

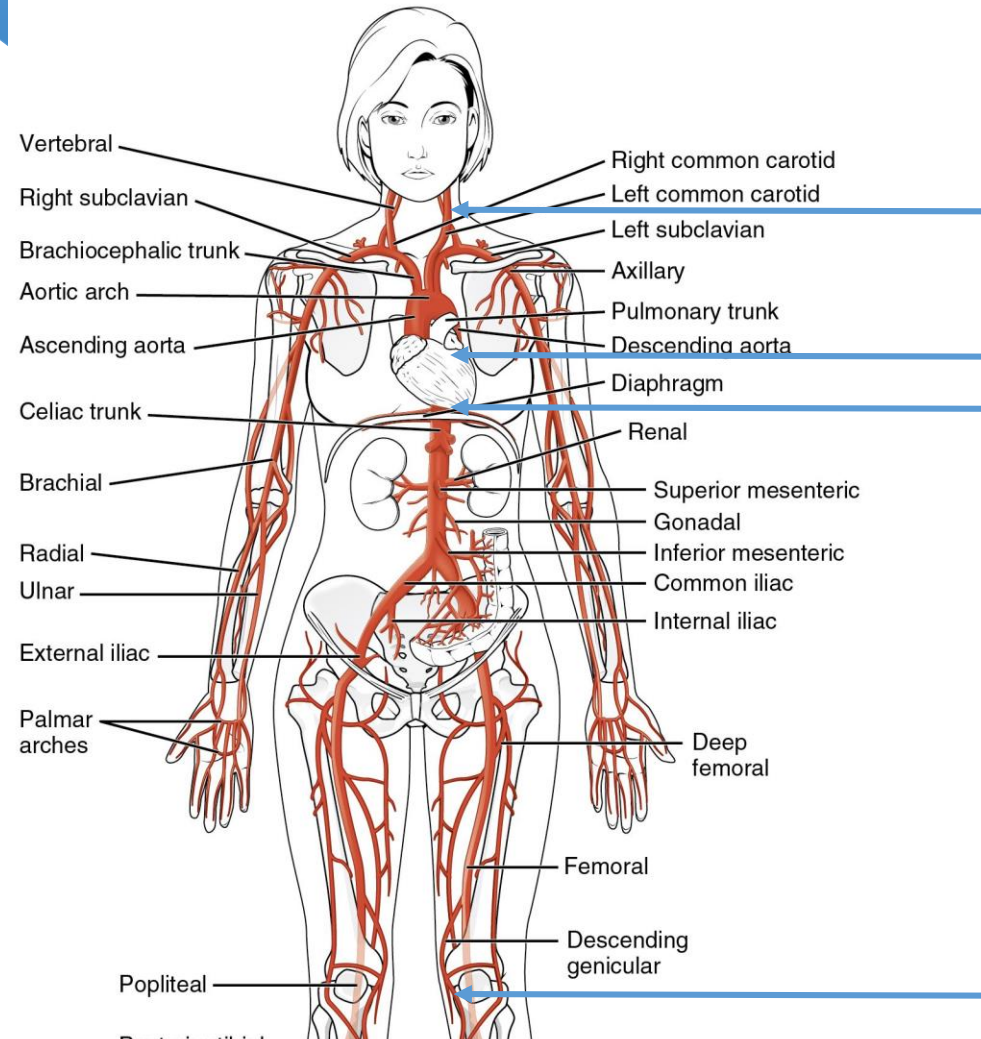
Why do women fare worse than men after elective AAA repair?

