

Vrouwen maken de man

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Zuigelingen- en kinderarts

UHD sociale geneeskunde Nijmegen

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Promotie: vrouwelijke artsen in NL

Hoofdbestuur KNMG

Sociale Verzekeringsraad

Officier in de Orde van Oranje Nassau

Oprichter Paul Hermann fonds

Tweede kamer lid Groen Links

Centraal Tuchtcollege

1975-1981: voorzitter VNVA

1988: Corrie Hermann prijs ingesteld



Man is 'wegwerpartikel'

door Arnoud Breitbarth

wo 27 okt 2010

LONDEN - Dat vrouwen ouder worden dan mannen ligt niet aan het feit dat ze gezonder leven of minder zwaar werk doen: mannen zijn genetisch gezien een 'wegwerpartikel', stelt professor Tom Kirkwood van de universiteit van Newcastle.

„Als een vrouw te verzwakt is, vormt dat een gevaar voor 'de voortplanting'

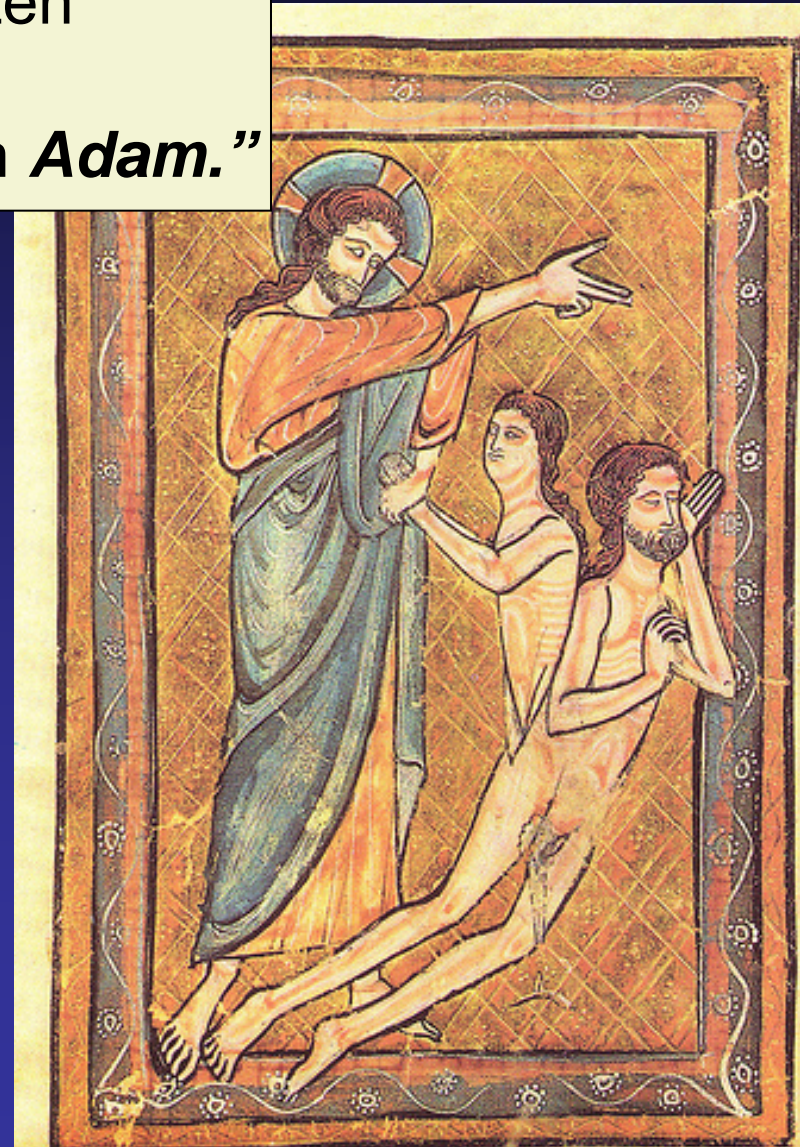


.... George Clooney wergwerpartikel?

Het Bijbelboek Genesis

“God schiep **Adam** door leven te blazen in het "stof der aarde" (Gen. 2:7). Later creëerde Hij **Eva** uit een **rib** van **Adam**.”

“Ze was een deel –de rib– van Adam, dus altijd een bezit van hem, de onderliggende partij, en de verzorgster.”



Why can't a Woman be more like a Man?!

1912:

My fair lady:
prof Higgins



Testosterone Therapy in Women With Heart Failure

“Why Can’t a Woman
Be More Like a Man?”*

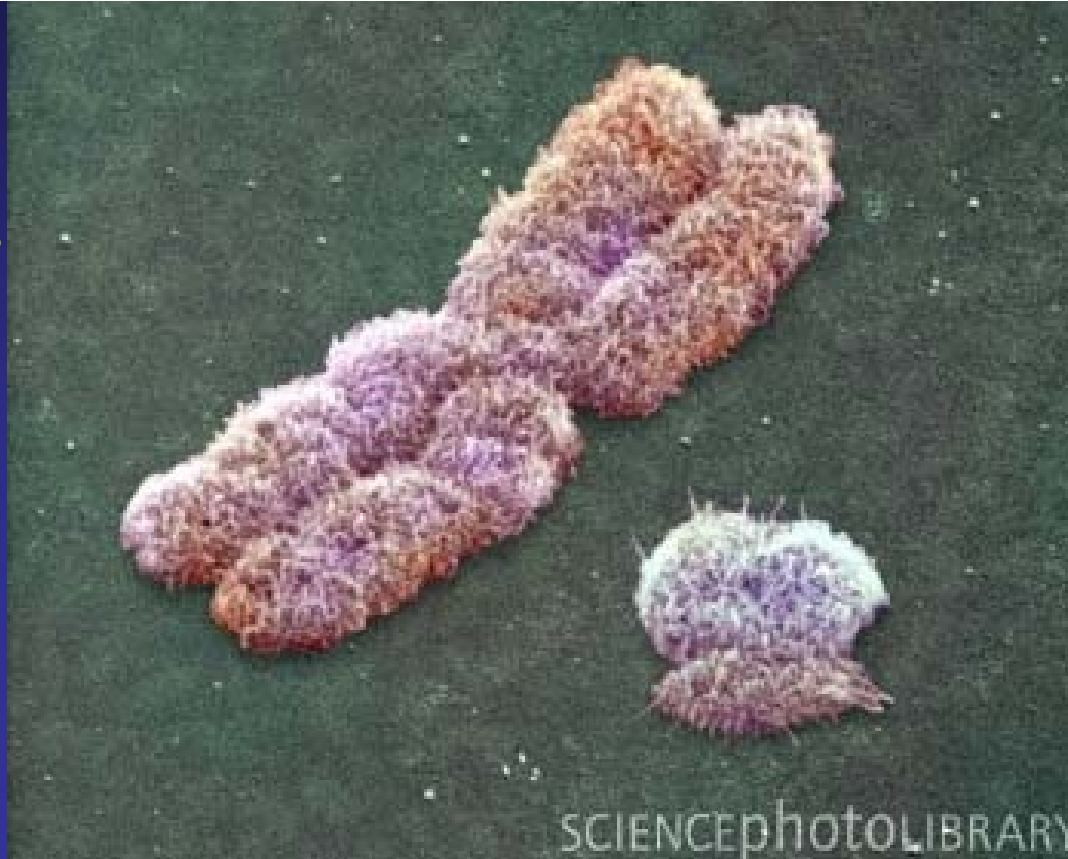
Paul W. Armstrong, MD,

Justin A. Ezekowitz, MBBCh, MSc

The genetic richness of the woman

Men who think that size really matters
should probably not think too hard about the Y chromosome....

X:
1098 genes

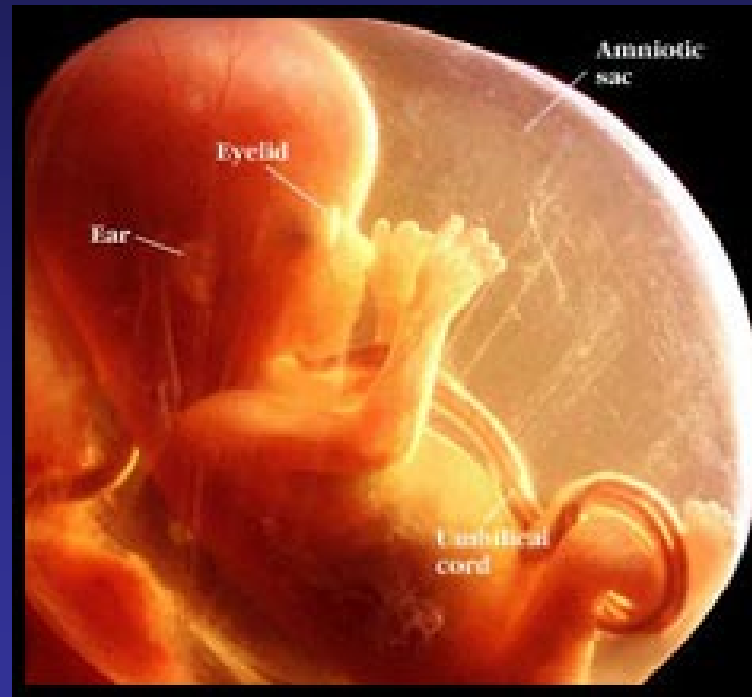


Y:
86 genes

Embryos are female by default

At 6 weeks:

