

How to Apply Scientific Results to the Care of the Single Patient

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Scientific Results

- Are they valid?
- Do they apply to my patient?
 - Demographics
 - Comorbidities
 - Patient values

Case Studies- GS

- 85 yr old woman
- Lifelong smoker, quit 15 years ago
- Exertional short of breath
- Enjoys her family
- Enjoys going to hairdresser one time per week

Clinical course

- Admitted to UCSF Heart Failure service
 - Discharged from another hospital one week ago
- Physical exam
 - Elderly woman, alert and articulate, speaks in full but short sentences
 - JVP – 8-9 cm
 - Chest – coarse breath sounds, no rales
 - S1,S2 regular, soft S3
 - EKG – NSR, LBBB (left bundle branch block)

What next?

- Medical records
- Echocardiogram
 - Globally reduced left ventricular function
 - EF – 30 -35%
- Pulmonary function tests
 - COPD

And next?

- Talk with patient
- What does she want for her next years?
- What is important to her?

More Clinical Info

- At previous hospital one week ago a CRT device had been placed
- After discussion with patient and her family, we deactivated this device
- We optimized her heart failure medications
 - Afterload reduction
 - Diuretics
 - Beta-blocker

Five years later

- I saw her every 6 months in Clinic
 - The ICD box was very annoying to her, it sagged and protruded
- I attended her 90th birthday party
- She died close to her 92nd birthday

Individual Patient and Scientific Results: Beware of Overuse

- Not the right subgroup (the one shown to have benefit)
 - AAA screening
 - in women
 - non-smokers
 - Data lacking in women
 - ICD for primary prevention?
- Using a more complex procedure when a simpler one will do
 - Spinal fusion instead of decompression

Meta-Analysis of RCTs for ICD¹⁰

- **Medline, Cochrane, Clinicaltrials.gov, FDA**
- **5 randomized trials of primary prevention**
 - **934 women total**
- **No benefit of ICD on all-cause mortality**
 - Hazard ratio 1.01 (95% CI, 0.76-1.33)**
- **However, women have a 70% increase in adverse events with ICD implantation compared to men -**

Is What Is Good for the Gander Really Good for the Goose?

- 30% of ICD implants are in women
- Yet data of benefit is lacking
- Need for more women in clinical trials
- Sex-specific results must be available and considered *prior* to FDA approval and Medicare coverage (NCD)

Statin Choice Decision Aid

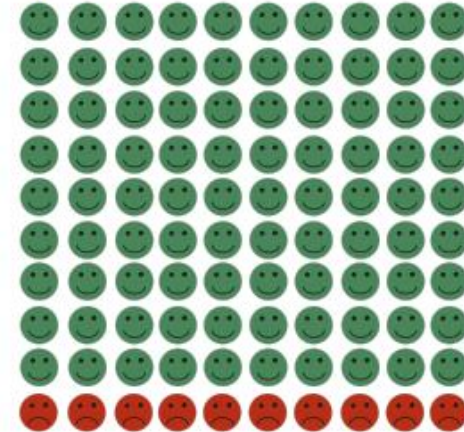
What is my risk of having a heart attack in the next 10 years?

The risk for 100 people like you who **DO NOT** take statins.

NO STATIN

90 people **DO NOT** have a heart attack (green)

10 people **DO** have a heart attack (red)



The risk for 100 people like you who **DO** take statins.

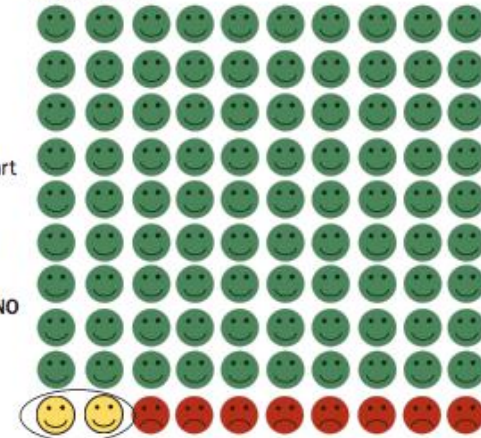
YES STATIN




90 people **still DO NOT** have a heart attack (green)

2 people **AVOIDED** a heart attack (yellow)

8 people **still DO** have a heart attack (red)

98 people experienced **NO BENEFIT** from taking statins



-  had a heart attack
-  avoided a heart attack
-  didn't have a heart attack

Number Needed to Treat

- For those who took statins for 5 years:
 - 98% saw no benefit
 - 0 were helped by being saved from death
 - 1.6% prevented a heart attack
 - 0.4% were helped by preventing a stroke
 - 0.6% were harmed by developing diabetes
 - ?% were harmed by developing muscle weakness
 - ?% were harmed by developing memory loss

Cost Considerations

- Clinician role
- How to weigh?

Thank you