Janet Powell, Imperial College London

Disclosures

☐ None

Not just AAA, mortality is higher after all other arterial surgery too



Carotid endarterectomy

Odds
ratio
1.2

CABG

1.9

Thoracic aneurysm (TEVAR)

1.6

Bypass for critical ischaemia

1.4

What do surgeons say: women are higher risk

Smaller arteries
hormones



Well, results are always worse in women, they are high risk

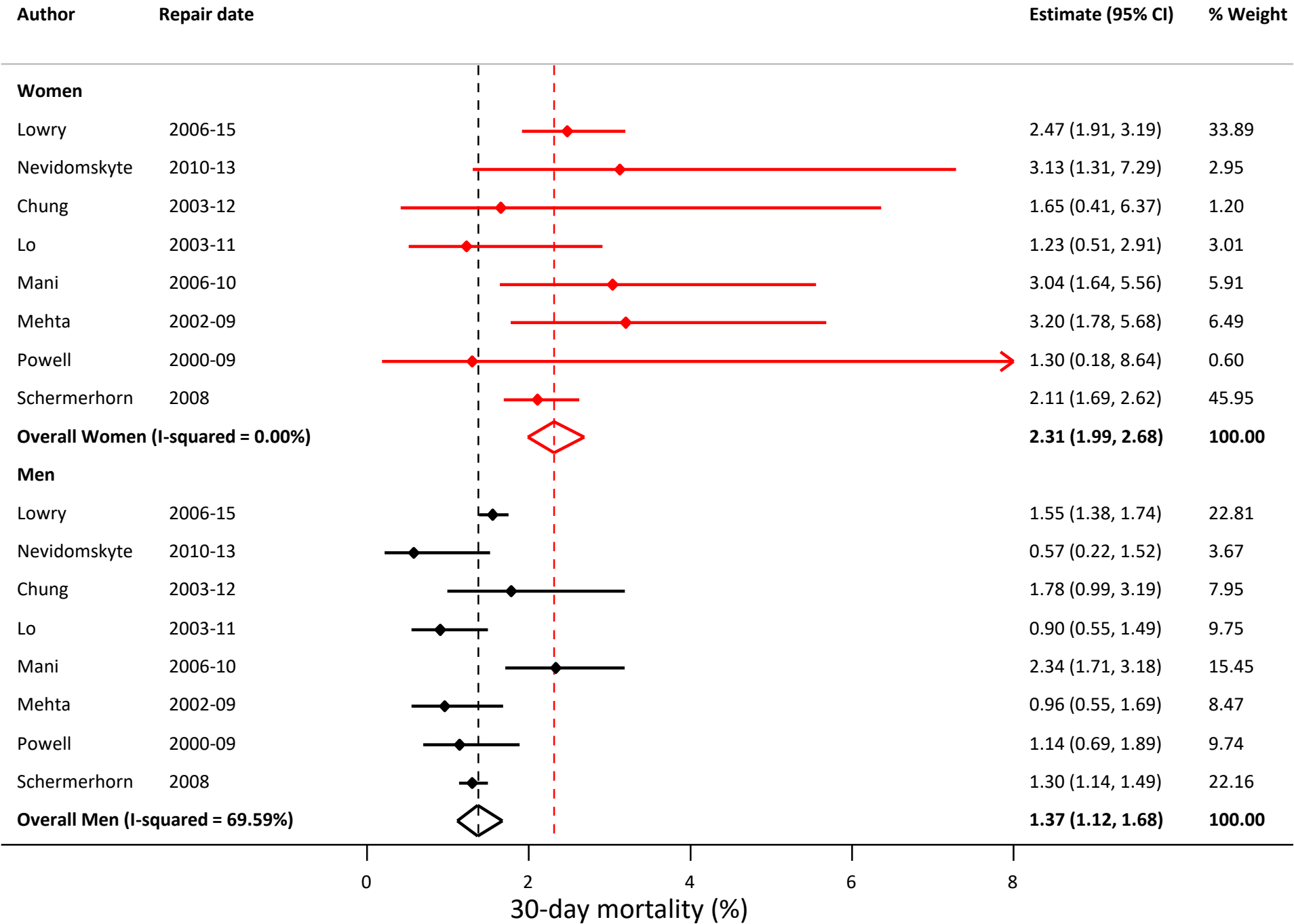
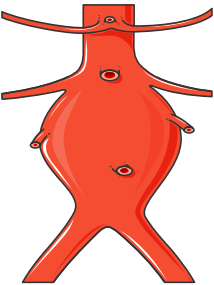
Systematic review