Both male and female embryos identical

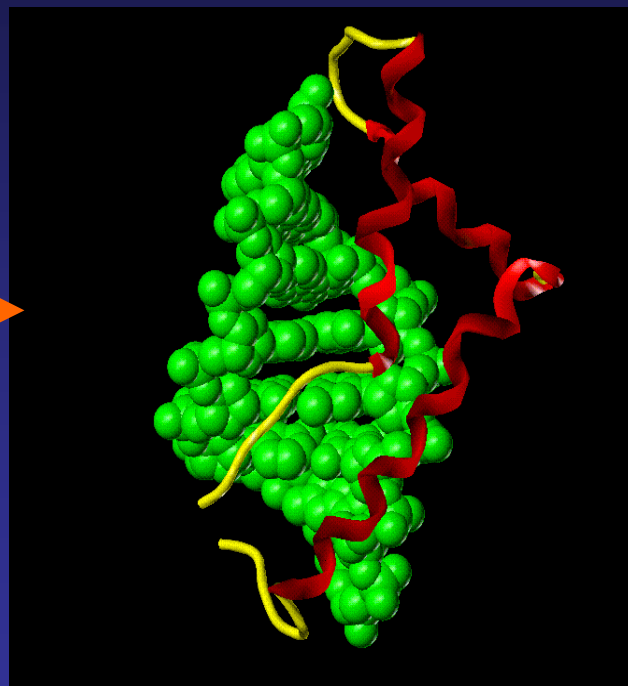
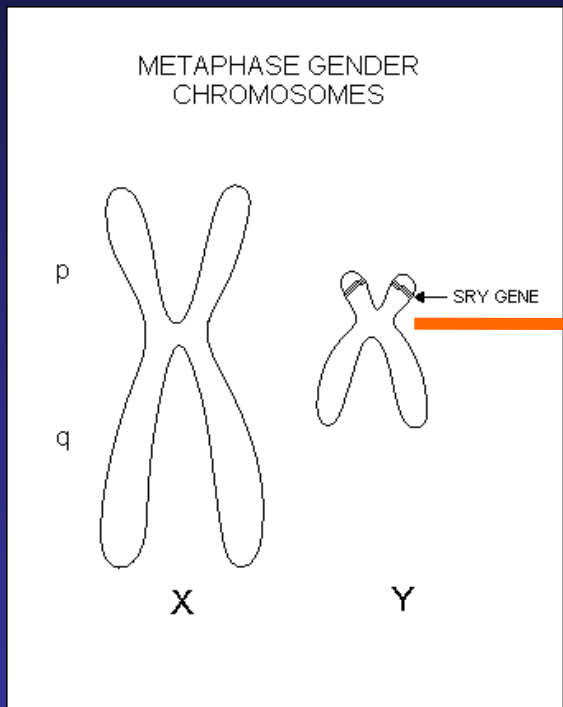


Without any intervention : females at birth

The masculinity switch

SRY: A Gene That Turns the Girl into a Boy

Sex determining Region Y



Abnormal SRY

XY - SRY



"Caster Semenya is een hermafrodiët"

XX +SRY



Goud op WK atletiek Berlijn 2009
SRY gen op XX, man + vrouw kenmerken

Non-functional SRY-gen
XY- man without uterus or ovaries

Sydney Daily Telegraph, 2009

Men are genetically modified women

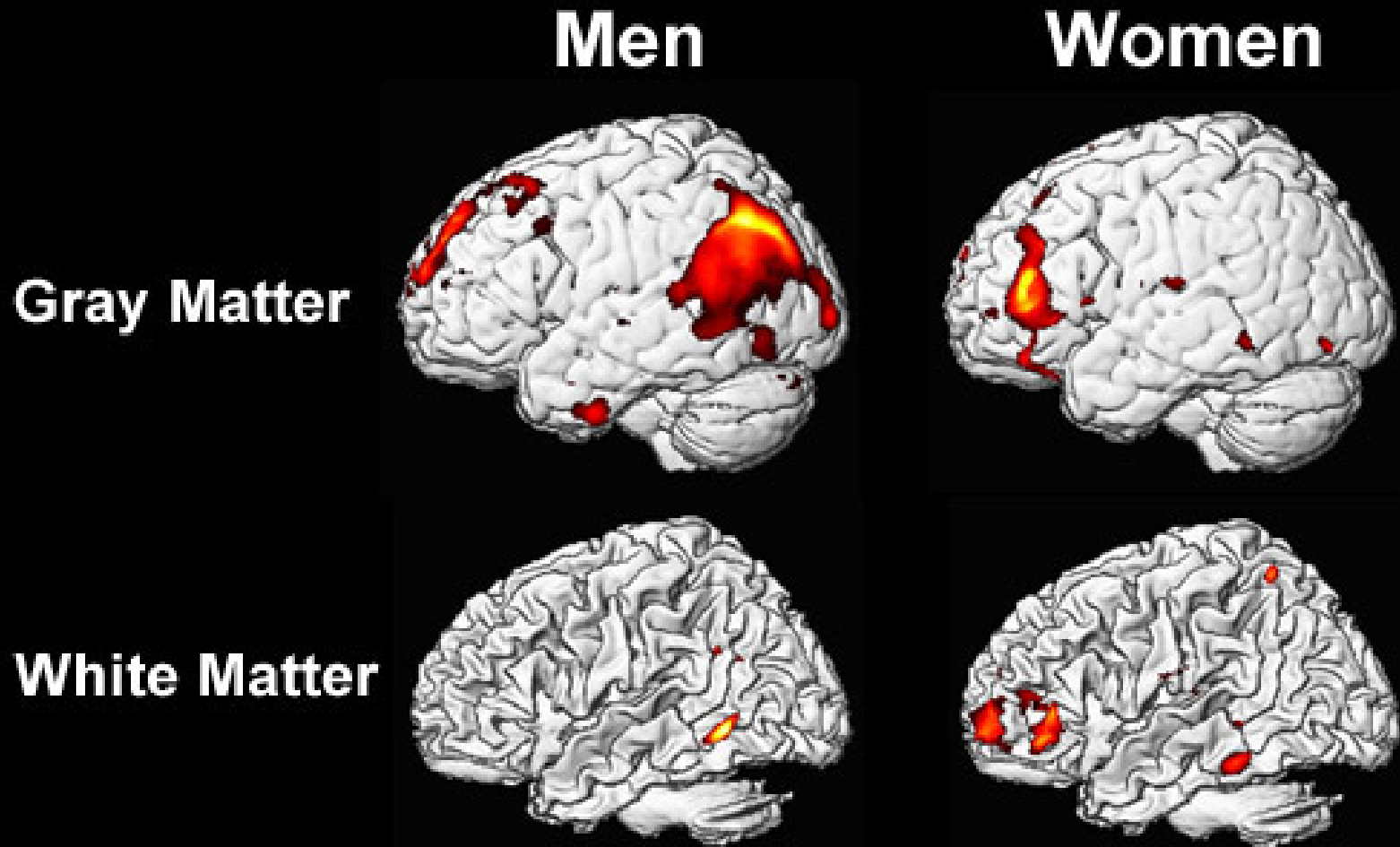
- SRY: gonads become testes:
male hormones masculinize mind and body:



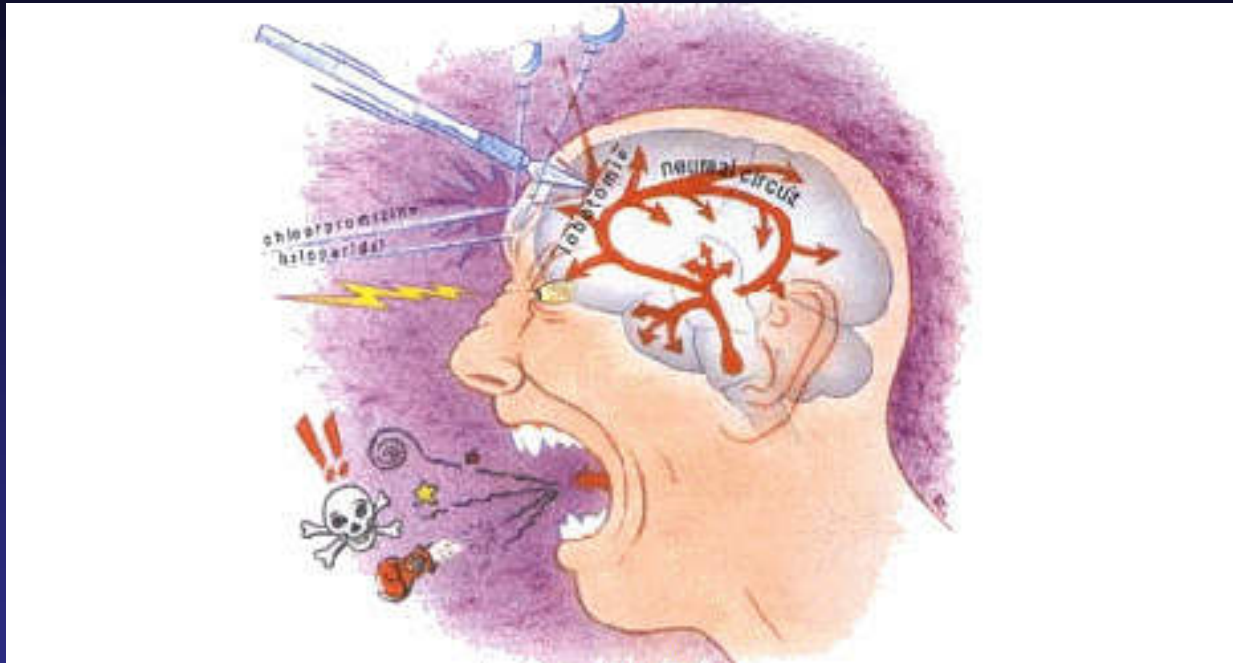
- More prone to violence & recklessness
- Less empathy, more autistic
- Better at systemizing (math & football)
- Differences in cardiovascular diseases

