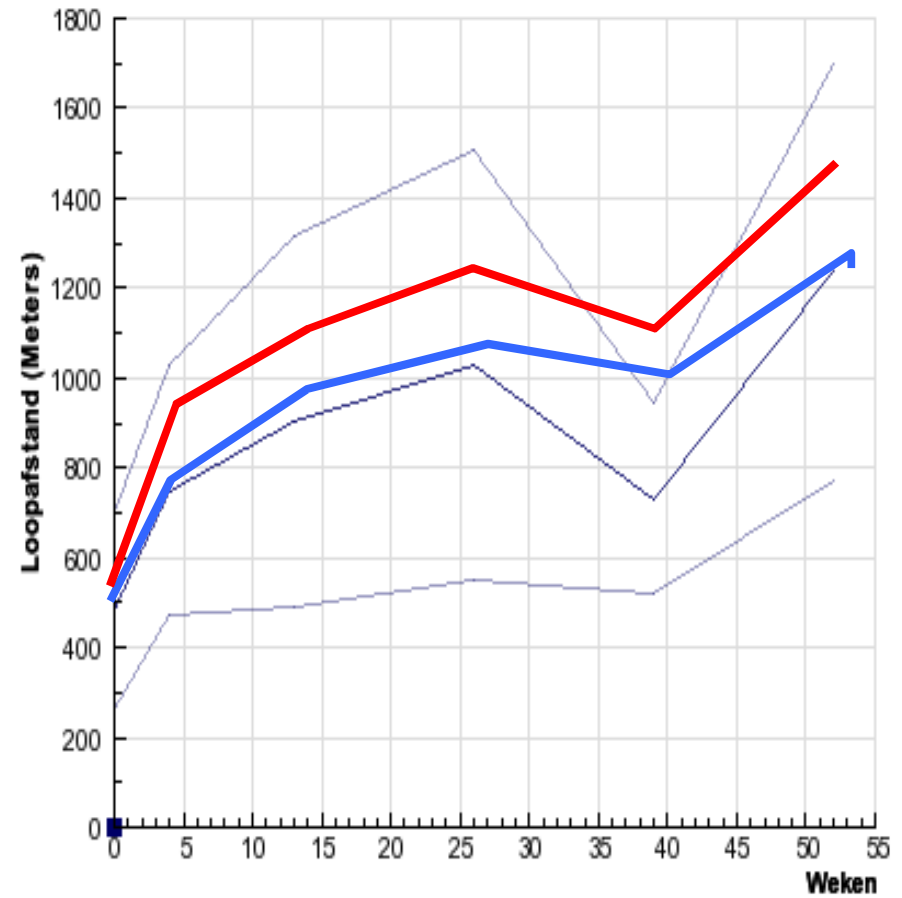


— no co-morbidity

Average maximal walking distance (+ 95% CI) smoking men

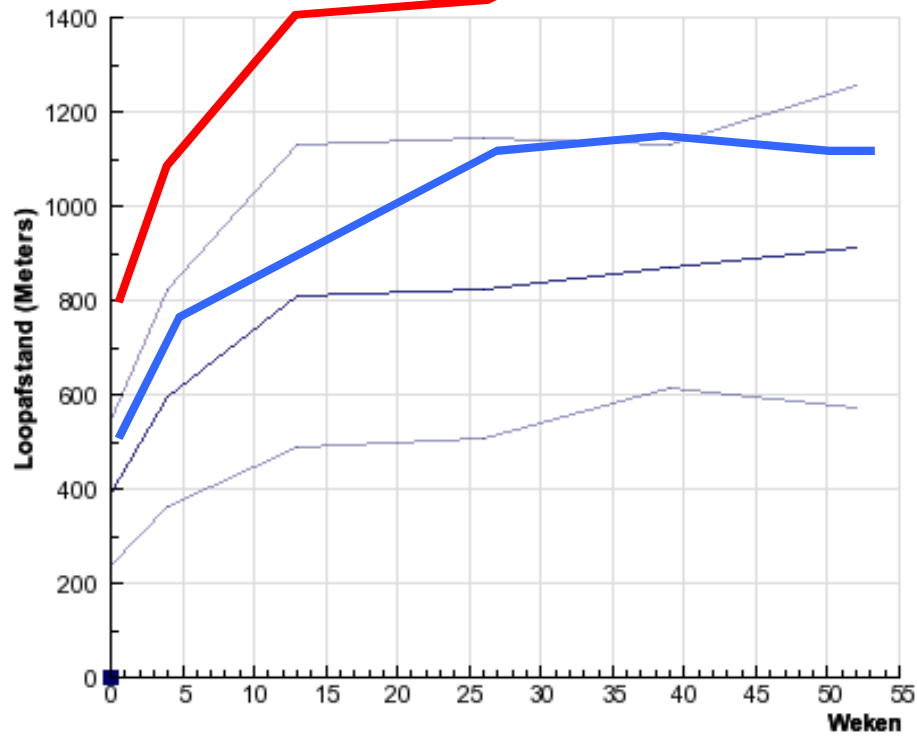