30-day mortality
after EVAR

women

vs

men



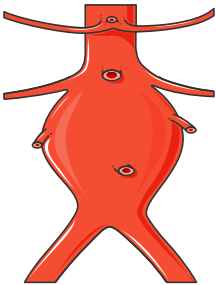
Systematic review

30-day mortality after open repair

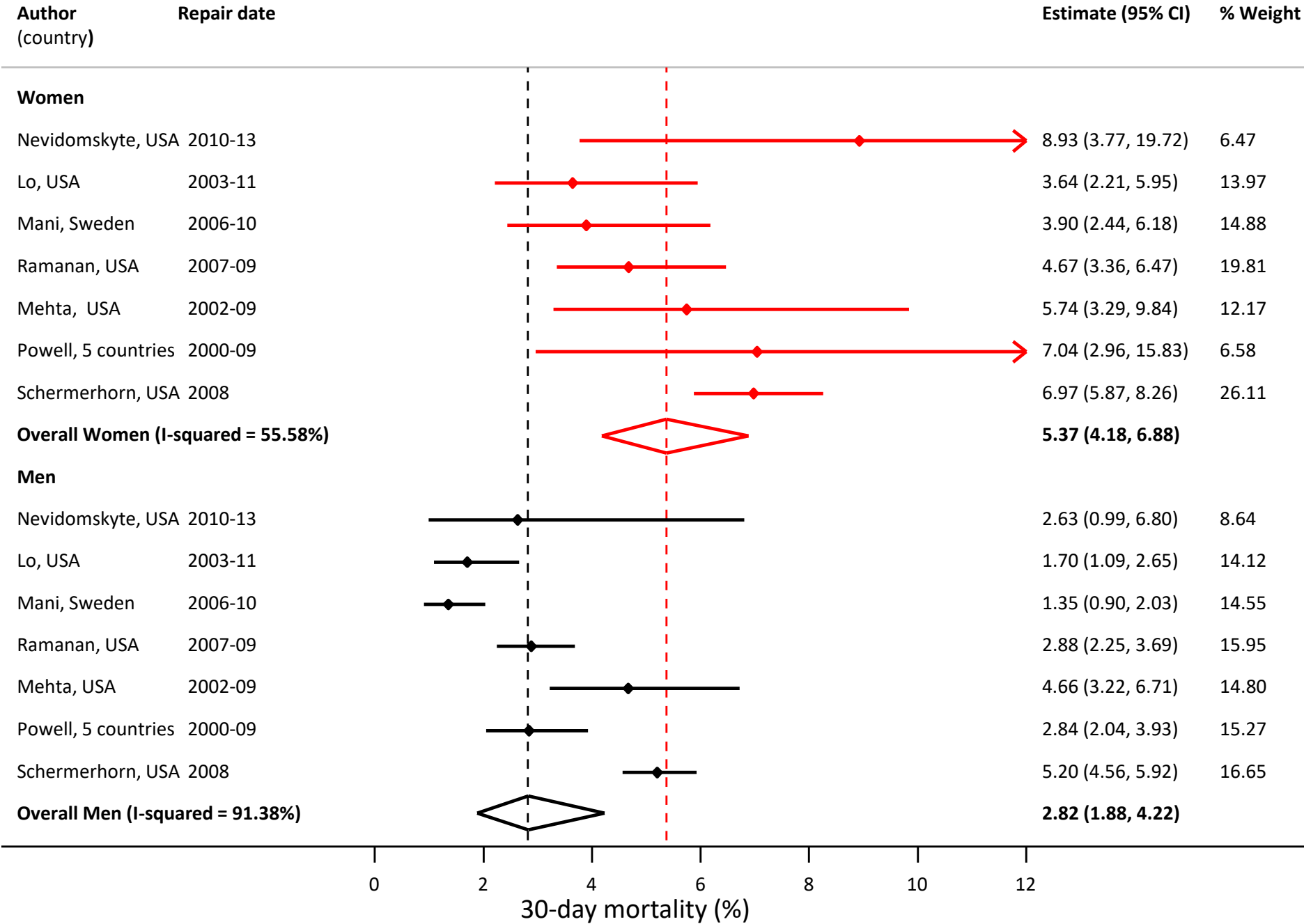
women

VS

men

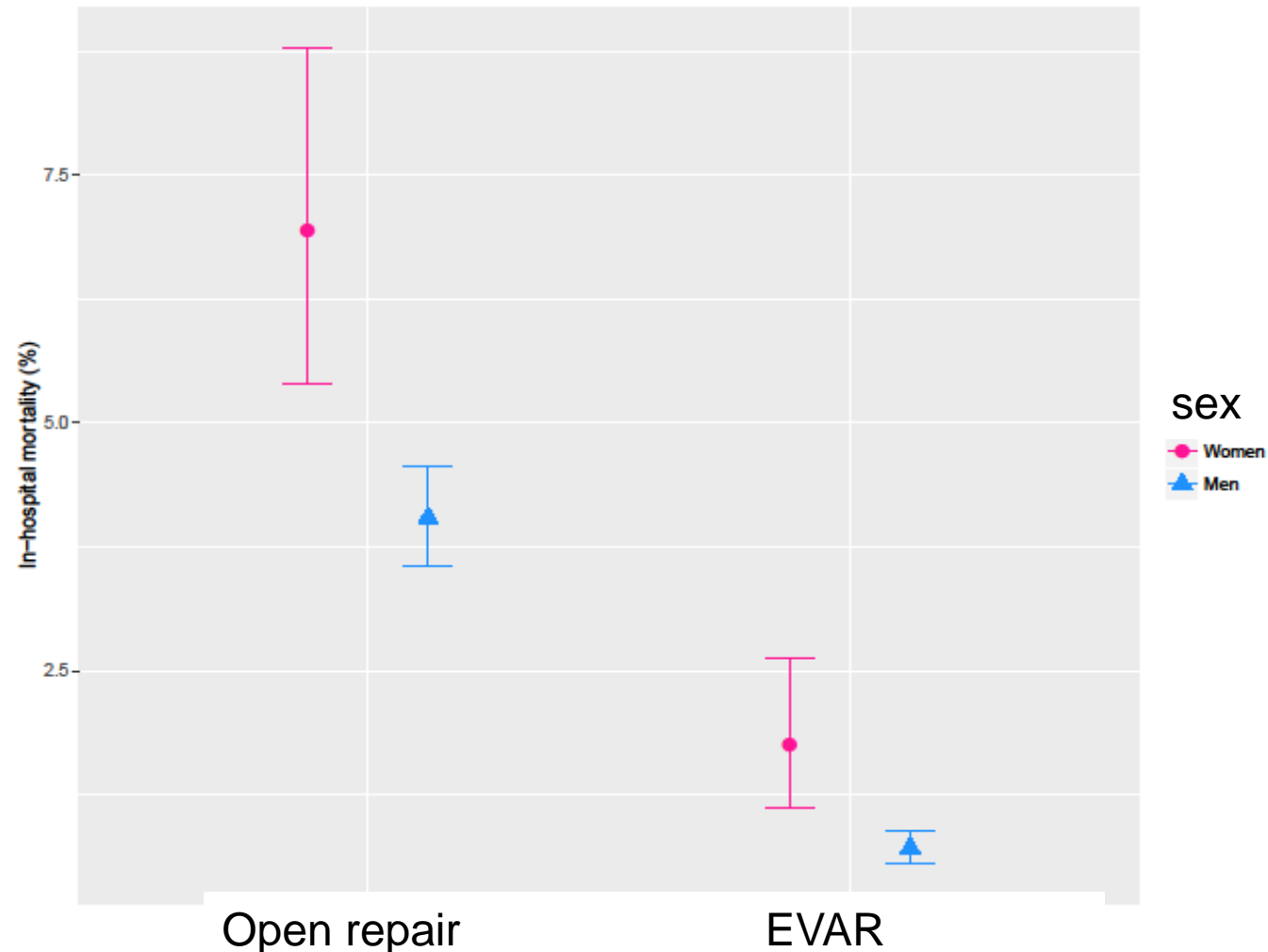


Ulug et al Lancet 2017



Does this still happen?