Intelligence in men and women

Equivalent overall intelligence, different subtypes



Testosteron heeft duidelijk een imagoprobleem

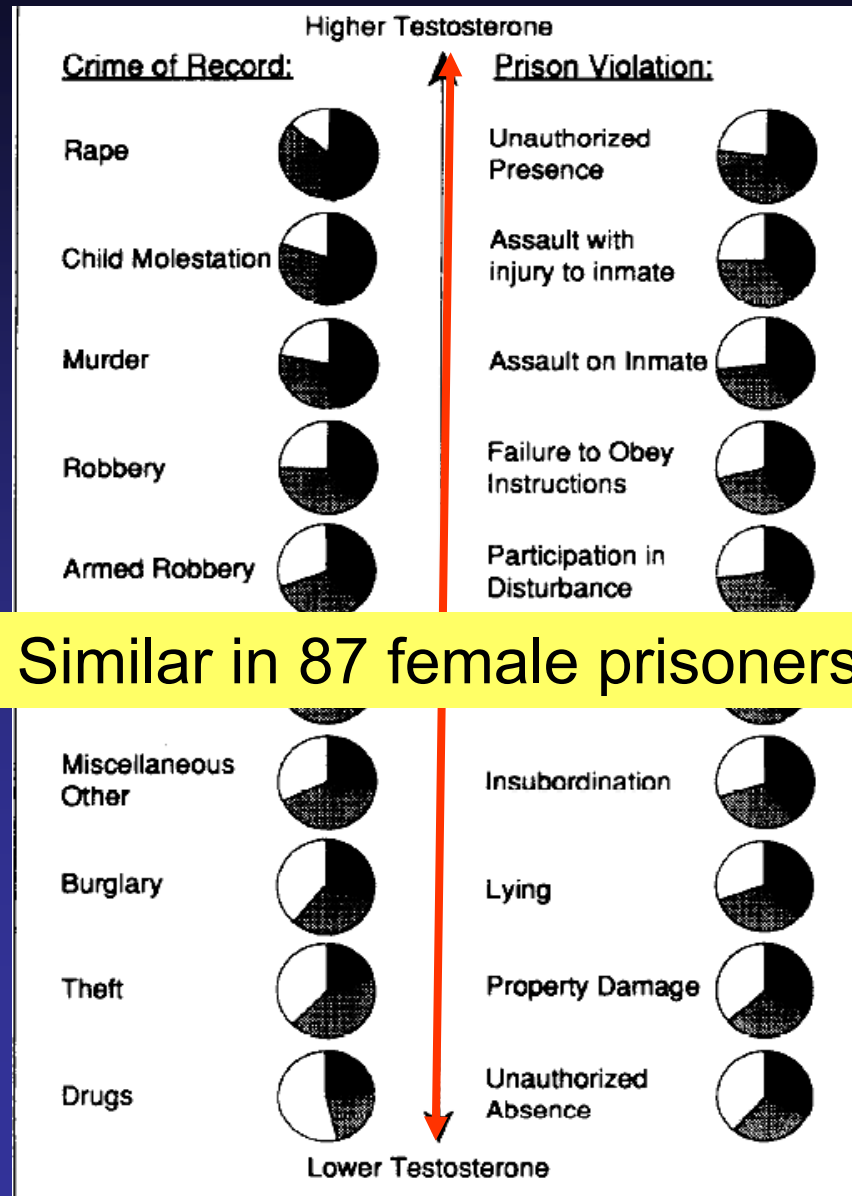


Beurshandelaren met productieve testikels lopen grotere financiële risico's, en bushokjes zouden voor dit soort echte mannenmannen bevreesd moeten zijn. Gevangenen met een hoog testosterongehalte blijken vaker te rellen, en zitten vaak voor zwaardere vergrijpen dan hun minder mannelijke collegae....

Testosterone and misbehavior

Severe
crime

692 male prisoners



Similar in 87 female prisoners

- Low testosterone
- Middle
- High testosterone

Mild
crime

Effect of testosterone

.....even in courtrooms: steroid-induced rage a legitimate legal defence in the US.

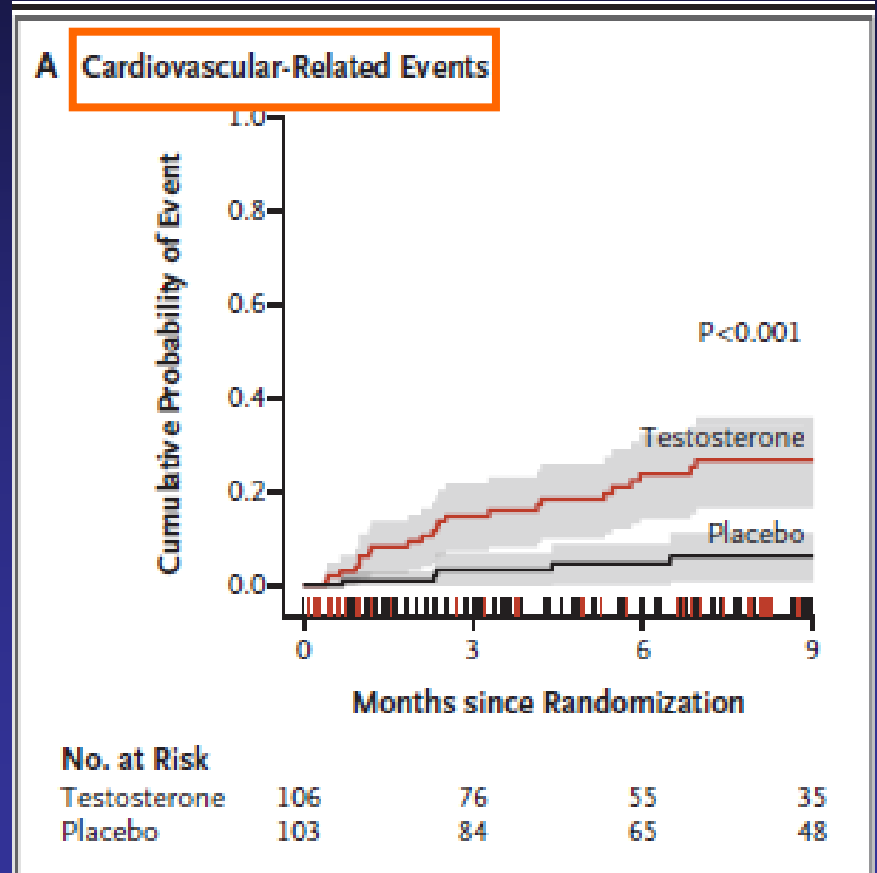
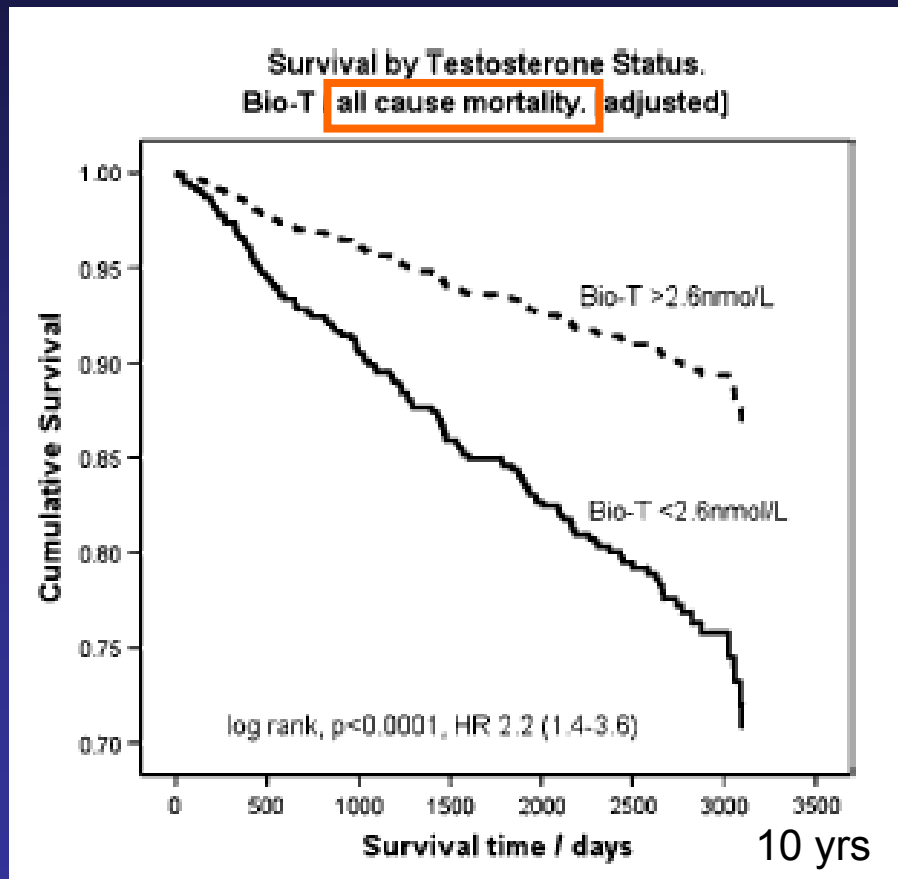


There is indeed evidence indicating a link between testosterone and antisocial behaviour in humans.

testosterone & mortality in men ??

930 men with CAD, FU 7 yrs

testosterone supplementation in
209 men > 65 yrs, low T



Testosterone Therapy in Women With Heart Failure

“Why Can’t a Woman
Be More Like a Man?”*

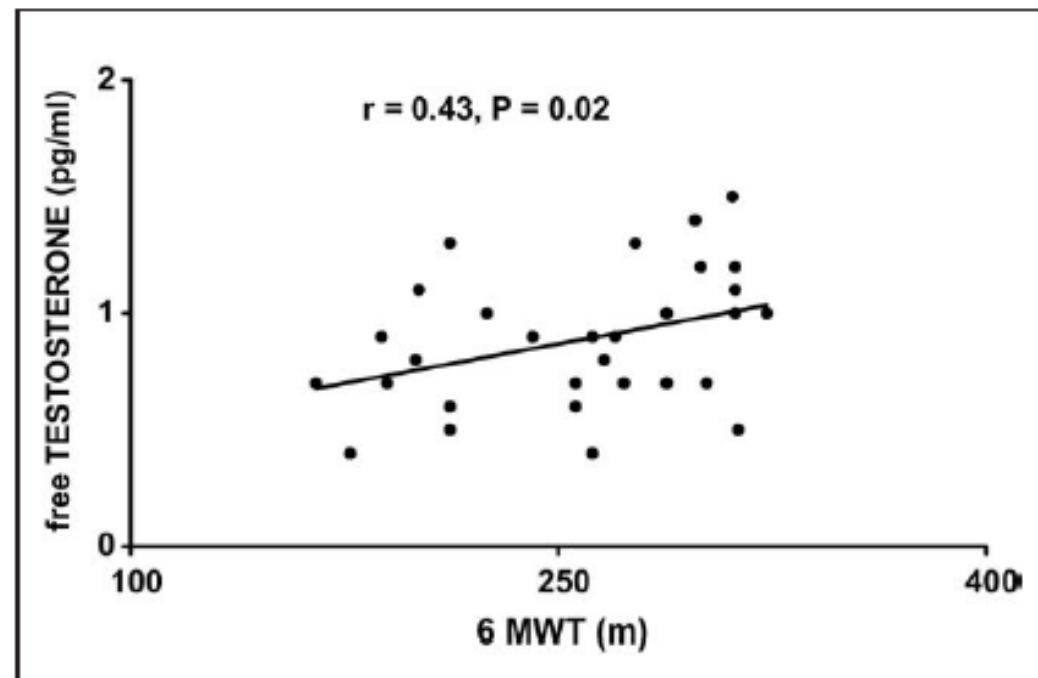
Paul W. Armstrong, MD,
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Testosterone Therapy in Women With Chronic Heart Failure