Average maximal walking distance (+ 95% CI) smoking women

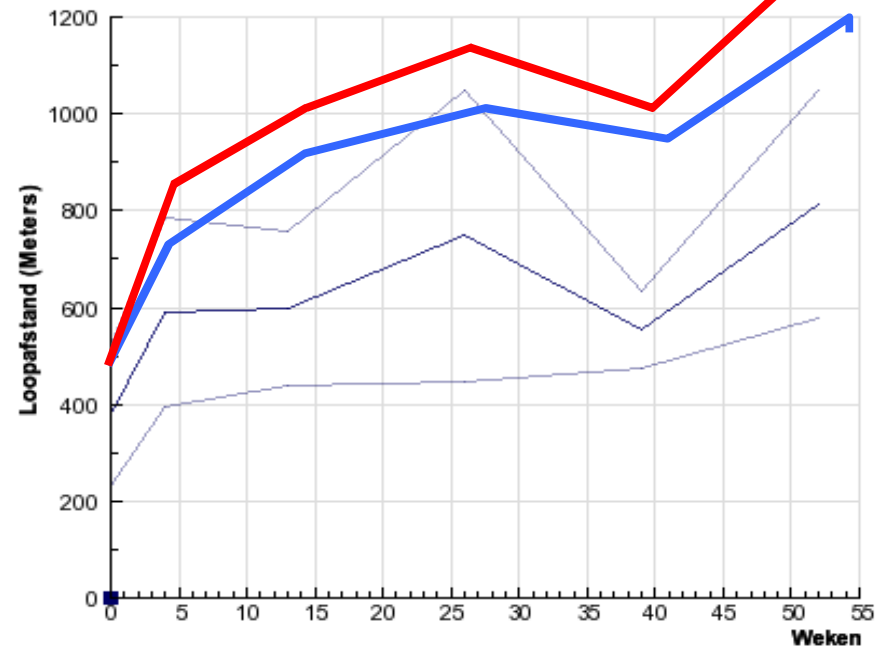


- no co-morbidity
- whole cohort

Average maximal walking distance (+ 95% CI) men with COPD

