**Triple Screening For AAAs, PVD, And Hypertension Saves Lives: From The VIVA Danish Trial**

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**“Lessons learned from the nineties”**

April 1994

Viborg Sygehus


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**The VIVA trial**

- Primary to test whether triple vascular screening for AAA, PVD and hypertension reduces overall mortality in 65-74 year old men
- Sample size calculation = 50,000
  - RCT 1:1 based upon a relative risk reduction of 5%
  - 2 x 23,604 (α=5%, β=90%)
- Secondary outcomes: harms, QoL and costs per gained living year

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**Enrollment 2008-2011**
- Central Region of Denmark (1.2 million inhabitants (1/5 of the Danish population))
- No exclusions. All 50,168 men randomized
- Computerized randomization secured concealment - stratified by the 19 municipalities
- The control group was masked
- Authors had no influence on- and were blinded for outcomes to date of analysis

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**Organisation**
- at 14 local hospitals/Health centres
- by 6 special-trained nurses
- in 3 mobile teams
- Abdominal US and Doppler-based ABI (Pic)
- consultations of positive findings + controls
- Assisted by a secretary

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Adjusted HR = 0.4 (0.3;0.6)

Adjusted HR = 0.3 (0.2;0.6)
Interventions of positive findings

- 3.3% with an AAA (+30 mm)
- 11% with PAD (ABI < 0.90 or > 1.4)

Men with suspected moderate to severe hypertension (BP > 160/100 mmHg)

Nurse driven consultation for confirmation and initiation of preventive actions
- 75 mg low dose aspirin
- 40 mg simvastatin
- Instructions on diet, smoking cessation, and exercise.

No significant harms

Consequences in Quality of Life

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<th>Consequences in Quality of Life, anxiety and depressive feelings</th>
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Cost effectiveness

- Cost of screening: £32 ($36) per invitee
- Incremental cost of screening: £148 ($168)

Costs of a life-year and a QALY gain were respectively £6,872 ($7,815) and £2,148 ($2,443)

At a threshold for willingness to pay of £40,000 ($45,490), the probabilities for cost effectiveness were estimated at 98% and 99%, respectively.

Overall mortality

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Vascular triple screening for 65-74 year old men

- 7% lower overall mortality
- 169 NNI
- £2,148 ($2,443) per gained QALY
- No serious negative side effects
- For clinicians:
  - AAA & PAD patients ought to receive statins & antiplatelets
- For health policy makers:
  - Implement triple vascular screening of 65-74 year old men
Thanks for the attention

The VIVA screening trial team 2008