A Pilot Double-Blind, Randomized, Placebo-Controlled Study

Ferdinando Iellamo, MD,*† Maurizio Volterrani, MD,* Giuseppe Caminiti, MD,*
Roger Karam, MD,‡ Rosalba Massaro, MD,* Massimo Fini, MD,* Peter Collins, MD, PhD,*§
Giuseppe M. C. Rosano, MD*

Roma, Italy; Cincinnati, Ohio; and London, United Kingdom



“Vrijpleister”



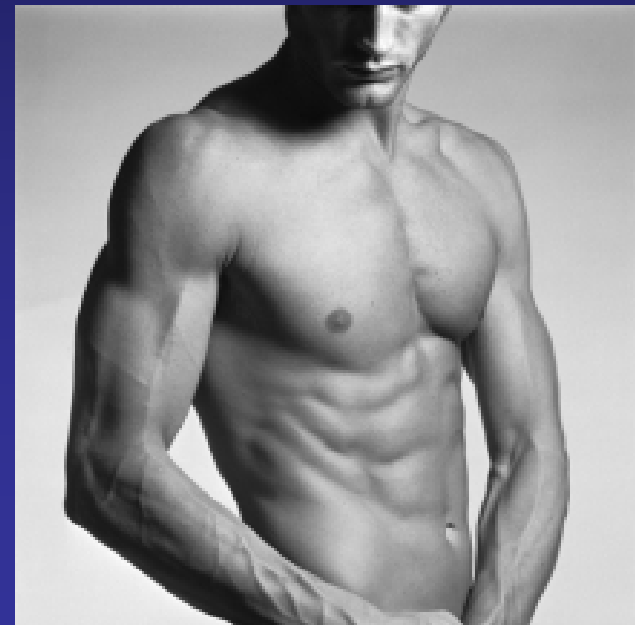
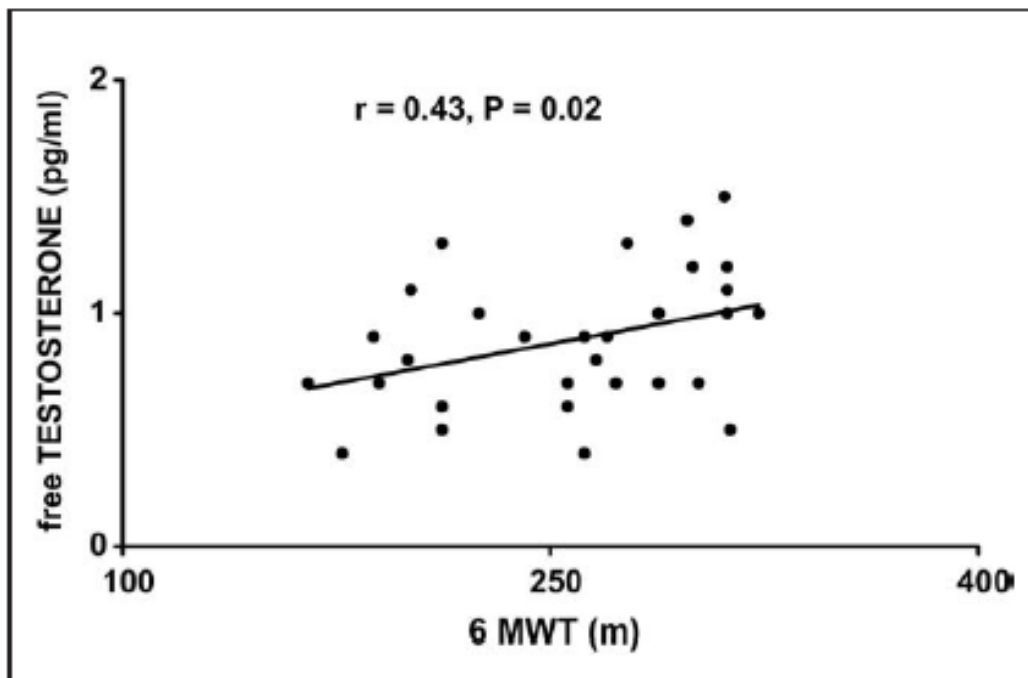
Iellamo et al, JACC 2010

Testosterone Therapy in Women With Chronic Heart Failure

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Cardiorespiratory, echocardiography & muscular results before and after 6 months of testosterone Supplementation Therapy

N=36

	Testosterone Group		Placebo Group		Changes (Δ)	
	Before	After	Before	After	Testosterone	Placebo
6MWT, m	260.6 \pm 52	357.2 \pm 43	254.9 \pm 39	291.3 \pm 22	96.6 \pm 14.5*	36.4 \pm 11.9
Peak VO ₂ , ml/kg/min	10.5 \pm 1.0	13.2 \pm 1.8	10.0 \pm 1.9	10.1 \pm 1.3	2.8 \pm 0.06*	0.1 \pm 0.03
VE/VCO ₂ slope	34.6 \pm 5.0	31.1 \pm 7.0	35.8 \pm 6.0	34.2 \pm 8.4	-3.5 \pm 0.1*	-1.6 \pm 0.8
SBP, mm Hg	115.2 \pm 18	113.8 \pm 23	113.4 \pm 19	112.6 \pm 20	-2.2 \pm 0.04	-1.3 \pm 0.06
DBP, mm Hg	79.2 \pm 9	80 \pm 7	77.2 \pm 11	78.6 \pm 13	1.0 \pm 0.03	1.4 \pm 0.04
Resting HR, beats/min	67.8 \pm 13	66.5 \pm 11	68.6 \pm 11	68.0 \pm 13	-1.3 \pm 0.05	-0.6 \pm 0.02
MVC, n	65.0 \pm 15	92.1 \pm 20	65.4 \pm 14	69.9 \pm 16	27.1 \pm 4.7*	4.5 \pm 2.1
PTmax, Nm	41.3 \pm 17.4	74.2 \pm 14.8	43.6 \pm 11.6	49.1 \pm 9.2	32.9 \pm 8.4*	5.5 \pm 1.2
EF, %	32.3 \pm 8.1	32.1 \pm 7.2	31.8 \pm 7.3	31.5 \pm 7.7	-0.2 \pm 0.03	-0.3 \pm 0.07
LVEDD, mm	62.7 \pm 12	63.5 \pm 13	61.9 \pm 13	62.4 \pm 11	-0.8 \pm 0.05	-0.5 \pm 0.02

Testosterone patches



"Sorry I fired you, Maggie. I got my husband's testosterone patches mixed up with my estrogen patches."

Men are genetically modified women

- SRY: gonads become testes:
male hormones masculinize mind and body:



- More prone to violence & recklessness
- Less empathy, more autistic
- Better at systemizing (math & football)
- Differences in cardiovascular diseases

Gender differences in cardiovascular disease

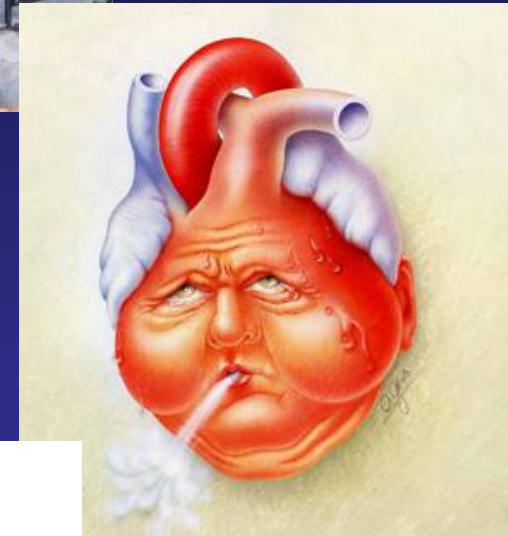
Ischemic heart disease

- Atypical chest pain
- Ischemia more often silent
- ...
- ..



Heart failure

- More symptoms
- Higher number of hospitalisations
- ...



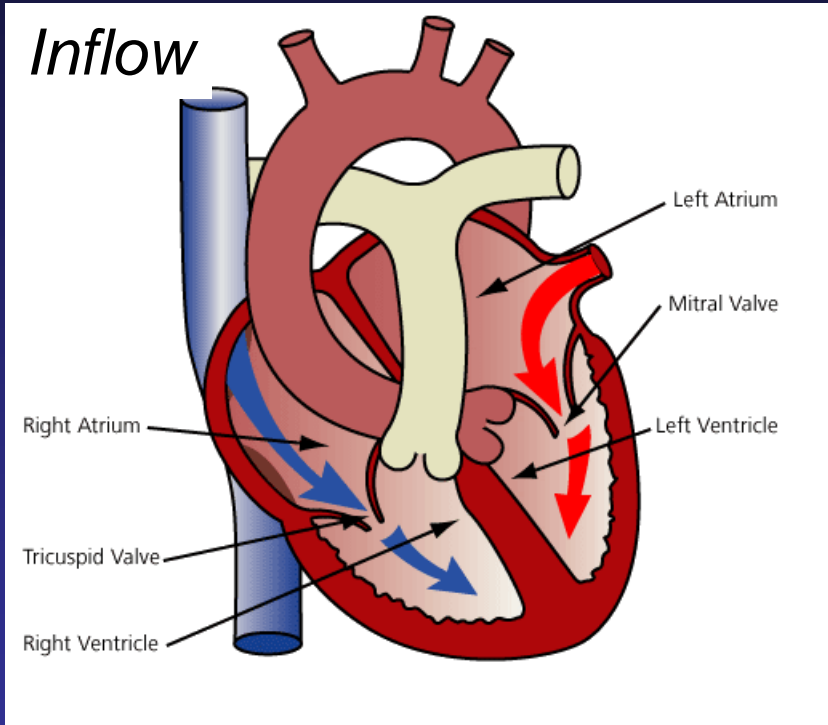
Stroke

- Excessive delay in hospital arrival
- Worse outcome
- ...