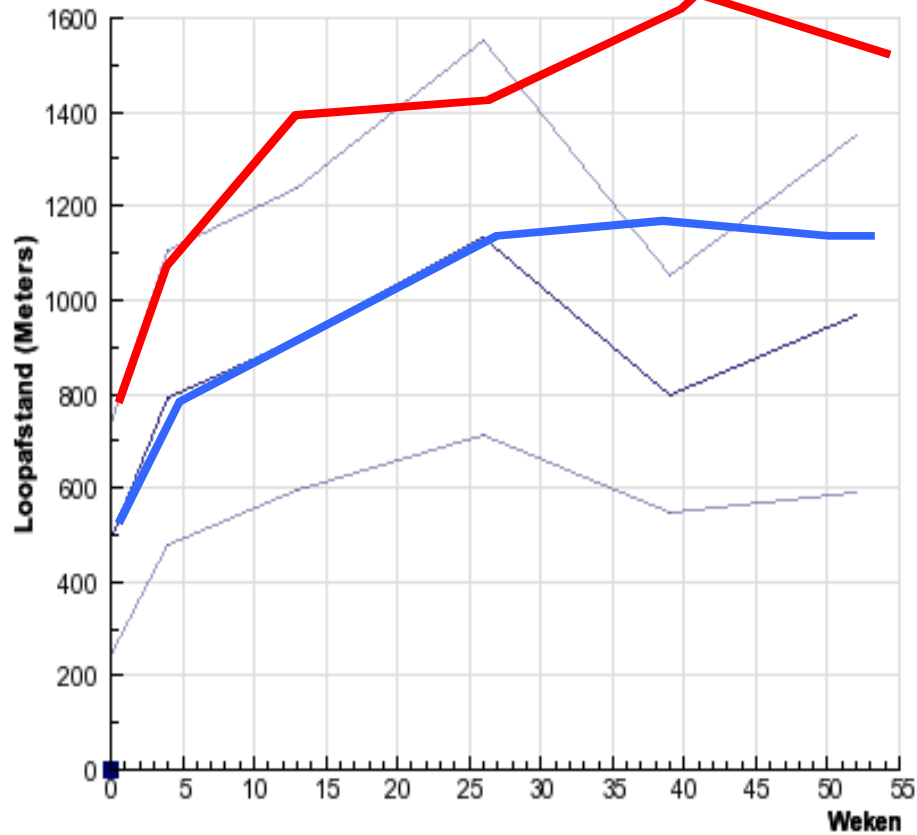


Average maximal walking distance (+ 95% CI) women with COPD

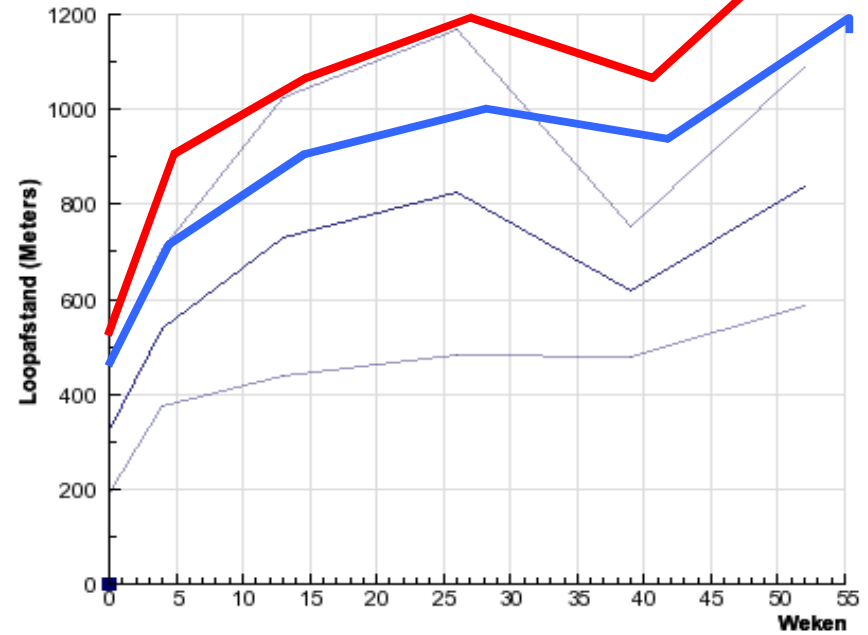


- no co-morbidity