In-hospital mortality 2010-15 from National Vascular Registry (UK)



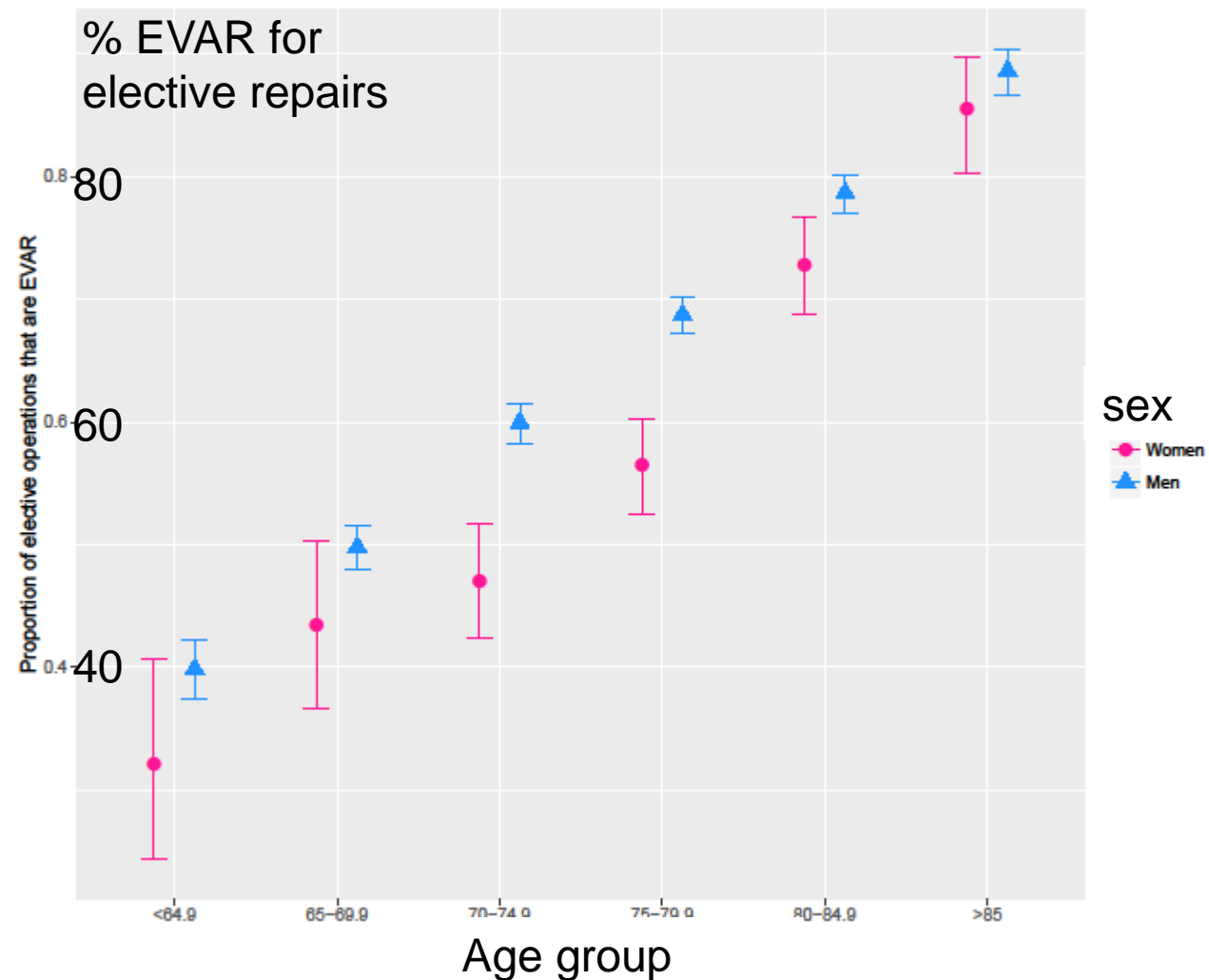
UK National Vascular Registry 2010-2015

Difference for EVAR strongest

		In-hospital Mortality	%	Odds ratio (95% Confidence Interval)	
				Unadjusted	Adjusted*
Open repair	Women	64/922	6.9%	1.77 (1.33-2.35)	1.48 (1.08-2.02)
	Men	243/6013	4.0%	P<0.0001	P=0.014
EVAR	Women	23/1306	1.8%	2.51 (1.57-4.03)	2.86 (1.72-4.74)
	Men	74/10452	0.7%	P=0.0001	P<0.0001

*adjusted for age, AAA diameter, diabetes & smoking

Is EVAR underused in women in the UK? **Yes**



Is repair left too late in women?

Vascunet 2010-2013 data

Yes, for open repair

	Open repair		EVAR	
AAA diameter	<5.5cm	5.5+cm	<5.5cm	5.5+cm
Number of cases	441	1696	730	1996
Age years, mean (SD)	71.7 (7.2)	74.8 (7.0)	76.0 (6.9)	78.3 (7.1)
30-day or in-hospital deaths %	16/441 3.6	126/1696 7.4	12/730 1.6	42/1996 2.1

Do women have under-treated co-morbidities?

Elective EVAR 2010-15 NVR UK data **probably**

	women	men
Renal failure	13.3%	9.6%
% with medical/renal consult before EVAR*	39%	74%

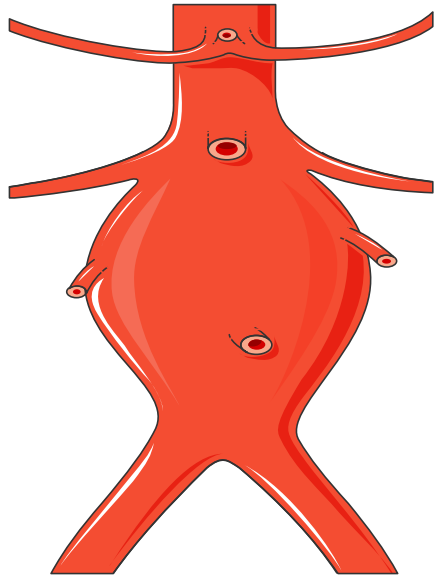
* Not identical population because of missing data