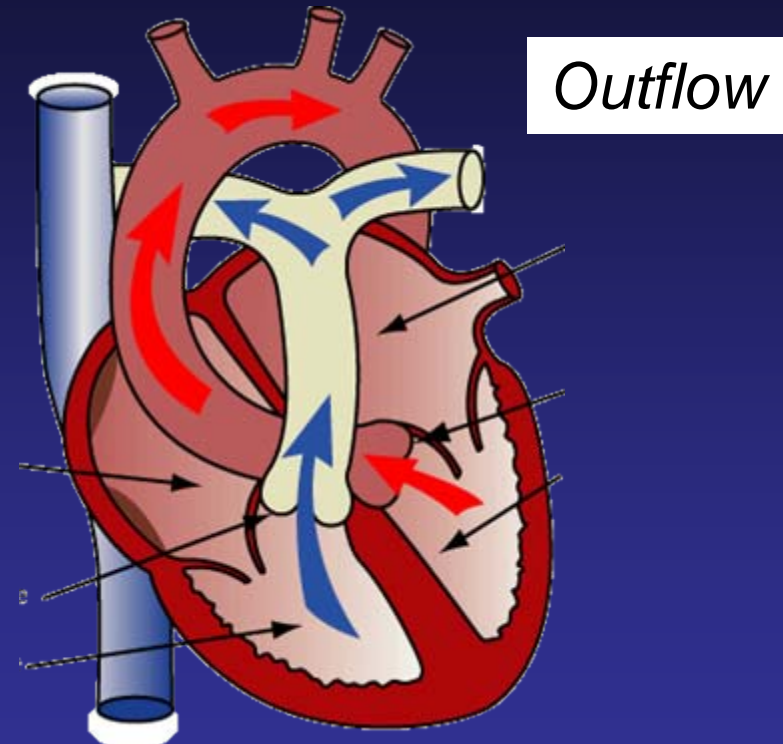
Gender incidence of congenital cardiac anomalies

Female dominance



Mitral valve prolapse
ASD II
Patent ductus
Common atrium

Male dominance



Transposition of great arteries
Aortic valve stenosis
Aortic Coarctation
Tetralogy of Fallot



CONCOR: CONgenitale CORvitia

2001: Nationale registratie en DNA-bank voor patiënten met een aangeboren hartafwijking

Faciliteren van onderzoek

- naar lange termijn uitkomsten
- naar genetische oorzaak

30.000 volwassenen
25.000 kinderen

14.000 patiënten

103 ziekenhuizen



VERMIST

8000
hartpatiënten



Heeft u een aangeboren hartafwijking?
Bent u tussen de 20 en de 40?
Bent u niet meer onder controle?

➔ www.8000vermisten.nl



Medicatie wordt gegeven voor de veiligheid

VERMIST

8000 hartpatiënten

www.8000vermisten.nl



ICIN Nederlands
Hart Instituut
1972 • forty years • 2012

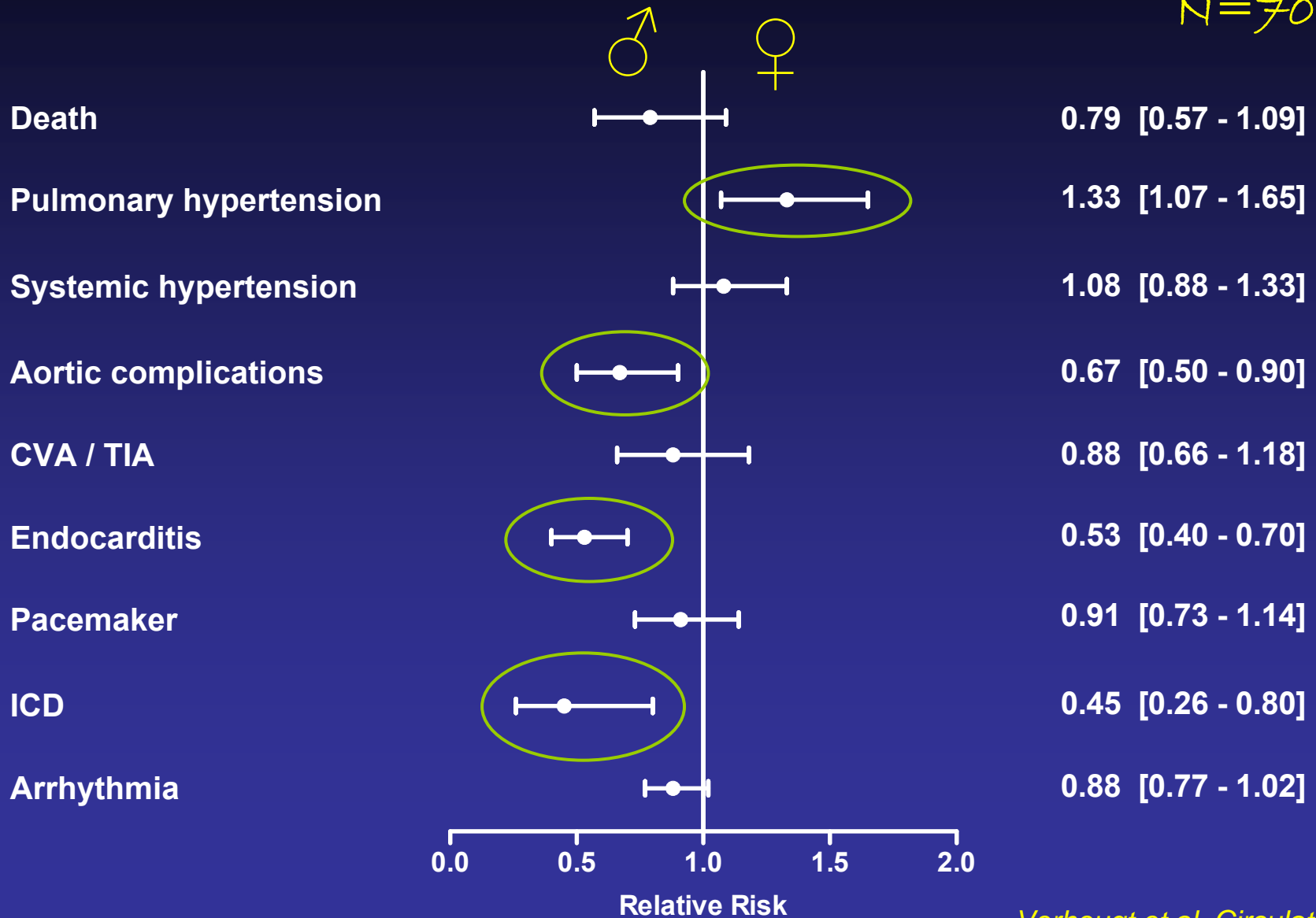


10 jaar
concor



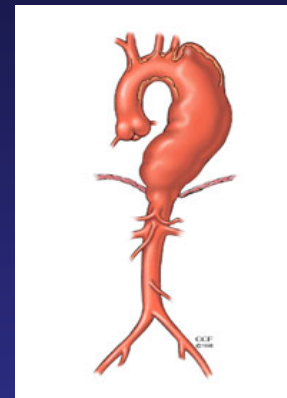
Complication risk of females vs. males

N=7000



Why gender differences?

- Pulmonary hypertension
- Aortic surgery



- Endocarditis



- ICD implant



Why gender differences?

- Pulmonary hypertension



Two-hit hypothesis:

1. Genetic susceptibility
2. Trigger of ASD

→ pulmonay vascular injury

Increased incidence of endocarditis in men

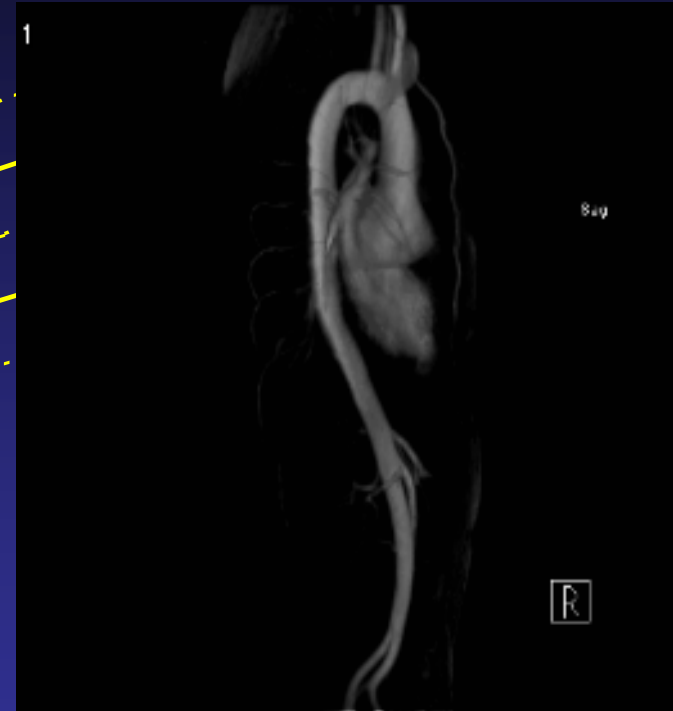
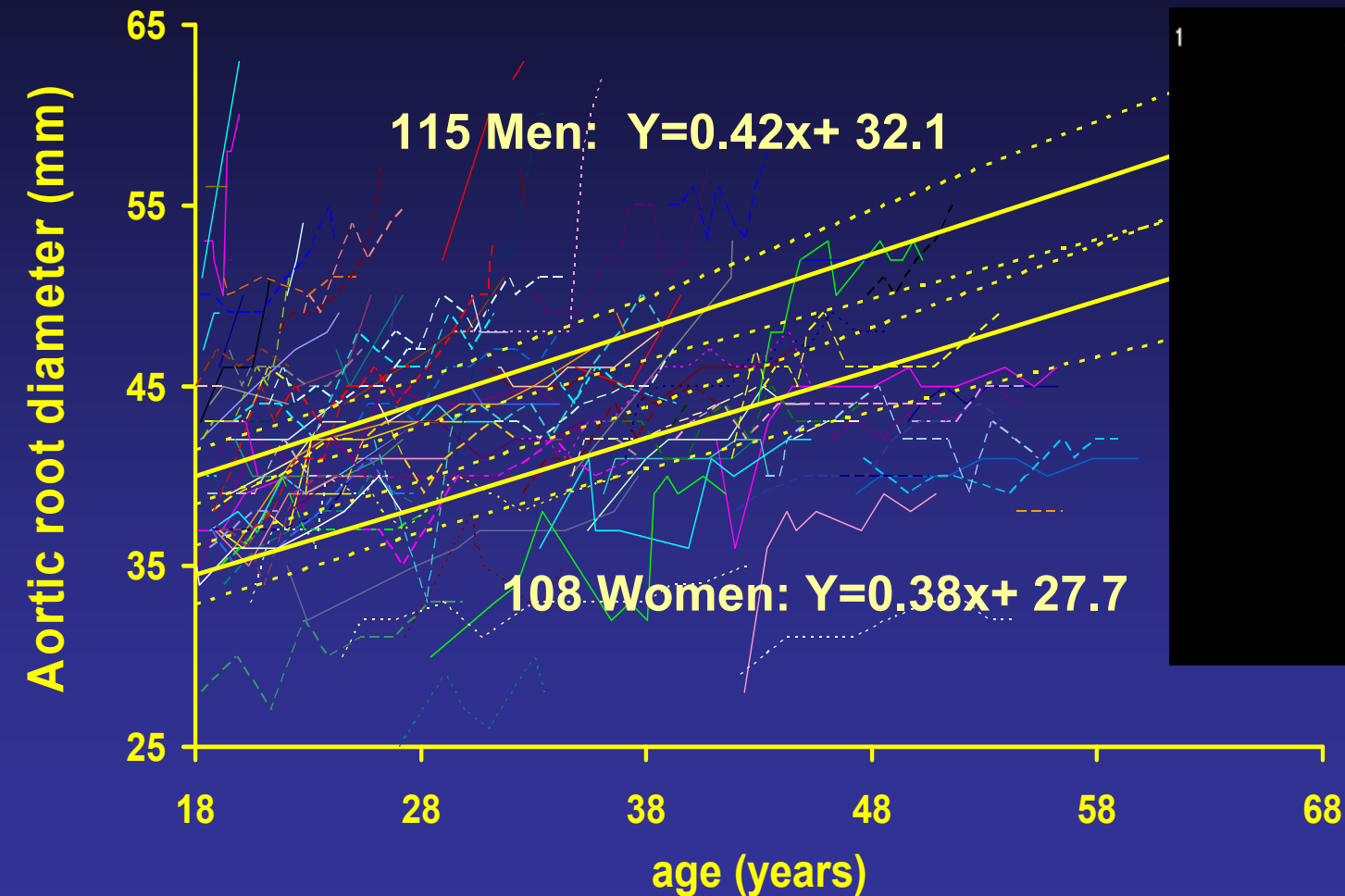
Differences in lifestyle factors :

Poor oral hygiene
and drug abuse
are more common in men



Pay more attention to lifestyle habits in men

Smaller aortic diameter in Marfan women



Inadequate treatment of aortic aneurysms in women?

- Lower rates of aortic surgery in MFS

Meijboom et al, AJC 2005

- Higher risk for rupture in aortic aneurysms

Clouse WD et al, JAMA 1998

- Decreased survival after aortic dissection

Nienaber et al, Circulation, 2004

Less ICD implants in women

- No gender difference in ventricular arrhythmias.
- Equal benefit from ICD implant



gender bias ?



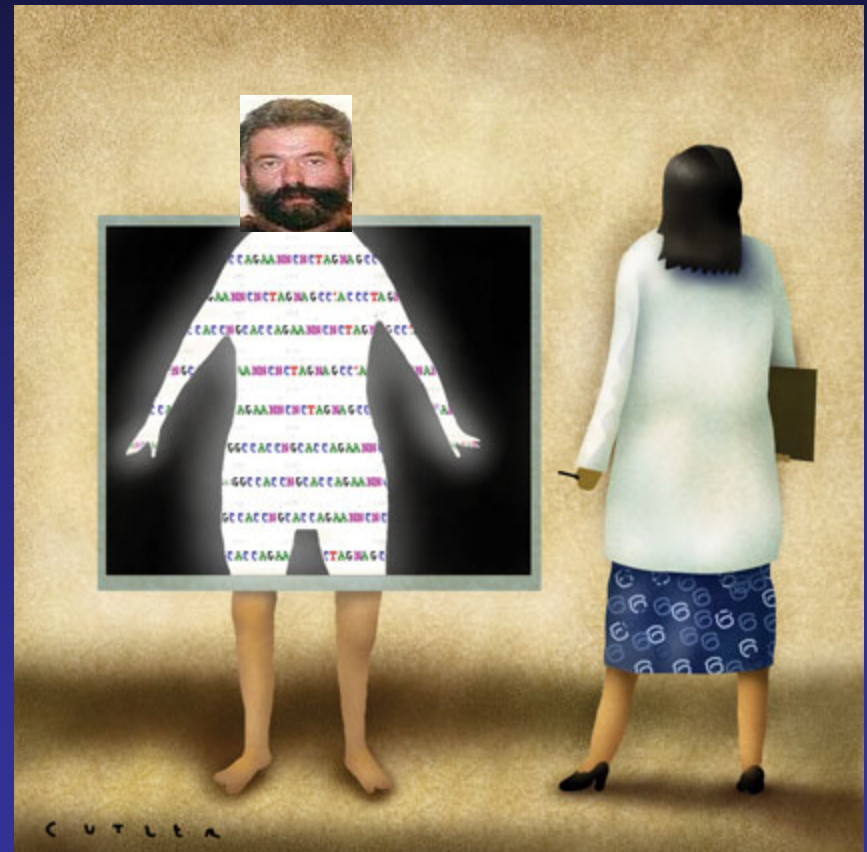
Socio-demographic outcomes in CHD

	CHD		Reference group	
	Women n=725	Men n=771	Women n=3723	Men n= 3027
Unemployment	1.28 (1.05-1.58)	2.51 (1.90-3.31)		
Low income < 30.000 €	3.26 (2.17-4.91)	2.49 (1.63-3.79)		
No relationship	2.54 (1.97-3.27)	5.51 (4.11-7.38)		

OR (95% CI), corrected for age and educational attainment

Genetic modification leads to gender differences

- Genetic
- Biological
- Hormonal
- Psychosocial



Sex-specific approach in CHD



Men

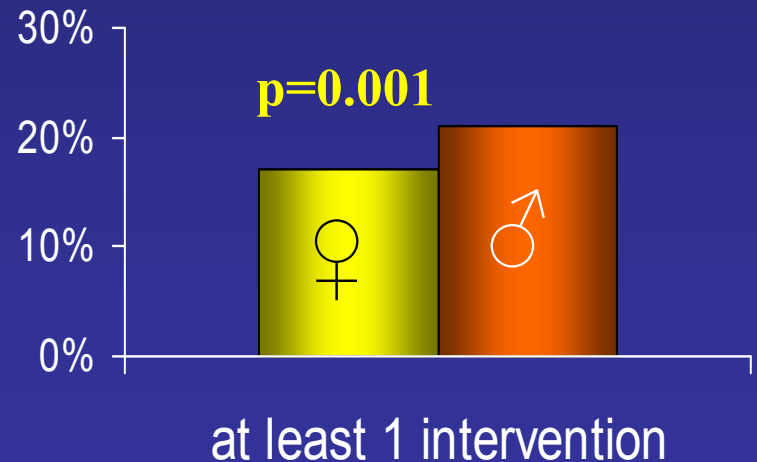
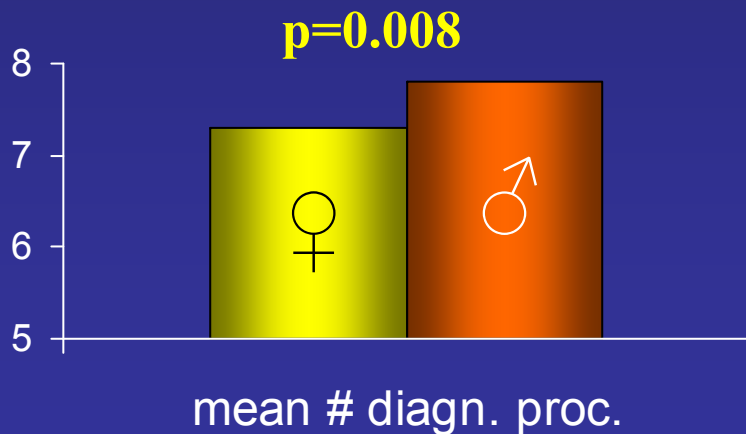
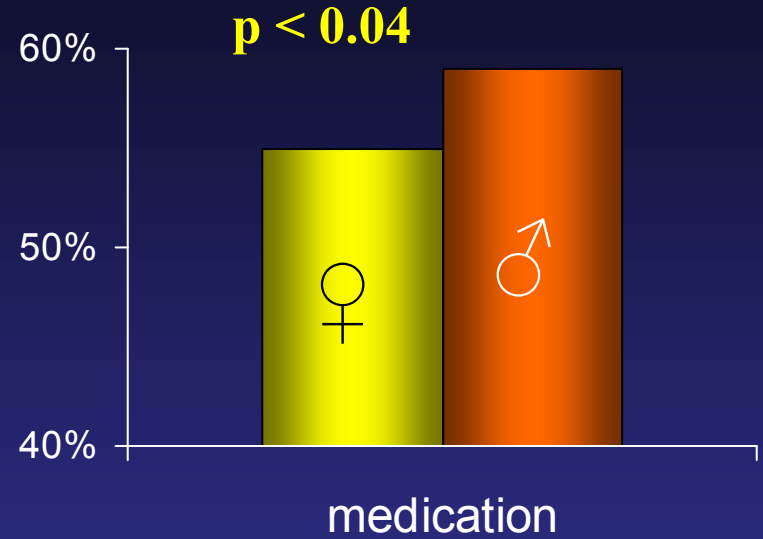
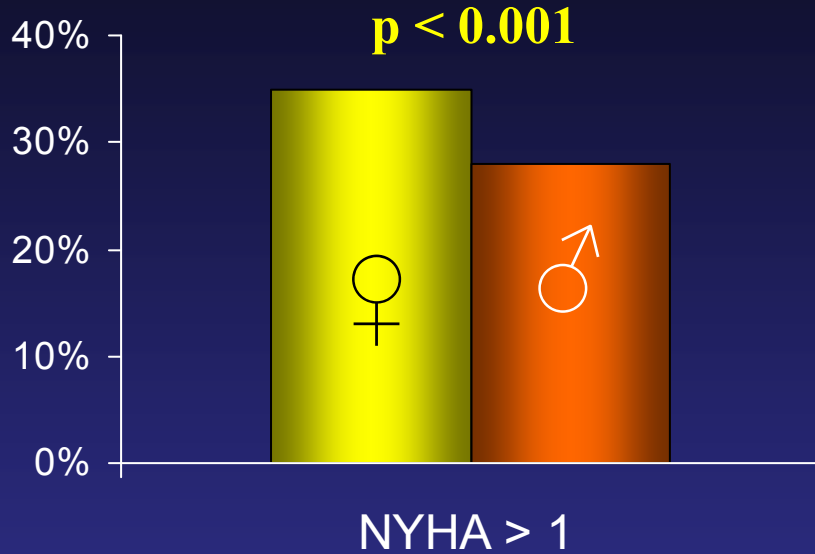
- Prevention endocarditis
- Closer FU
 - AS
 - Homografts