- whole cohort

Average maximal walking distance (+ 95% CI) men with diabetes



Average maximal walking distance (+ 95% CI) women with diabetes

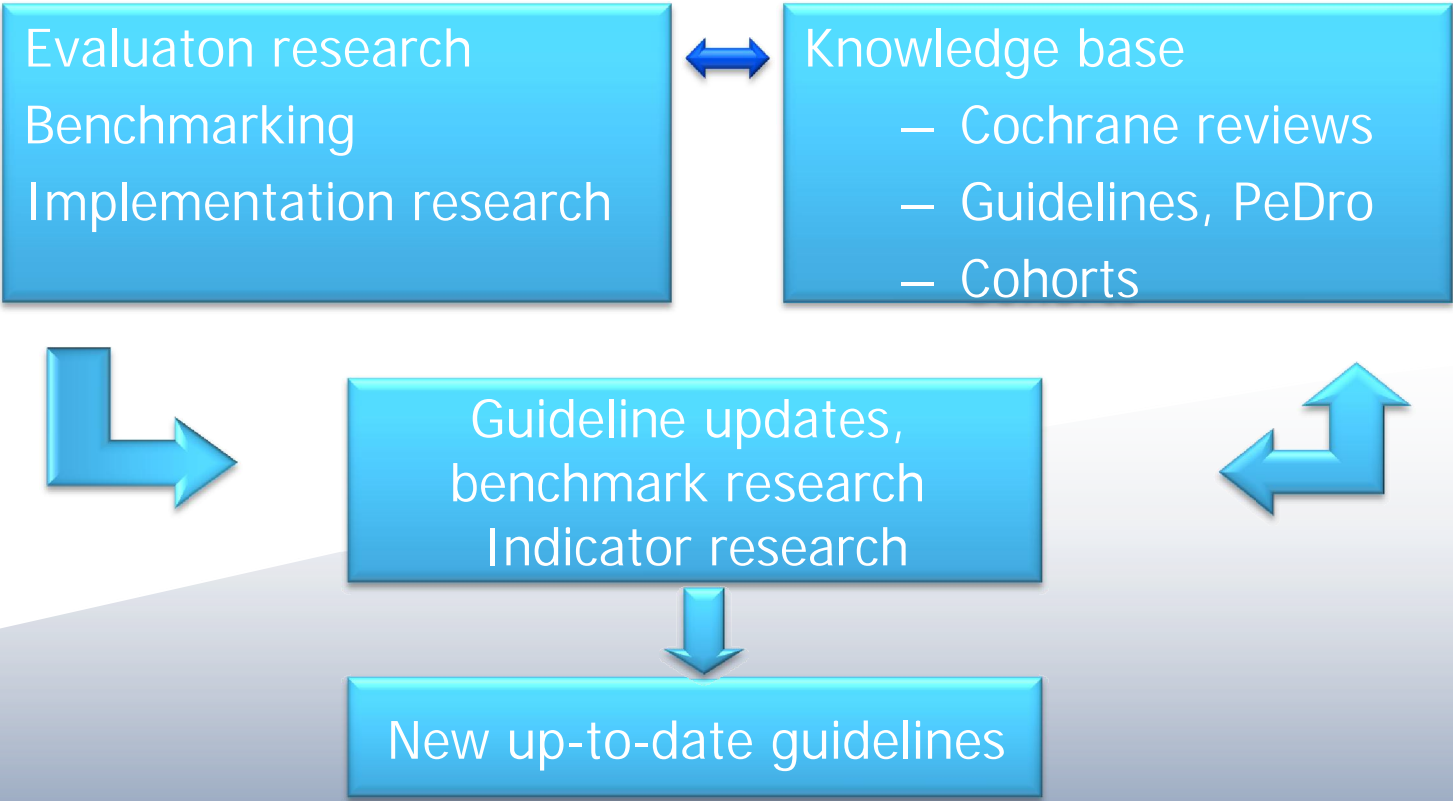