Sex Differences in Treatments, Relative Survival, and Excess Mortality Following Acute Myocardial Infarction: National Cohort Study Using the SWEDEHEART Registry

Oras A Alabas, BSc, MSc, PhD; Chris P Gale, BSc(HONS), MBBS, PhD, I PhD; Karolina Szummer, MD, PhD; Sofia Sederholm Lawesson, MD, P Tomas Jernberg, MD, PhD

JAHA 2017 because women are not offered best-evidence care

Traditionally a disease dominated by men: Care protocols derived mainly in men



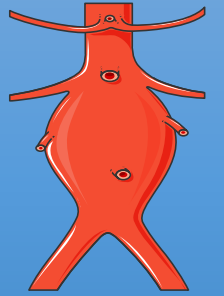
Could intraoperative protocols harm women more than men? **possibly**

National Vascular Registry 2010-15, elective EVAR

	Women n=1306	Men n=10452	Adjusted p=
Length of stay on critical care median (IQR) days	1 (0-1)	0 (0-1)	<0.001

Longer critical stay is associated with higher mortality

Summary so far.....



- **Operative mortality after elective repair is much higher in women than men, more pronounced for EVAR than open repair**
- Given advances in technology, EVAR might be underused in women
- Repair thresholds for women should be lower in women
- Women may have inadequate pre-operative care compared to men
- Peri-operative protocols designed for men, might disadvantage women

More evidence & action needed, to decrease operative mortality in women