Women

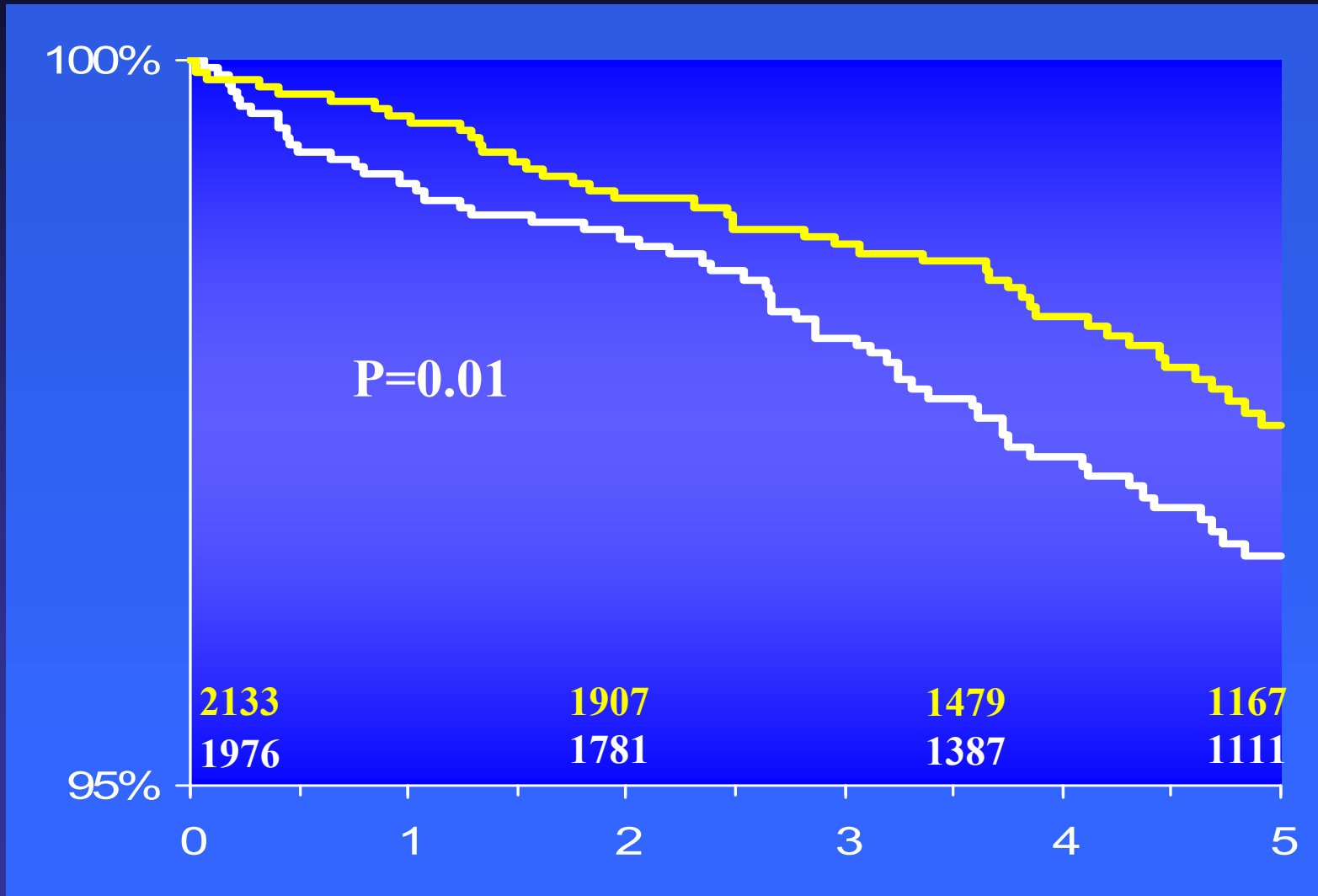
- Interpretation atypical presentation
- Prevention PAH (slimming pills)
- Closer FU of septal defects
- Toleration of drugs ↓
- Earlier timing of aortic surgery

Gender differences in Euro Heart Survey

4168 patients



Survival of men and women with CHD



♀ 97%
♂ 96%

Man is 'wegwerpartikel'

door Arnoud Breitbarth

wo 27 okt 2010

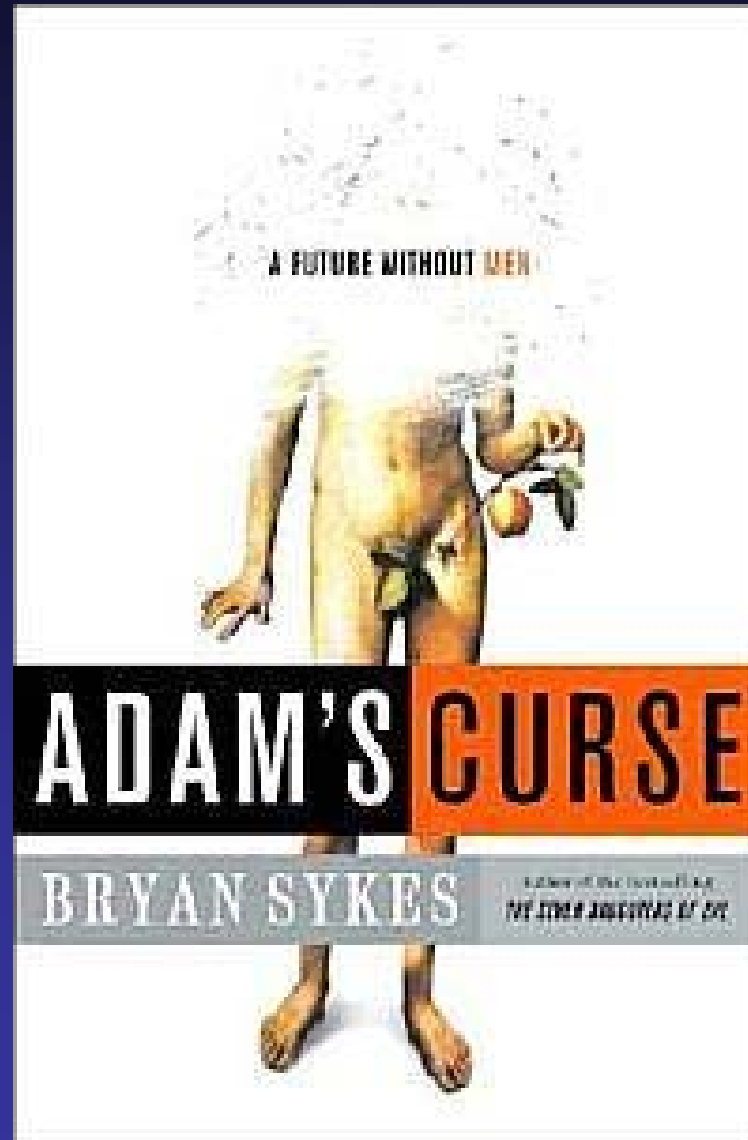
LONDEN - Dat vrouwen ouder worden dan mannen ligt niet aan het feit dat ze gezonder leven of minder zwaar werk doen: mannen zijn genetisch gezien een 'wegwerpartikel', stelt professor Tom Kirkwood van de universiteit van Newcastle.

„Als een vrouw te verzwakt is, vormt dat een gevaar voor 'de voortplanting'



.... George Clooney wergwerpartikel?

Men on road to extinction ?