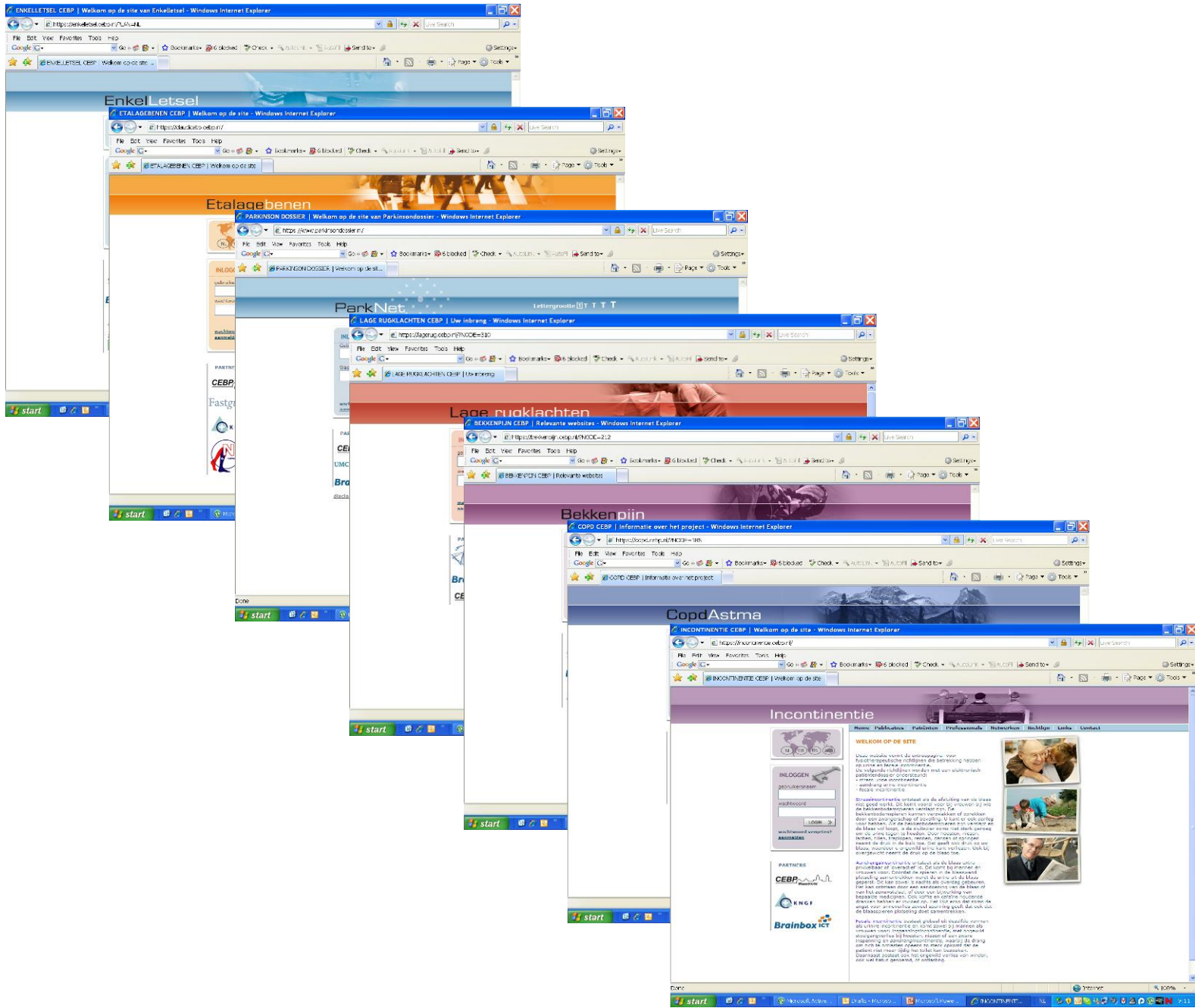
- no co-morbidity
- whole cohort

Results

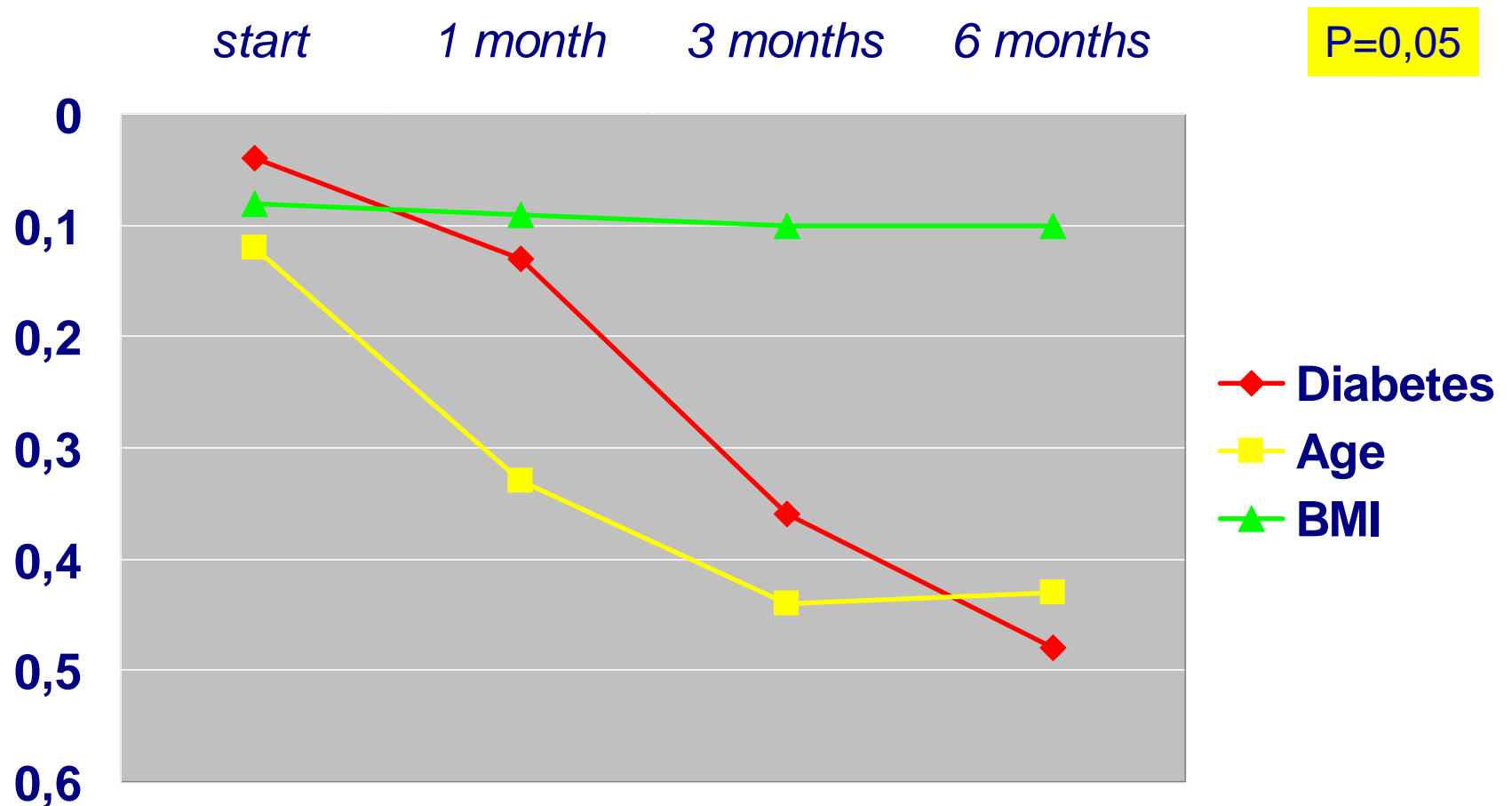
Mean% change in max walking distance
(range)

- n 42% (-10 – 210): Brandsma 1998
- n 30-35%: Cochrane review 2007
- n 90.4% (42.3 – 158.9): Bendermacher 2007
- n Our data with optimised therapy: 191%



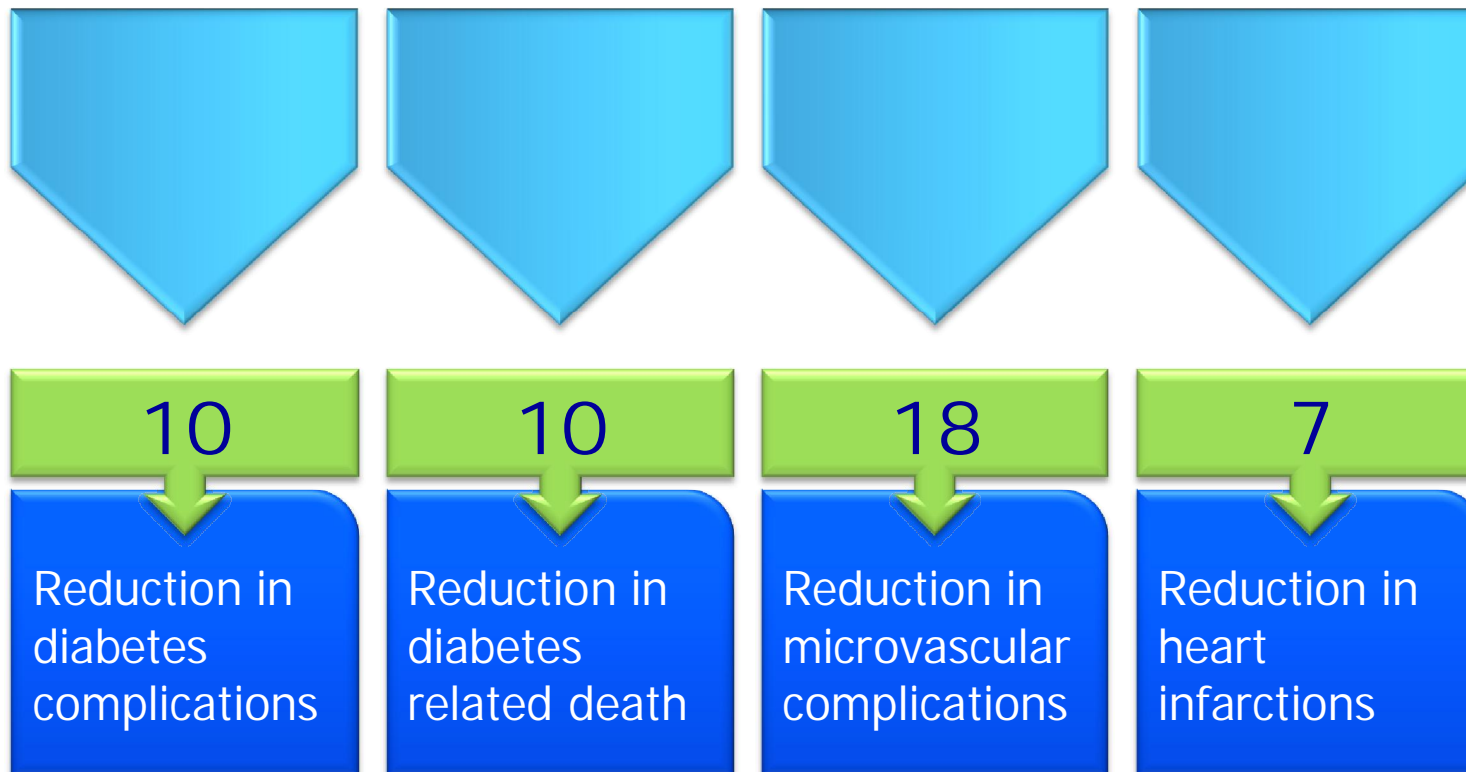


Shift in prognostic factors



Diabetes

n Effect : HbA1 lowering with 0,5%





Thank you

Further info: www.cebpbp.nl