Adam's curse

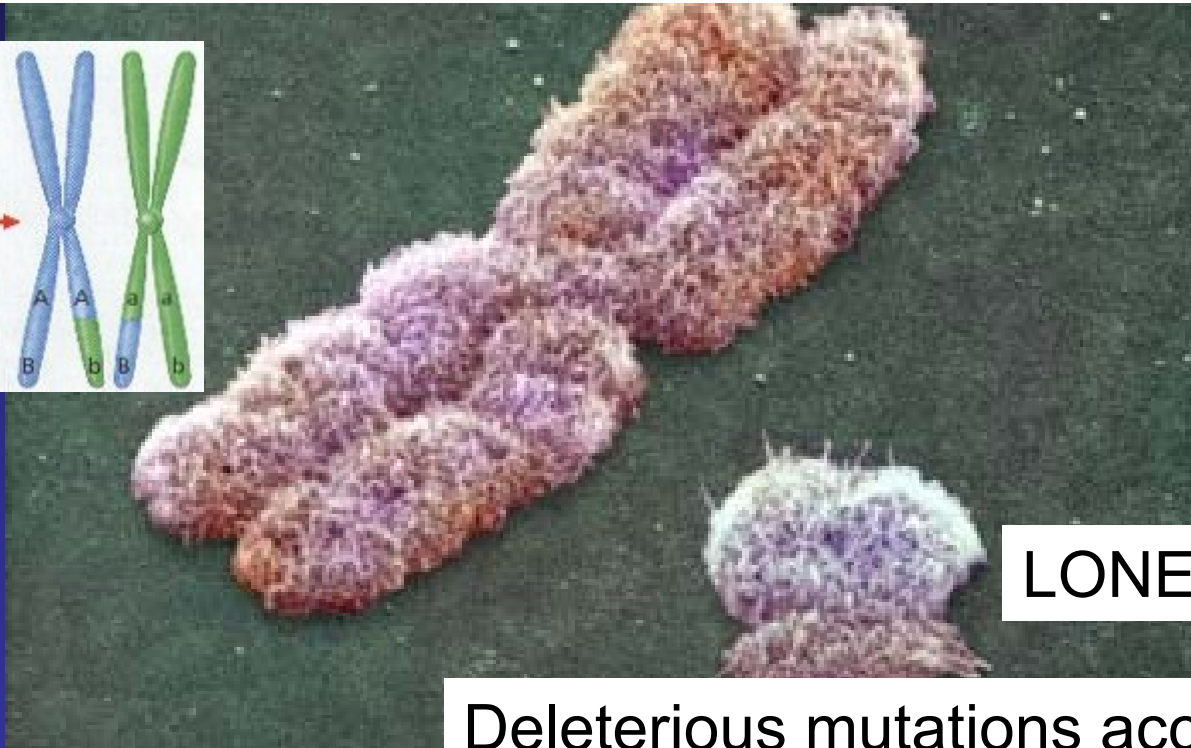
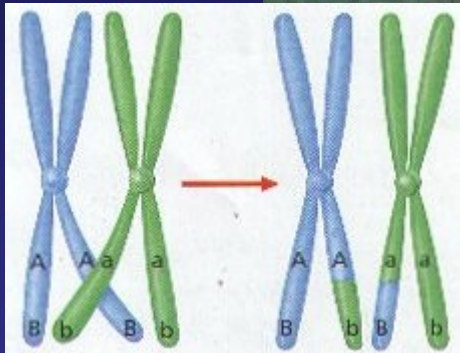
the human Y-chromosome is crumbling before our very eyes

Bryan Sykes, 2003



Every mutation that was not fatal has been preserved in male descendents

When cells divide by meiosis their paired chromosomes exchange blocks of DNA



Deleterious mutations accumulate in each generation, causing irreversible long term decay

De renhagedis

Only females, no males



Are Men Doomed to Be Like Rats?

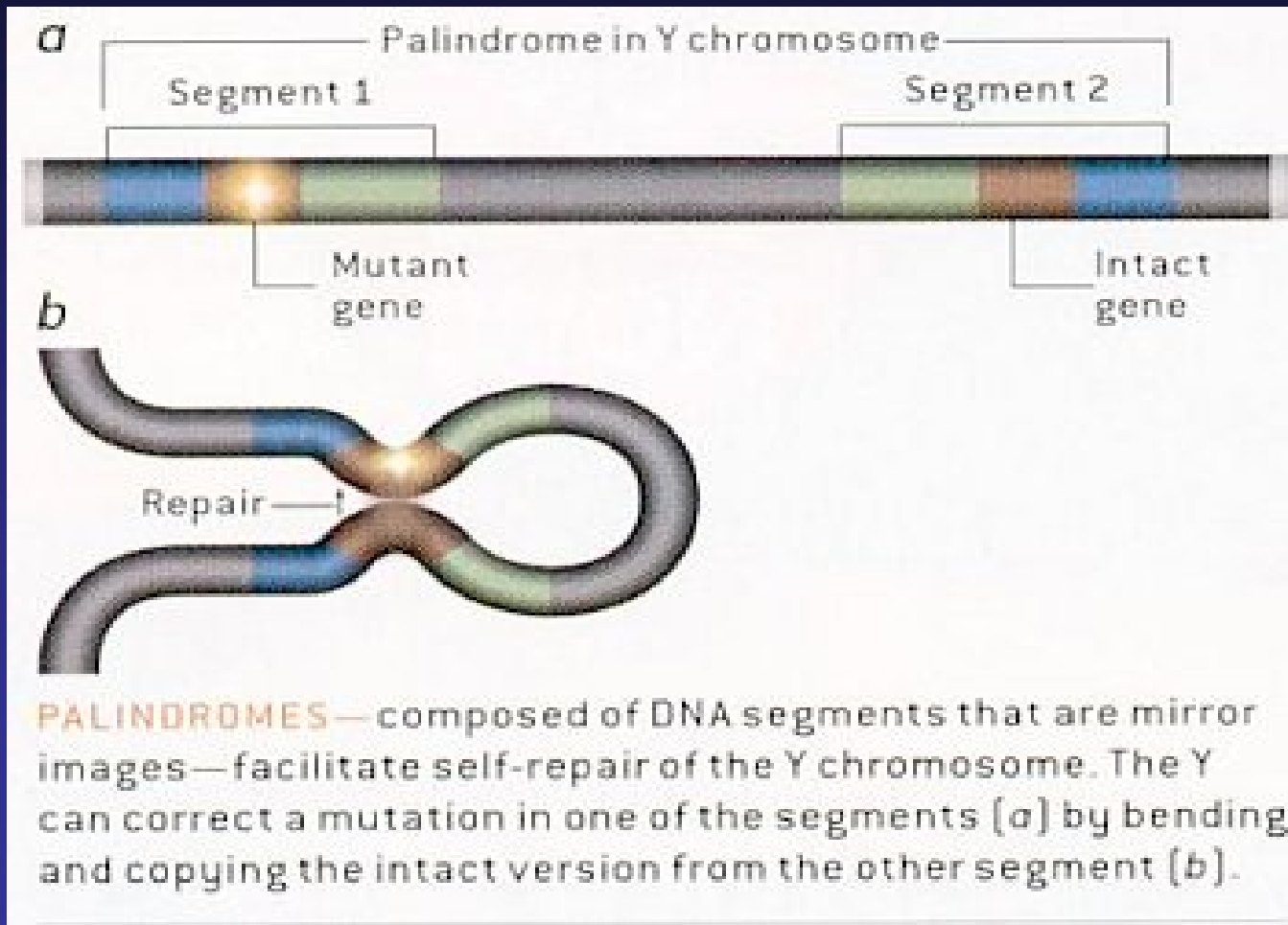
Mole vole: Males and females, but no Y chromosome and no SRY gene



Escaping Adam's curse

- Harmful variants cause infertility
- Instead of recombining with a partner chromosome the Y recombines with itself

Palindrome in Y-chromosome: facilitates self-repair



Why can't a man be more like a woman?!

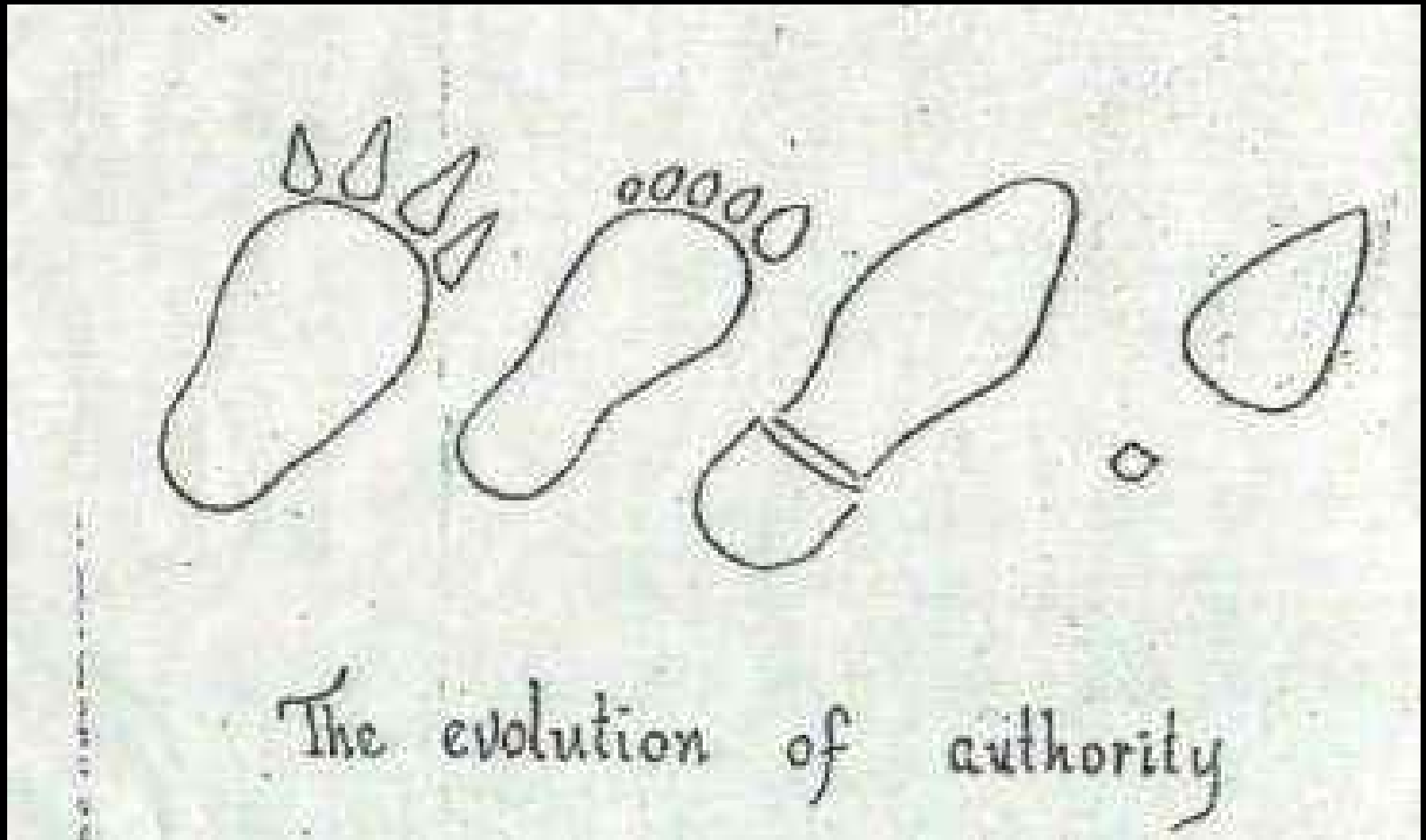
Human beings are genetically programmed to be female

Men are genetically modified women

Men are genetically degenerate

From Ape to Man.... From Man to Civilised Man...

And from Man to Woman....



Corrie Hermann

